# Queens West Development

# Parcel 9

**QUEENS, NEW YORK**

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2013 Periodic Review Report and Annual Certification

**NYSDEC BCP Number: C241049**

**ATC Project Number:**

**015.75420.0016**

**Prepared for:**

AvalonBay Communities
275 Seventh Avenue, 25th Floor
New York, New York 10001

**Prepared by:**

Cardno ATC
Shaping the Future

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**MAY, 2014**

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# 1.0 INTRODUCTION

In January of 2013, AvalonBay Communities Inc., (AvalonBay), retained Cardno ATC to prepare the Periodic Review Report (PRR) for 2013 (formerly referred to as Site Management Report) and Annual Certification of Institutional and Engineering Controls for the site, which is identified as Queens West Development – Parcel 9. The following introductory and background discussions are according to the PRR prepared by AKRF Engineering, P.C. (AKRF) and dated February 2008.

The Queens West Development is a project of the Queens West Development Corporation (QWDC), a subsidiary of New York State's Empire State Development Corporation (NYSEDC), under the collective sponsorship of the Port Authority of New York and New Jersey, the New York City Economic Development Corporation (NYCEDC), and Empire State Development Corporation. The overall Queens West Development site comprises 74 acres along the East River in Hunters Point, Queens, extending from Anable Basin to the north to Newtown Creek to the south (Figure 1). Stage I of the development involved construction of residential buildings on the portion of the site between 47th Road and 50th Avenue. The development sites in this area were designated as Parcels 8, 9, 10, and 11, as shown on Figure 2.

In August 1998, a Voluntary Cleanup Agreement (VCA) was entered into between New York State Department of Environmental Conservation (NYSDEC) and QWDC. This agreement covered Parcels 8, 9, and 11 and the portion of Center Boulevard between Parcels 8 and 9. In July 2000, the VCA was amended to allow it to be divided into separate agreements for each parcel, which would be executed by the designated developer for the parcel. Accordingly, after AvalonBay was selected as the developer of Parcels 8, 9, and 11, AvalonBay executed separate agreements for each of the three parcels in September 2000. In March 2004, AvalonBay requested that NYSDEC transition Parcels 8 and 9 into the Brownfield Cleanup Program (BCP), with the BCP Agreements for both parcels being signed by the NYSDEC and becoming effective on June 28, 2005.

Subsurface contamination at Parcel 9 was remediated between August 2005 and May 2006 in accordance with the NYSDEC-approved Remedial Work Plan (revised August 2005). The site remediation was documented in a Final Engineering Report (FER) dated December 2006, and on-going site management requirements were specified in a Site Management Plan (SMP), which was included as an attachment to the FER. NYSDEC issued a Certificate of Completion for Parcel 9 on December 29, 2006. The purpose of this PRR and Annual Certification is to document on-going site management activities associated with Engineering and Institutional Controls for the site during the 2012 calendar year, and to certify those controls in accordance with the SMP.

# 2.0 BACKGROUND

## 2.1 SITE DESCRIPTION

Parcel 9 is located in the Hunters Point section of Queens, New York. The parcel is bound by 5th Street on the east, 48th Avenue on the south, Center Boulevard on the west, and 47th Road on the north. It has a total area of approximately 1.79 acres, and is defined as Lots 1, 5, and 19 of Tax Block 19 of Queens County. The site is currently occupied by an L-shaped high-rise apartment building located in the western and southwestern portions of the site, a multi-level parking garage located in the eastern portion of the site, with townhouses located south of the garage, along 48th Avenue. Approximately 2,300 square feet of retail space are located on the ground floor of the residential building, along Center Boulevard. A courtyard and driveway are located in the center of the site, providing access to the parking garage and loading dock from 47th Road. A Site Plan is provided as Figure 3.

## 2.2 REMEDIAL INVESTIGATION FINDINGS

### *2.2.1 Geology, Hydrogeology and Subsurface Characteristics*

The geotechnical studies conducted prior to site redevelopment indicated that the top 10 to 12 feet of soil on the parcel consisted of historic urban fill material. This was underlain in most borings by a layer of alluvial sand up to 17 feet thick. A stratum of soft gray organic silty clay, generally less than 10 feet thick and representing old marsh deposits, was present inter-layered in the sand at many locations. Below the sand and organic deposits was a layer of glacial till up to 30 feet thick. This consisted of compact fine to coarse sand with some gravel, silt, clay, clay pockets, and boulders. The surface of the till was found at an elevation of -10 to -12 feet (Queens Borough Datum) over most of the parcel, dipping sharply to a depth of -30 feet in the southwest corner of the parcel. Bedrock was encountered at elevation -20 to -30 feet over most of the parcel, dipping in the southwest corner, to a minimum elevation of -55 feet.

Groundwater studies performed at the site and in surrounding areas indicated a general groundwater flow direction towards the west or southwest, with some tidal influence at locations close to the river. A localized groundwater depression in 47th Road, approximately 150 feet west of 5th Street, was noted in some studies. It is speculated that this depression was due to a leak in the storm sewer piping that runs under 47th Road.

### *2.2.2 Nature and Extent of Contamination*

*Soil Contamination*

Cumulative results from the previous studies on Parcel 9 indicated the presence of two separate types of soil contamination on the site. Petroleum contamination, including the presence of light non-aqueous phase liquid (LNAPL) was centered in the north-central portion of the site. Coal tar contamination, including the presence of dense non-aqueous phase liquid (DNAPL), was found in the southwestern portion of the site, and along the western boundary of the site adjacent to Center Boulevard.

The petroleum-contaminated soil was characterized by high levels of benzene, toluene, ethylbenzene, and xylenes (BTEX), as well as other relatively light, monocyclic hydrocarbons, including cyclohexane and methylcyclohexane. Naphthalene was present in the petroleum-contaminated soil, but at lower levels than the monocyclic compounds. The heavier polycyclic aromatic hydrocarbons (PAHs) were present at relatively low concentrations (except for samples from the historic fill layer).

An area of deep contamination was identified in the southwestern portion of the site where DNAPL was found. This area corresponded to a low point in the lower confining layer (till or clay) where it is not unexpected that DNAPL would tend to accumulate. A second area of coal tar contamination was identified further north along the western boundary of the site. The coal tar-contaminated soil was characterized by high levels of naphthalene and 2-methylnaphthalene, with BTEX present, but at lower levels than naphthalene.

The surface soils on the site were characterized as historic fill material incorporating ash as well as brick, concrete, and other demolition debris. The fill contained higher and more variable concentrations of metals and heavy PAHs than the underlying native soils. Metals were detected generally at concentrations typical of soil background levels. Above-background concentrations of mercury were detected in a few soil samples. However, these appeared to be randomly distributed in the fill.

*Groundwater Contamination*

Petroleum and coal tar-related volatile organic compounds (VOCs) and semi volatile organic compounds (SVOCs) were present at elevated levels in groundwater samples from wells in the northwest quadrant of Parcel 9, and in the area of coal tar contamination at the southwestern corner and along the western edge of the parcel. The most common compounds detected were BTEX, naphthalene, and 2-methylnaphthalene. In general, the higher levels of naphthalene were associated with the coal tar contamination along the western edge of the site, and the higher levels of benzene were associated with the petroleum contamination in the north-central portion of the site. Metals were generally either not detected or detected at concentrations well below the Class GA groundwater standards. Polychlorinated biphenyls (PCBs) and pesticides were not detected in any of the groundwater samples analyzed.

## 2.3 SITE REMEDIATION

### *2.3.1 Soil Excavation*

Remediation of the petroleum and coal tar contamination identified on Parcel 9 commenced in August 2005. The remediation was conducted in accordance with the approved Remedial Work Plan (RWP), dated May 2005 (Revised August 2005). The selected remedy consisted of excavating soil containing contaminant concentrations exceeding the Site-Specific Soil Action Levels (SSSALs), with soil excavation conducted under a temporary containment structure equipped with an air handling system to control fugitive odors and dust. The remedy also included installation of a permanent subsurface containment wall, constructed of steel sheet piles driven into the low permeability till layer, to facilitate soil removal and isolate the site from off-site contamination. The remediation program also included pumping out and removing several underground storage tanks that were discovered during soil excavation activities.

Excavation and off-site disposal of all contaminated soil from within the containment wall was completed on March 30, 2006. During remediation activities, soil excavation was terminated generally at the till layer based on field screening indicating the end of gross contamination and technical limitations of excavating the till, which consisted of densely packed clay, silt, and gravel, and contained numerous cobbles and boulders. Contaminated soil was removed from the southwestern portion of the excavation to the top of a dense clay layer at approximately 27 to 34 feet below grade, on top of the till layer. DNAPL was observed in an approximately six-inch interval in sandy material just above the clay layer, indicating that the clay was acting as a confining layer preventing downward migration of DNAPL in this portion of the site. These observations were consistent with findings from previous investigations, which identified

DNAPL in monitoring wells in the southwestern corner of the parcel.

Between March 30 and May 25, 2006, additional soil remediation was conducted outside of the sheeting line in an area of historic fill containing elevated naphthalene concentrations and three areas where underground storage tanks were discovered during excavation for foundations in the proposed parking garage area.

### *2.3.2 Engineering Controls*

In addition to soil excavation and disposal, the RWP included the installation of engineering controls to prevent exposure to residual subsurface contamination at the site. The engineering controls, which consist of a site cover, hydraulic barrier, and sub-slab vapor mitigation system, are described in more detail below.

*Site Cover*

At the time that the FER was submitted, the site cover consisted of: concrete building foundations in the area of the high-rise residential building, townhouses, and portions of the garage; and a temporary cover of at least two feet of clean fill meeting NYSDEC TAGM 4046 RSCOs in the future courtyard area and the remaining portion of the garage not paved with concrete. Following completion of the building construction in the second half of 2007, a permanent site cover was installed in all areas not already covered by building foundations, and included: concrete over the entire garage area; paving in portions of the courtyard area; and two feet of top soil in the remainder of the courtyard and all perimeter landscaped areas.

*Hydraulic Barrier*

As described in Section 2.3.1., permanent interlocking steel sheeting was installed around the entire soil remediation area to facilitate excavation for soil remediation. The sheeting was installed such that it will also serve as a hydraulic barrier to isolate the site from off-site contamination. This was accomplished by driving the sheeting into the low-permeability till or clay layer, and sealing the seams in the sheeting with hydrocarbon-resistant Adeka gaskets to prevent infiltration of contaminants back onto the site. The hydraulic barrier was installed below grade, and does not require maintenance; however, routine groundwater monitoring is conducted as specified in the SMP to gauge the effectiveness of the barrier.

*Vapor Mitigation System*

Site remediation included the installation of a vapor mitigation system under the residential tower and townhouses. The system consists of a vapor barrier, a sub-slab gas collection network, steel pipe risers, and aboveground blowers/instrumentation. The vapor barrier consists of a 60-mil thick, spray-applied, LiquidBoot® gas vapor membrane. The subsurface gas collection pipe network consists of Schedule 40, 4-inch diameter PVC piping with 0.02-inch slots installed in a 12-inch thick layer of gas-permeable aggregate. The slotted piping is installed in four separate zones under the on-site residential buildings, as follows:

- Zone 1 - Northern wing of high-rise building (facing Center Boulevard)
- Zone 2 - Central tower portion of high-rise building
- Zone 3 - Southern wing of high-rise building (facing 48th Avenue)
- Zone 4 - Townhouses

In each zone, a length of solid 4-inch diameter Schedule 40 PVC piping leads from the slotted piping network to an interior riser. Temporary blower assemblies were connected to the risers and activated on December 22, 2006. Following completion of the building mechanical rooms, the temporary blowers were taken out of service and the permanent blowers were installed at their designated locations and activated on December 4, 2007.

### *2.3.3 Institutional Controls*

Institutional controls incorporated into the site remedy include an environmental easement to prohibit certain on-site uses, and implementation of a SMP specifying soil management, operation, maintenance, monitoring, and reporting procedures during future site use. These Institutional Controls are described in more detail below.

*Site Management Plan*

An SMP was prepared to describe procedures and protocols for post-remediation management of the site. This SMP includes four plans: an Institutional and Engineering Control Plan for implementation and management of institutional and engineering controls; a Monitoring Plan for implementation of site monitoring; an Operation and Maintenance Plan for operation of the sub-slab vapor mitigation system; and a Site Management Reporting Plan for submittal of data, information, recommendations and certifications to NYSDEC The Institutional and Engineering Control Plan portion of the SMP includes detailed procedures for handling residual on-site contamination during future soil disturbance activities.

*Environmental Easement*

An environmental easement has been recorded for the site and includes the following site use restrictions:

- Use of the site for "Restricted Residential Use".
- All engineering controls (including the site cover and sub slab vapor depressurization and active venting system) must be operated and maintained as specified in the NYSDEC-approved Site Management Plan. No Engineering and Institutional Controls may be discontinued without a NYSDEC- approved amendment or extinguishment of the Environmental Easement and/or Site Management Plan.
- Annual inspections, certifications of Institutional & Engineering controls, Site usage, and Site Management Reporting to NYSDEC must be conducted in accordance with the NYSDEC-approved Site Management Plan.
- All future soil disturbance activities on the site that will impact residual contaminated material, including, but not limited to, building construction or expansion, sub-grade utility line construction or repair, must be conducted in accordance with the Soil Management provisions in the NYSDEC-approved Site Management Plan.
- Operation Monitoring and Maintenance (OM&M) of the sub-slab depressurization system must be performed in a manner specified in the NYSDEC-approved Site Management Plan.
- Groundwater and other environmental or public health monitoring required by the NYSDEC-approved Site Management Plan, and reporting of information thus obtained, must be performed

in a manner specified in that Plan.

- On-site environmental monitoring devices, including but not limited to, groundwater monitor wells and soil vapor probes, must be protected and replaced as necessary to ensure continued functioning in the manner specified in the NYSDEC-approved Site Management Plan.

- The use of the groundwater underlying the site is prohibited without treatment rendering it safe for intended purpose.

- Vegetable gardens are prohibited.

- The site may not be used for a higher level of use such as unrestricted residential, without proper notification of NYSDEC of the change of use, approval of that use by the NYSDEC, and an amendment of the Site Management Plan approved by NYSDEC.

The environmental easement includes: a description of the use restrictions; a map showing the area of the restrictions; and a copy of the NYSDEC-approved SMP. The property deed and all subsequent instruments of conveyance will contain language indicating that the site is subject to the environmental easement. A copy of the environmental easement is included as an appendix to the SMP.

# 3.0 SITE COVER OPERATION AND MAINTENANCE

## 3.1 SITE COVER INSPECTION

Cardno ATC conducted an inspection of the entire site cover on December 31, 2013 to check the asphalt/concrete paving for cracking and/or signs of wear, and check for erosion of the soil cover in unpaved areas. All paving was found to be intact, with no signs of cracking or damage. No erosion was noted in the landscaped areas. Photographs documenting the December 31, 2013 inspection and a copy of the site cover inspection log are provided in Appendix A.

# 4.0 VAPOR MITIGATION SYSTEM OPERATION & MAINTENANCE

## 4.1 ROUTINE SYSTEM CHECKS

On-site representatives from AvalonBay conducted routine checks of the vapor mitigation system throughout the year to: ensure that the blowers were operational; record the blower runtimes as indicated on the control panels; and note any unusual conditions, such as leaks or odors. Routine checks were conducted on an approximately daily to weekly basis during the 2013 calendar year. Blower runtime data is summarized in Table 1. Copies of the routine system check log sheets are provided in Appendix B.

The zone 3 meter display was replaced on December 13, 2008, at which time the AKRF technician was able to decipher a final reading of 7415.4 hours from the broken meter. This value will be added to all subsequent readings from the new meter to calculate a total runtime for the Zone 3 blower.

Blower downtime for each zone was calculated by subtracting the blower runtimes logged during the routine system checks (converted to days), from the number of calendar days elapsed during the reporting period, as summarized in Table 1. No blower downtime was calculated for Zones 1, 2 3, and 4.

## 4.2 PERIODIC INSPECTIONS

Periodic system inspections were conducted by Cardno ATC personnel on a monthly basis. Copies of the inspection log sheets are provided in Appendix B. Activities conducted during the inspections included recording vacuum gauge and flow meter readings and adjusting system components to optimize system efficiency. All readings are summarized in Table 2. Vacuum readings generally ranged from 7.0 to 14.0 inches of water ("H2O) and total flow readings ranged from 195 to 420 cubic feet per minute (CFM), which are within the normal operating range of the blower. Lower vacuum readings of 4 to 5 "H2O were noted at the Zone 4 blower resulting from losses caused by the granulated activated carbon (GAC) adsorbers; however, these readings were within the operational range for the blower. The differential between pre-filter and post-filter vacuum readings was less than 1"H2O for all blowers. Vapor discharge sampling was discontinued and the GAC adsorbers were removed during the 2013 reporting period.

# 5.0 MONITORING

## 5.1 GROUNDWATER MONITORING

### *5.1.1 Monitoring Well Sampling*

Groundwater samples were collected on a semi-annual basis during the 2013 reporting period, as summarized in the following table:

| Sampling Dates | Wells Sampled |
|---|---|
| March 28, 2013 | MW-2; MW-8; MW-11R; MW-12R; MW-14; MW-15; MW-16 |
| September 24, 2013 | MW-2; MW-8; MW-11R; MW-12R; MW-14; MW-15; MW-16 |

All samples were collected using low-flow sampling procedures in accordance with the project standard operating procedures (SOPs). The samples were submitted to CHEMTECH Consulting Group in Mountainside, New Jersey, a NYSDOH-approved laboratory and were analyzed for VOCs by EPA Method 8260 and SVOCs by EPA Method 8270. In addition, the depth to water was measured in all monitoring wells to determine groundwater elevation and flow patterns, and potential LNAPL was gauged at each well using an oil-water interface probe and/or weighted tape. Groundwater sampling logs are provided in Appendix C. Groundwater monitoring analytical results are discussed in Section 5.2.1.

## 5.2 DISCUSSION

### *5.2.1 Groundwater Monitoring Results*

*Fluid Level Measurements*

Fluid level measurements collected in the monitoring wells are summarized in Table 3. No measurable LNAPL or DNAPL was detected in any of the wells during the 2013 reporting period. Table 3 summarizes the water table elevations during the two sampling events. These elevations were calculated by subtracting the measured depths to water from the surveyed top of casing elevations for each well. The elevations ranged from 1.42 feet to -1.09 feet, relative to the Queens Borough Datum. Due to the large differences in water table elevations between adjacent monitoring wells, meaningful contours could not be developed from the data. The variability in elevations throughout the site can likely be attributed to subsurface obstructions and heterogeneities caused by utility conduits and vaults, variable backfill, and the sheet pile containment wall. These large-scale trends are consistent with the regional southwesterly groundwater flow direction documented in previous studies of the Queens West Development area.

*Groundwater Analytical Results*

Groundwater sampling analytical results for VOCs and SVOCs are provided in Appendix D and summarized in Tables 4 and 5, respectively. These tables also list the NYSDEC Ambient Water Quality Standards and Guidance Values (AWQVs) for Class GA Groundwater. Figure 4 illustrates the benzene, toluene, ethylbenzene and xylene (BTEX) and naphthalene concentrations detected in the monitoring wells during the two 2013 sampling events. Figure 4 also shows BTEX and naphthalene concentrations detected in the post-remediation monitoring wells during the previous reporting period (in December 2012). Benzene, toluene, ethylbenzene, xylene, and naphthalene concentrations within the containment wall (i.e., in wells MW-11R and MW-12R) were all either non-detected or below applicable groundwater

standards during the 2013 reporting period. The results indicate that the groundwater containment wall is effectively isolating the Parcel 9 site from contamination on surrounding properties, allowing natural attenuation of residual groundwater contamination within the barrier.

MW-8, located downgradient of the northwestern corner of the containment wall, exhibited maximum total BTEX and naphthalene concentrations of 167 µg/l and 1,300 µg/l, respectively; and MW-2, located downgradient from the southwestern corner of the containment wall, exhibited maximum total BTEX and naphthalene concentrations of 333.9 µg/l and 9 µg/l, respectively. These concentrations can be attributed to known coal tar and petroleum contamination in off-site areas not addressed by the Parcel 9 remediation.

BTEX and naphthalene concentrations in well MW-16, located in the eastern portion of the site, upgradient of the containment wall were all non-detected for each of the sampling events in 2013. BTEX and naphthalene concentrations for MW-14 were all below or only slightly exceeded their respective AWQVs. These results are consistent with the findings from previous investigations, which did not identify significant soil or groundwater contamination in the eastern portion of the site. MW-15, located in the 48th Street sidewalk, just outside of the southeastern corner of the containment wall, contained a maximum benzene concentration of 49.7 µg/l, during the September 2013 sampling event.

# 6.0 CONCLUSIONS AND RECOMMENDATIONS

A site wide inspection was conducted on December 31, 2013, as specified in the SMP to ensure that all aspects of the remedy were in-place and effective. A copy of the Site-Wide Inspection log is included in Appendix E. The inspection included a review of the site cover/vapor mitigation system monitoring logs and groundwater data. Based on this review and the data evaluation summarized in this report, the following conclusions and recommendations were developed:

- The permanent site cover is present and in good condition throughout all portions of the site.
- The active sub-slab vapor mitigation system was operated on a nearly continuous basis in for all four (4) zones (Zones 1, 2, 3, and 4) throughout the 2013 reporting period.
- All vacuum and flow rate measurements collected from the vapor mitigation system during the 2013 reporting period were within the operational ranges for the system blowers.
- During the 2013 reporting period, contaminant levels in groundwater within the containment wall for MW-11R and MW-12R were all non-detected, with the exception of benzene, which was detected in MW-12R during the March 28, 2013 sampling event at a concentration of 0.98 µg/l, which is below the standard of 1 µg/l. The results indicate that the groundwater containment wall is effectively isolating the Parcel 9 site from contamination on surrounding properties, allowing natural attenuation of residual groundwater contamination within the barrier.

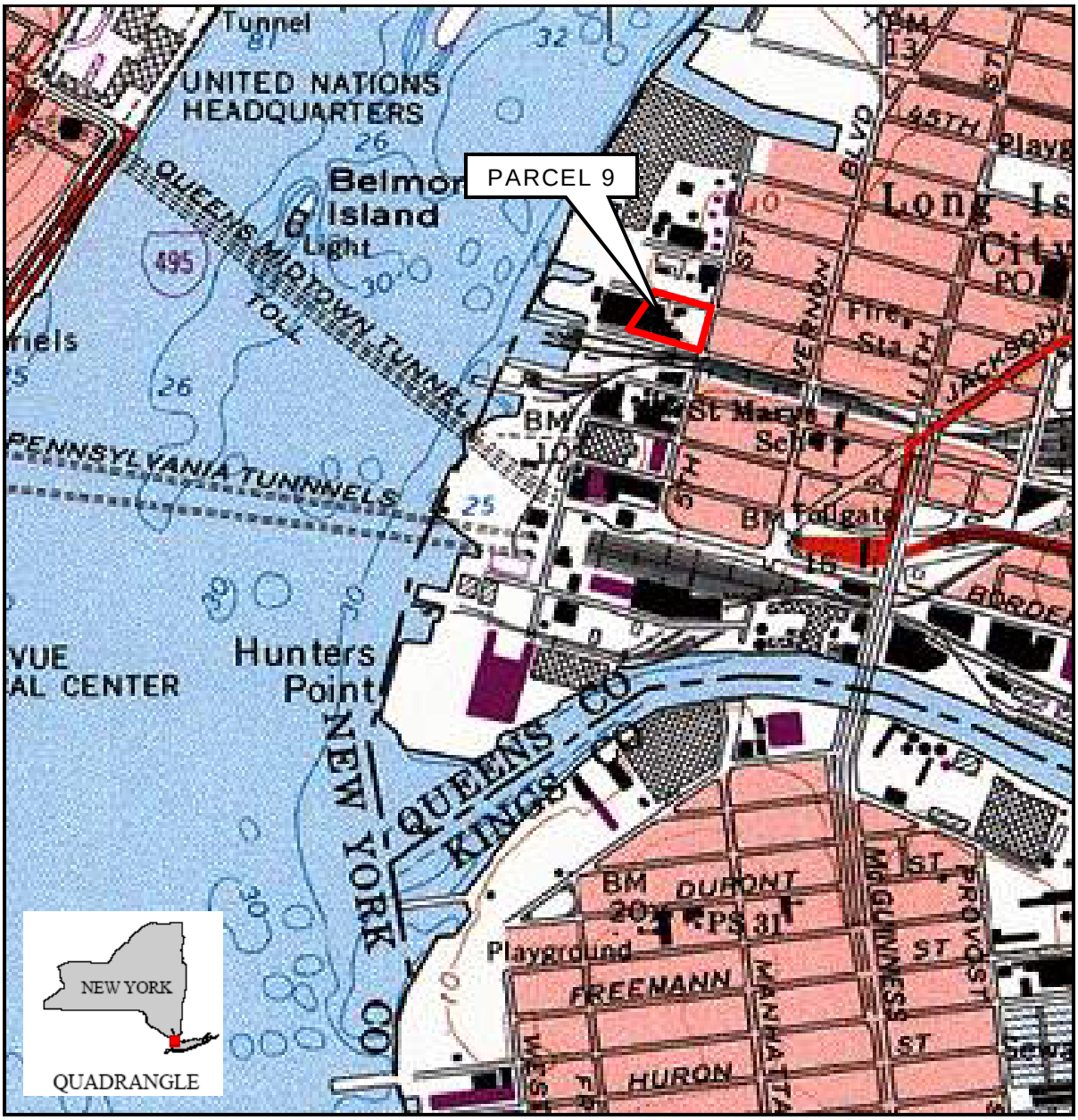
Based on review of the analytical and filed data for the 2013 reporting year, Cardno ATC has the following recommendations:

- Continue the monitoring and reporting for the 2014 reporting period as identified in the modified SMP, dated February, 2014.

# 7.0 INSTITUTIONAL AND ENGINEERING CONTROL CERTIFICATION

The IC/EC Certification Form for the site was completed based on results from the site monitoring and inspections described in the report. A copy of the form is provided as Appendix F. The Certification Form indicates that all ICs/ECs at the site remain in place and effective.

# FIGURES




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**FIGURE 1 – SITE LOCATION MAP**

| | |
|---|---|
| **Client:** | Avalon Bay Communities |
| **Site:** | Queens West Parcel 9 |
| **Project No.:** | 015.75420.0016 |
| **Year:** | 1995 |
| **Scale:** | As shown |

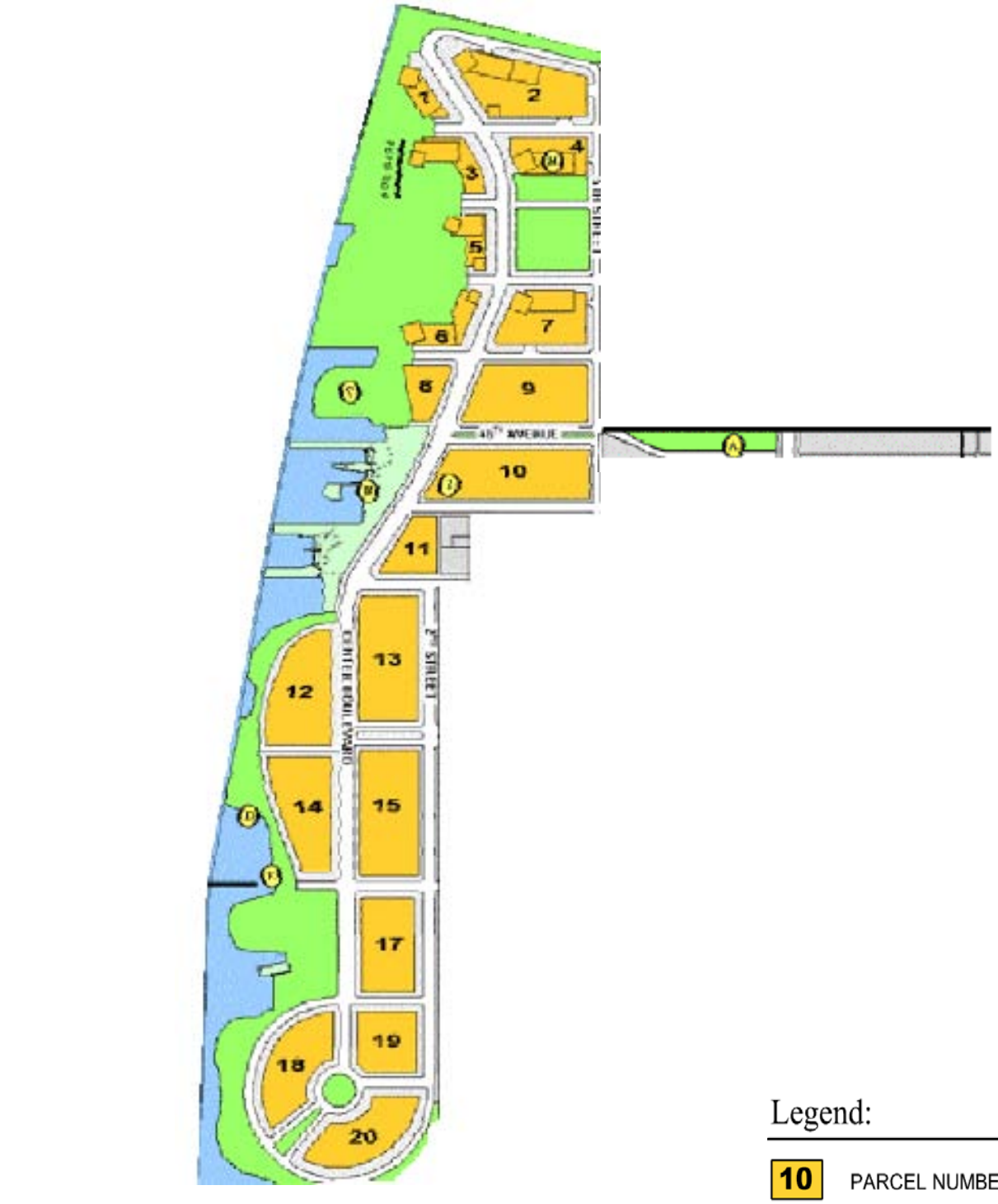


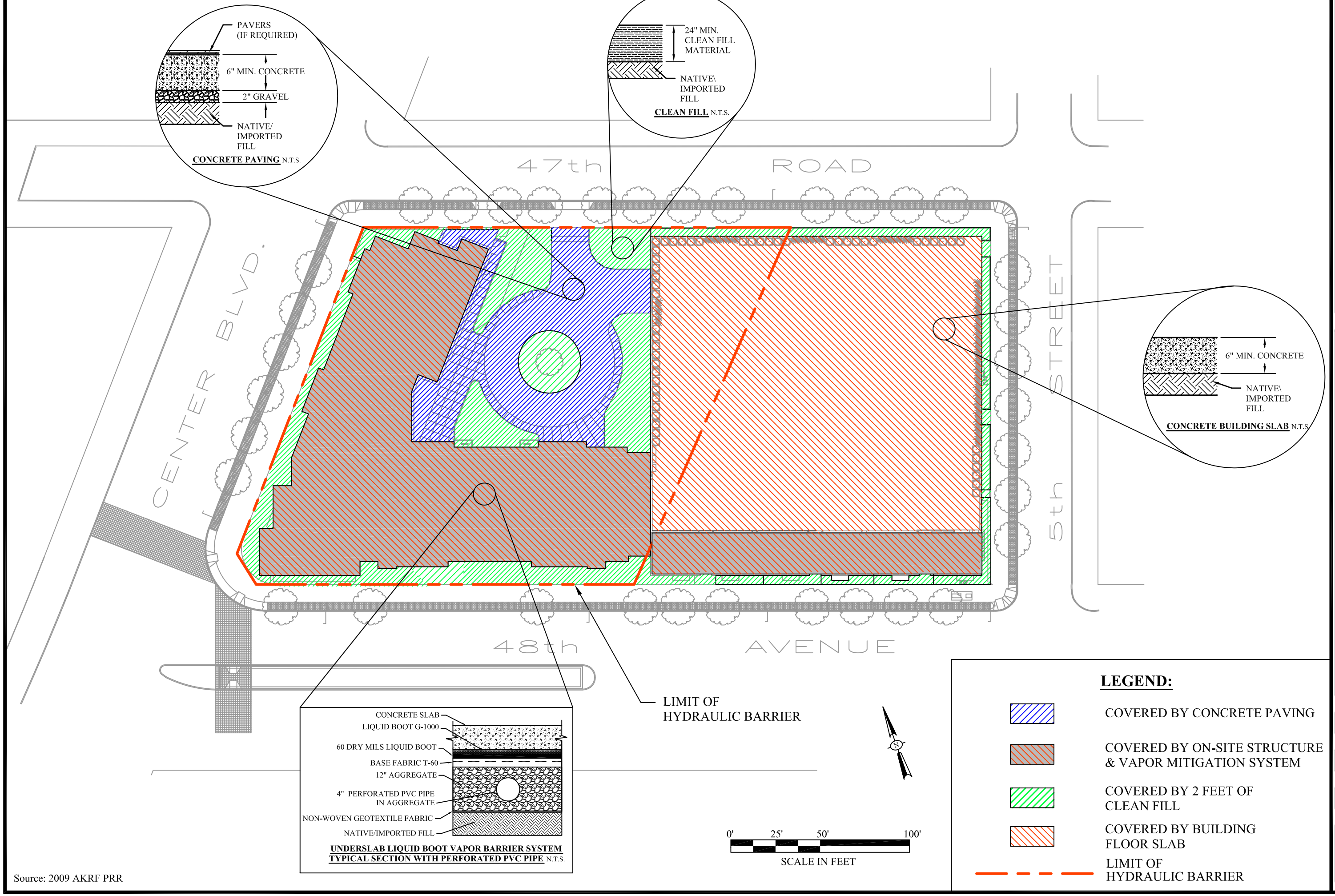

**FIGURE 2 – QUEENS WEST DEVELOPMENT PARCELS**

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N

**Client:** Avalon Bay Communities
**Site**: Queens West Parcel 9
**Project No.**: 015.75420.0016




Source: 2009 AKRF PRR

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**QUEENS WEST PARCEL 9**
QUEENS, NEW YORK

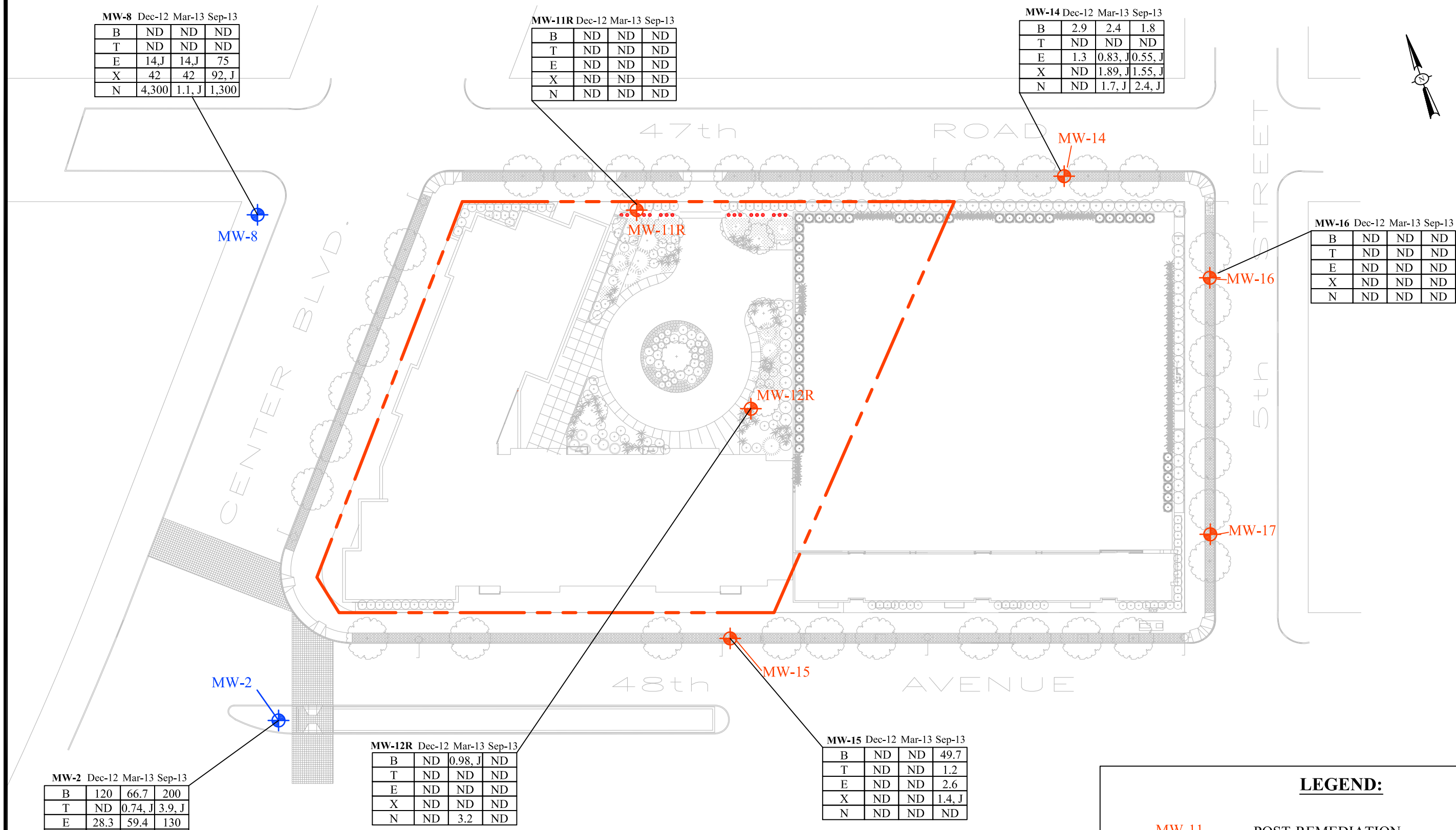
**SITE PLAN & ENGINEERING CONTROLS**

DATE
**APRIL 2014**

SCALE
**As shown**

PROJECT No.
**15.75420.0016**

FIGURE
**3**




**MW-8** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | ND | ND | ND |
| T | ND | ND | ND |
| E | 14,J | 14,J | 75 |
| X | 42 | 42 | 92, J |
| N | 4,300 | 1.1, J | 1,300 |

**MW-11R** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | ND | ND | ND |
| T | ND | ND | ND |
| E | ND | ND | ND |
| X | ND | ND | ND |
| N | ND | ND | ND |

**MW-14** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | 2.9 | 2.4 | 1.8 |
| T | ND | ND | ND |
| E | 1.3 | 0.83, J | 0.55, J |
| X | ND | 1.89, J | 1.55, J |
| N | ND | 1.7, J | 2.4, J |

**MW-16** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | ND | ND | ND |
| T | ND | ND | ND |
| E | ND | ND | ND |
| X | ND | ND | ND |
| N | ND | ND | ND |

**MW-2** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | 120 | 66.7 | 200 |
| T | ND | 0.74, J | 3.9, J |
| E | 28.3 | 59.4 | 130 |
| X | ND | 6.7 | ND |
| N | 3.7, J | 6.3, J | 9, J |

**MW-12R** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | ND | 0.98, J | ND |
| T | ND | ND | ND |
| E | ND | ND | ND |
| X | ND | ND | ND |
| N | ND | 3.2 | ND |

**MW-15** Dec-12 Mar-13 Sep-13

| | | | |
|---|---|---|---|
| B | ND | ND | 49.7 |
| T | ND | ND | 1.2 |
| E | ND | ND | 2.6 |
| X | ND | ND | 1.4, J |
| N | ND | ND | ND |

0' 25' 50' 100'

SCALE IN FEET

## ABBREVIATIONS

| | |
|---|---|
| B | BENZENE |
| E | ETHYL BENZENE |
| T | TOLUENE |
| X | M/P-XYLENES AND O-XYLENE |
| N | NAPHTHALENE |

## LEGEND:

MW-11 — POST-REMEDIATION MONITORING WELL

MW-1 — PRE-EXISTING MONITORING WELL

LIMITS OF HYDRAULIC BARRIER

COMPOUND NAME

| | |
|---|---|
| B | 130 |

CONCENTRATION IN MICROGRAMS PER LITER (µg/L)

ND: Not detected
NS: Not Sampled
J: Indicates an estimated value.

Cardno ATC
Shaping the Future
104 EAST 25th STREET, NEW YORK, NY 10010
TEL: (212) 353-8280 FAX: (212) 979-8447

# QUEENS WEST PARCEL 9
QUEENS, NEW YORK

# BTEX & NAPTHALENE CONCENTRATIONS IN GROUNDWATER (2011)

DATE
**APRIL 2014**

SCALE
**As shown**

PROJECT No.
**15.75420.0016**

FIGURE
**4**

K:\Avalon Bay\QUEENS PARCEL 9 & 11\West Parcel 9\2013\PRR for Year 2013

# TABLES

# TABLE 1
## VAPOR MITIGATION SYSTEM BLOWER RUNTIME DATA
### QUEENS WEST DEVELOPMENT - PARCEL 9

| Date | Zone 1 | | | | Zone 2 | | | | Zone 3 | | | | Zone 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | On/Off | Runtime (hrs) | Runtime (days)[1] | Est. Downtime (days)[2] | On/Off | Runtime (hrs) | Runtime (days)[1] | Est. Downtime (days)[2] | On/Off | Runtime (hrs) | Runtime (days)[1] | Est. Downtime (days)[2] | On/Off | Runtime (hrs) | Runtime (days)[1] | Est. Downtime (days)[2] |
| 12/20/2012 | On | 42,230 | 1759.6 | -- | On | 44,229 | 1842.9 | -- | On | 42,103 | 1754.3 | -- | On | 43,378 | 1807.4 | -- |
| 1/15/2013 | On | 42,850 | 1785.4 | 0.0 | On | 44,857 | 1869.0 | 0.0 | On | 42,733 | 1780.5 | 0.0 | On | 44,041 | 1835.0 | 0.0 |
| 2/27/2013 | On | 43,894 | 1828.9 | 0.0 | On | 45,891 | 1912.1 | 0.0 | On | 43,775 | 1824.0 | 0.0 | On | 45,038 | 1876.6 | 0.0 |
| 3/28/2013 | On | 44,583 | 1857.6 | 0.0 | On | 46,582 | 1940.9 | 0.0 | On | 44,564 | 1856.8 | 0.0 | On | 45,729 | 1905.4 | 0.0 |
| 4/19/2013 | On | 45,114 | 1879.8 | 0.0 | On | 47,114 | 1963.1 | 0.0 | On | 44,988 | 1874.5 | 0.0 | On | 46,261 | 1927.5 | 0.0 |
| 5/30/2013 | On | 46,100 | 1920.8 | 0.0 | On | 48,099 | 2004.1 | 0.0 | On | 45,973 | 1915.5 | 0.0 | On | 47,246 | 1968.6 | 0.0 |
| 6/26/2013 | On | 46,745 | 1947.7 | 0.0 | On | 48,744 | 2031.0 | 0.0 | On | 46,618 | 1942.4 | 0.0 | On | 47,892 | 1995.5 | 0.0 |
| 7/29/2013 | On | 47,537 | 1980.7 | 0.0 | On | 49,545 | 2064.4 | 0.0 | On | 47,411 | 1975.5 | 0.0 | On | 48,810 | 2033.8 | 0.0 |
| 8/16/2013 | On | 47,977 | 1999.0 | 0.0 | On | 49,975 | 2082.3 | 0.0 | On | 47,850 | 1993.8 | 0.0 | On | 49,118 | 2046.6 | 0.0 |
| 9/24/2013 | On | 48,900 | 2037.5 | 0.0 | On | 50,901 | 2120.9 | 0.0 | On | 48,775 | 2032.3 | 0.0 | On | 50,049 | 2085.4 | 0.0 |
| 10/31/2013 | On | 49,805 | 2075.2 | 0.0 | On | 51,794 | 2158.1 | 0.0 | On | 49,666 | 2069.4 | 0.0 | On | 50,942 | 2122.6 | 0.0 |
| 11/18/2013 | On | 50,227 | 2092.8 | 0.0 | On | 52,227 | 2176.1 | 0.0 | On | 50,100 | 2087.5 | 0.0 | On | 51,374 | 2140.6 | 0.0 |
| 12/17/2013 | On | 50,916 | 2121.5 | 0.0 | On | 52,917 | 2204.9 | 0.0 | On | 50,791 | 2116.3 | 0.0 | On | 52,065 | 2169.4 | 0.0 |

**Notes:**

[1] Estimated Runtime (days) = Runtime (hours)/24

[2] Estimated Downtime = # Calendar Days - Runtime (days)

*Total Zone 3 runtime calculated by adding reading at new meter to final reading pulled from broken meter (7415.4).

## TABLE 2
### VAPOR MITIGATION SYSTEM VACUUM AND FLOW RATE READINGS
### QUEENS WEST DEVELOPMENT - PARCEL 9

| | Zone 1 | | | Zone 2 | | | Zone 3 | | | | Zone 4 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Vacuum at Filter | | Flow | Vacuum at Filter | | Flow | Vacuum at Filter | | Flow | | Vacuum at Filter | | Flow | |
| Date | Pre ("$H_2O$) | Post ("$H_2O$) | (CFM) | Pre ("$H_2O$) | Post ("$H_2O$) | (CFM) | Pre ("$H_2O$) | Post ("$H_2O$) | Riser (CFM) | Total(CFM) | Pre ("$H_2O$) | Post ("$H_2O$) | Riser (CFM) | Total(CFM) |
| 1/15/2013 | 7.0 | 7.5 | 326 | 10.0 | 10.0 | 298 | 13.5 | 14.0 | 520 | 278 | 4.0 | 4.5 | 430 | 250 |
| 2/27/2013 | 7.0 | 7.0 | 325 | 10.0 | 10.0 | 290 | 13.5 | 14.0 | 560 | 250 | 4.0 | 4.5 | 426 | 248 |
| 3/28/2013 | 7.0 | 7.0 | 325 | 10.0 | 10.0 | 300 | 12.0 | 12.5 | 547 | 240 | 4.0 | 4.5 | 430 | 250 |
| 4/19/2013 | 7.0 | 7.0 | 324 | 10.0 | 10.5 | 300 | 13.5 | 14.0 | 480 | 250 | 4.0 | 4.5 | 430 | 250 |
| 5/30/2013 | 7.0 | 7.0 | 321 | 10.0 | 10.0 | 300 | 13.5 | 14.0 | 212 | 416 | 4.0 | 4.5 | 250 | 420 |
| 6/26/2013 | 7.0 | 7.0 | 320 | 10.0 | 10.0 | 305 | 13.5 | 14.0 | 280 | 195 | 4.0 | 4.5 | 430 | 250 |
| 7/29/2013 | 7.0 | 7.0 | 320 | 10.0 | 10.0 | 298 | 13.5 | 13.5 | 230 | 198 | 4.0 | 4.5 | 426 | 251 |
| 8/16/2013 | 7.0 | 7.0 | 319 | 10.0 | 10.0 | 298 | 13.5 | 14.0 | 285 | 200 | 4.5 | 5.0 | 444 | 220 |
| 9/24/2013 | 7.0 | 7.0 | 324 | 10.0 | 10.0 | 304 | 13.5 | 14.0 | 320 | 210 | 4.5 | 5.0 | 435 | 250 |
| 10/31/2013 | 7.0 | 7.0 | 325 | 10.0 | 10.0 | 336 | 13.5 | 14.0 | 390 | 230 | 4.5 | 5.0 | 448 | 253 |
| 11/18/2013 | 7.0 | 7.0 | 324 | 10.0 | 10.5 | 344 | 13.5 | 14.0 | 430 | 240 | 4.5 | 5.0 | 450 | 251 |
| 12/17/2013 | 7.0 | 7.0 | 325 | 10.0 | 10.0 | 328 | 12.5 | 13.0 | 490 | 250 | 4.5 | 5.0 | 447 | 250 |

**Notes:**
Pre - Reading taken before air filter.
Post - Reading taken after air filter.
Riser - Flow reading taken before dilution valve.
Total - flow reading taken after dilution valve.

# TABLE 3
## WATER LEVEL MEASUREMENTS and PRODUCT THICKNESS
### QUEENS WEST DEVELOPMENT - PARCEL 9

| Well | Total Well Depth (feet) | Top of Casing Elev. (feet) | March 2013 | | | | September 2013 | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | DTP | DTW | Product Thickness | ELEV | DTP | DTW | Product Thickness | ELEV |
| **MW-2** | **32.3** | **8.93** | ND | 8.02 | 0.00 | 0.91 | ND | 9.62 | 0.00 | -0.69 |
| **MW-8** | **29.4** | **10.30** | ND | 10.10 | 0.00 | 0.20 | ND | 10.55 | 0.00 | -0.25 |
| **MW-11R** | **20.3** | **10.52** | ND | 10.95 | 0.00 | -0.43 | ND | 10.44 | 0.00 | 0.08 |
| **MW-12R** | **17.9** | **10.46** | ND | 10.03 | 0.00 | 0.43 | ND | 9.04 | 0.00 | 1.42 |
| **MW-14** | **18.3** | **8.30** | ND | 7.99 | 0.01 | 0.31 | ND | 8.15 | 0.00 | 0.15 |
| **MW-15** | **18.1** | **7.24** | ND | 7.05 | 0.00 | 0.19 | ND | 7.73 | 0.00 | -0.49 |
| **MW-16** | **14.2** | **7.22** | ND | 8.20 | 0.00 | -0.98 | ND | 8.31 | 0.00 | -1.09 |

Notes:

ND - Not detected

DTP - Depth to product in feet

DTW - Depth to water in feet

ELEV - Water table elevation in feet above the Queens Borough Datum, which is 2.725 feet above the mean sea level referenced to the National Geodetic Vertical Datum (NGVD) of 1929.

## Table 4
## GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
### QUEENS WEST DEVELOPMENT - PARCEL 9

| Client ID | NYSDEC | MW2 | MW-2 | MW8 | MW-8 | MW11R | MW-11R | MW-12R | MW-12R | MW14 | MW-14 (DUP) | MW-14 | MW15 | MW-15 | MW-15 (DUP) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lab Sample ID | Class GA | E1676-01 | E3854-01DL | E1676-02DL | E3854-02DL | E1676-03 | E3854-03 | E1676-06 | E3854-06 | E1676-07 | E1676-11 | E3854-07 | E1676-08 | E3854-08 | E3854-11 |
| Date Sampled | AWQV | 3/28/2013 | 9/24/2013 | 3/28/2013 | 9/24/2013 | 3/28/2013 | 9/24/2013 | 3/28/2013 | 9/24/2013 | 3/28/2013 | 3/28/2013 | 9/24/2013 | 3/28/2013 | 9/24/2013 | 9/24/2013 |
| Dilution | | 1 | 5 | 50 | 50 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| units=ug/L | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | **5** | 0.4 U | 1 UD | 20 UD | 10 UD | 0.4 U | 0.2 U | 0.4 U | 0.2 U | 0.4 U | 0.4 U | 0.2 U | 0.4 U | 0.2 U | 0.2 U |
| **1,1,2,2-Tetrachloroethane** | **5** | 0.31 U | 1 UD | 15.5 UD | 10 UD | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.31 U | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.2 U |
| **1,1,2-Trichloroethane** | **1** | 0.38 U | 1 UD | 19 UD | 10 UD | 0.38 U | 0.2 U | 0.38 U | 0.2 U | 0.38 U | 0.38 U | 0.2 U | 0.38 U | 0.2 U | 0.2 U |
| **1,1-Dichloroethane** | **5** | 0.36 U | 1 UD | 18 UD | 10 UD | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.2 U |
| **1,1-Dichloroethene** | **5** | 0.47 U | 1 UD | 23.5 UD | 10 UD | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.47 U | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.2 U |
| **1,2-Dichloroethane** | **0.6** | 0.48 U | 1 UD | 24 UD | 10 UD | 0.48 U | 0.2 U | 0.48 U | 0.2 U | 0.48 U | 0.48 U | 0.2 U | 0.48 U | 0.2 U | 0.2 U |
| **1,2-Dichloropropane** | **1** | 0.46 U | 1 UD | 23 UD | 10 UD | 0.46 U | 0.2 U | 0.46 U | 0.2 U | 0.46 U | 0.46 U | 0.2 U | 0.46 U | 0.2 U | 0.2 U |
| **2-Hexanone** | **50** | 1.9 U | 9.7 UD | 97 UD | 97 UD | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| **Acetone** | **50** | 0.5 U | 2.5 UD | 25 UD | 25 UD | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 4.5 J | 0.5 U | 0.5 U | 3.6 J | 2.3 J |
| **Benzene** | **1** | **66.7** | **200** D | 16 UD | 10 UD | 0.32 U | 0.2 U | 0.98 J | 0.2 U | **2.4** | **2.3** | **1.8** | 0.32 U | **49.7** | **55.2** |
| **Bromodichloromethane** | **50** | 0.36 U | 1 UD | 18 UD | 10 UD | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.2 U |
| **Bromoform** | **50** | 0.47 U | 1 UD | 23.5 UD | 10 UD | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.47 U | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.2 U |
| **Bromomethane** | **5** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Carbon disulfide** | **60** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Carbon tetrachloride** | **5** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Chlorobenzene** | **5** | 0.49 U | 1 UD | 24.5 UD | 10 UD | 0.49 U | 0.2 U | 0.49 U | 0.2 U | 0.49 U | 0.49 U | 0.2 U | 0.49 U | 0.2 U | 0.2 U |
| **Chloroethane** | **5** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Chloroform** | **7** | 0.34 U | 1 UD | 17 UD | 10 UD | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.34 U | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.2 U |
| **Chloromethane** | **5** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **cis-1,2-Dichloroethene** | **5** | 0.35 U | 1 UD | 17.5 UD | 10 UD | 0.35 U | 0.2 U | 0.35 U | 0.2 U | 0.35 U | 0.35 U | 0.2 U | 0.35 U | 0.2 U | 0.2 U |
| **cis-1,3-Dichloropropene** | **0.4** | 0.31 U | 1 UD | 15.5 UD | 10 UD | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.31 U | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.2 U |
| **Dibromochloromethane** | **50** | 0.2 U | 1 UD | 10 UD | 10 UD | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Ethylbenzene** | **5** | **59.4** | **130** D | 10 UD | **75** D | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.83 J | 0.78 J | 0.55 J | 0.2 U | 2.6 | 2.8 |
| **Methylene Chloride** | **5** | 0.41 U | 1 UD | 20.5 UD | 10 UD | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.41 U | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.2 U |
| **Styrene** | **5** | 0.36 U | 1 UD | 18 UD | 10 UD | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.2 U |
| **Tetrachloroethene** | **5** | 0.27 U | 1 UD | 13.5 UD | 10 UD | 0.27 U | 0.2 U | 0.27 U | 0.2 U | 0.27 U | 0.27 U | 0.2 U | 0.27 U | 0.2 U | 0.2 U |
| **Toluene** | **5** | 0.74 J | 3.9 JD | 18.5 UD | 10 UD | 0.37 U | 0.2 U | 0.37 U | 0.2 U | 0.37 U | 0.37 U | 0.2 U | 0.37 U | 1.2 | 1.3 |
| **trans-1,2-Dichloroethene** | **5** | 0.41 U | 1 UD | 20.5 UD | 10 UD | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.41 U | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.2 U |
| **Trichloroethene** | **5** | 0.28 U | 1 UD | 14 UD | 10 UD | 0.28 U | 0.2 U | 0.28 U | 0.2 U | 0.28 U | 0.28 U | 0.2 U | 0.28 U | 0.2 U | 0.2 U |
| **Vinyl chloride** | **2** | 0.34 U | 1 UD | 17 UD | 10 UD | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.34 U | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.2 U |
| **Xylenes, Total** | **5** | **6.7** | 8.6 UD | 69 UD | **92** JD | 1.38 U | 0.6 U | 1.38 U | 0.6 U | 1.89 J | 1.92 J | 1.55 J | 1.38 U | 1.4 J | 1.4 J |

**Notes:**

AWQVs - Ambient Water Quality Standards and Guidance Values listed in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1

U - Analyzed for but not detected.

J - Indicates an estimated value.

B - Analyte was detected in assocated blank, as well as in the sample.

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

ug/L - micrograms per liter.

Bold - exceeds TOGS

FB - Field Blank

TB - Trip Blank

## Table 4
### GROUNDWATER ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
### QUEENS WEST DEVELOPMENT - PARCEL 9

| Client ID<br>Lab Sample ID<br>Date Sampled<br>Dilution<br>units=ug/L | NYSDEC Class GA AWQV | MW16<br>E1676-09<br>3/28/2013<br>1 | MW-16<br>E3854-09<br>9/24/2013<br>1 | FB<br>E1676-10<br>3/28/2013<br>1 | FB<br>E3854-10<br>9/24/2013<br>1 | TB<br>E1676-12<br>3/28/2013<br>1 | TB<br>E3854-12<br>9/24/2013<br>1 |
|---|---|---|---|---|---|---|---|
| **1,1,1-Trichloroethane** | **5** | 0.4 U | 0.2 U | 0.4 U | 0.2 U | 0.4 U | 0.2 U |
| **1,1,2,2-Tetrachloroethane** | **5** | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.31 U | 0.2 U |
| **1,1,2-Trichloroethane** | **1** | 0.38 U | 0.2 U | 0.38 U | 0.2 U | 0.38 U | 0.2 U |
| **1,1-Dichloroethane** | **5** | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U |
| **1,1-Dichloroethene** | **5** | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.47 U | 0.2 U |
| **1,2-Dichloroethane** | **0.6** | 0.48 U | 0.2 U | 0.48 U | 0.2 U | 0.48 U | 0.2 U |
| **1,2-Dichloropropane** | **1** | 0.46 U | 0.2 U | 0.46 U | 0.2 U | 0.46 U | 0.2 U |
| **2-Hexanone** | **50** | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| **Acetone** | **50** | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U | 0.5 U |
| **Benzene** | **1** | 0.32 U | 0.2 U | 0.32 U | 0.2 U | 0.32 U | 0.2 U |
| **Bromodichloromethane** | **50** | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U |
| **Bromoform** | **50** | 0.47 U | 0.2 U | 0.47 U | 0.2 U | 0.47 U | 0.2 U |
| **Bromomethane** | **5** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Carbon disulfide** | **60** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Carbon tetrachloride** | **5** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Chlorobenzene** | **5** | 0.49 U | 0.2 U | 0.49 U | 0.2 U | 0.49 U | 0.2 U |
| **Chloroethane** | **5** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Chloroform** | **7** | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.34 U | 0.2 U |
| **Chloromethane** | **5** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **cis-1,2-Dichloroethene** | **5** | 0.35 U | 0.2 U | 0.35 U | 0.2 U | 0.35 U | 0.2 U |
| **cis-1,3-Dichloropropene** | **0.4** | 0.31 U | 0.2 U | 0.31 U | 0.2 U | 0.31 U | 0.2 U |
| **Dibromochloromethane** | **50** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Ethylbenzene** | **5** | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U |
| **Methylene Chloride** | **5** | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.41 U | 0.2 U |
| **Styrene** | **5** | 0.36 U | 0.2 U | 0.36 U | 0.2 U | 0.36 U | 0.2 U |
| **Tetrachloroethene** | **5** | 0.27 U | 0.2 U | 0.27 U | 0.2 U | 0.27 U | 0.2 U |
| **Toluene** | **5** | 0.37 U | 0.2 U | 0.37 U | 0.2 U | 0.37 U | 0.2 U |
| **trans-1,2-Dichloroethene** | **5** | 0.41 U | 0.2 U | 0.41 U | 0.2 U | 0.41 U | 0.2 U |
| **Trichloroethene** | **5** | 0.28 U | 0.2 U | 0.28 U | 0.2 U | 0.28 U | 0.2 U |
| **Vinyl chloride** | **2** | 0.34 U | 0.2 U | 0.34 U | 0.2 U | 0.34 U | 0.2 U |
| **Xylenes, Total** | **5** | 1.38 U | 0.6 U | 1.38 U | 0.6 U | 1.38 U | 0.6 U |

**Notes:**

AWQVs - Ambient Water Quality Standards and Guidance Values listed in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1

U - Analyzed for but not detected.

J - Indicates an estimated value.

B - Analyte was detected in assocated blank, as we

D - The reported value is from a secondary analysis

ug/L - micrograms per liter.

Bold - exceeds TOGS

FB - Field Blank

TB - Trip Blank

**Table 5**
**GROUNDWATER ANALYTICAL RESULTS - SEMI-VOLATILE ORGANIC COMPOUNDS**
**QUEENS WEST DEVELOPMENT - PARCEL 9**

| Client ID<br>Lab Sample ID<br>Date Sampled<br>Dilution<br>Units=ug/L | NYSDEC Class GA AWQV | MW2<br>E1676-01DL<br>3/28/2013<br>5 | MW-2<br>E3854-01DL<br>9/24/2013<br>5 | MW8<br>E1676-02<br>3/28/2013<br>1 | MW-8<br>E3854-02DL2<br>9/24/2013<br>50 | MW11R<br>E1676-03<br>3/28/2013<br>1 | MW-11R<br>E3854-03<br>9/24/2013<br>1 | MW-12R<br>E1676-06<br>3/28/2013<br>1 | MW-12R<br>E3854-06<br>9/24/2013<br>1 | MW14<br>E1676-07<br>3/28/2013<br>1 | MW-14 (DUP)<br>E1676-11<br>3/28/2013<br>1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **1,2,4-Trichlorobenzene** | **5** | 0.71 UD | 0.71 UD | 0.14 U | 7.1 UD | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U |
| **1,2-Dichlorobenzene** | **3** | 1.3 UD | 1.3 UD | 0.25 U | 12.6 UD | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| **1,3-Dichlorobenzene** | **3** | 0.61 UD | 0.61 UD | 0.12 U | 6.1 UD | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U |
| **1,4-Dichlorobenzene** | **3** | 0.92 UD | 0.91 UD | 0.18 U | 9.1 UD | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U | 0.18 U |
| **2,2'-oxybis[1-chloropropane]** | **5** | 1.8 UD | 1.8 UD | 0.35 U | 17.7 UD | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| **2,4,5-Trichlorophenol** | **NS** | 11.6 UD | 11.5 UD | 2.3 U | 110 UD | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| **2,4,6-Trichlorophenol** | **NS** | 10.8 UD | 10.7 UD | 2.1 U | 110 UD | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| **2,4-Dichlorophenol** | **5** | 16.4 UD | 16.2 UD | 3.2 U | 160 UD | 3.2 U | 3.2 U | 3.2 U | 3.2 U | 3.2 U | 3.2 U |
| **2,4-Dimethylphenol** | **50** | 3.6 UD | 3.5 UD | 4.8 | 35.4 UD | 0.7 U | 0.7 U | 0.71 U | 0.7 U | 0.71 U | 0.71 U |
| **2,4-Dinitrophenol** | **10** | 9.6 UD | 9.5 UD | 1.9 U | 94.9 UD | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| **2,4-Dinitrotoluene** | **5** | 10.8 UD | 10.7 UD | 2.1 U | 110 UD | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| **2,6-Dinitrotoluene** | **5** | 1.4 UD | 1.4 UD | 0.27 U | 13.6 UD | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U |
| **2-Chloronaphthalene** | **10** | 0.77 UD | 0.76 UDQ | 0.15 U | 7.6 UDQ | 0.15 U | 0.15 UQ | 0.15 U | 0.15 UQ | 0.15 U | 0.15 U |
| **2-Chlorophenol** | **NS** | 0.97 UD | 0.96 UD | 0.19 U | 9.6 UD | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 0.19 U |
| **2-Methylnaphthalene** | **NS** | 0.97 UD | 0.96 UD | 0.19 U | 9.6 UD | 0.19 U | 0.19 U | 0.19 U | 0.19 U | 7.5 | 6.6 |
| **2-Methylphenol** | **NS** | 9.2 UD | 9.1 UD | 8.2 J | 91.4 UD | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U | 1.8 U |
| **2-Nitroaniline** | **5** | 21.6 UD | 21.4 UD | 4.2 U | 210 UD | 4.2 U | 4.2 U | 4.3 U | 4.2 U | 4.3 U | 4.3 U |
| **2-Nitrophenol** | **NS** | 22.4 UD | 22.2 UD | 4.4 U | 220 UD | 4.4 U | 4.4 U | 4.4 U | 4.4 U | 4.4 U | 4.4 U |
| **3,3'-Dichlorobenzidine** | **5** | 18.3 UD | 18.1 UD | 3.6 U | 180 UD | 3.6 U | 3.6 U | 3.6 U | 3.6 U | 3.6 U | 3.6 U |
| **3-Nitroaniline** | **5** | 10.3 UDQ | 10.2 UD | 2 UQ | 100 UD | 2 UQ | 2 U | 2 UQ | 2 U | 2 UQ | 2 UQ |
| **4,6-Dinitro-2-methylphenol** | **NS** | 9.5 UD | 9.4 UD | 1.9 U | 94.4 UD | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| **4-Bromophenyl phenyl ether** | **NS** | 2.1 UD | 2.1 UD | 0.42 U | 21.2 UD | 0.42 U | 0.42 U | 0.42 U | 0.42 U | 0.42 U | 0.42 U |
| **4-Chloro-3-methylphenol** | **NS** | 8.8 UD | 8.7 UD | 1.7 U | 86.9 UD | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U | 1.7 U |
| **4-Chloroaniline** | **5** | 13.5 UD | 13.3 UD | 2.6 U | 130 UD | 2.6 U | 2.6 U | 2.7 U | 2.6 U | 2.7 U | 2.7 U |
| **4-Chlorophenyl phenyl ether** | **NS** | 1.4 UD | 1.4 UD | 0.27 U | 13.6 UD | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U | 0.27 U |
| **4-Nitroaniline** | **5** | 12.7 UD | 12.6 UDQ | 2.5 U | 130 UDQ | 2.5 U | 2.5 UQ | 2.5 U | 2.5 UQ | 2.5 U | 2.5 U |
| **4-Nitrophenol** | **NS** | 19.7 UD | 19.5 UD | 3.9 U | 200 UD | 3.9 U | 3.9 U | 3.9 U | 3.9 U | 3.9 U | 3.9 U |
| **Acenaphthene** | **20** | **100** D | **49.1** D | **27.6** | **240** D | 0.17 U | 0.17 U | 0.17 U | 0.17 U | **22** | **22.3** |
| **Acenaphthylene** | **NS** | 0.82 UD | 0.81 UD | 1 J | 8.1 UD | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 1.1 J |
| **Anthracene** | **50** | 1.5 UD | 1.5 UD | 1.1 J | 15.2 UD | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 1.2 J | 1.3 J |
| **Benzo[a]anthracene** | **0.002** | 0.61 UD | 0.61 UD | 0.12 U | 6.1 UD | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | **1.3** J |
| **Benzo[a]pyrene** | **NS** | 0.87 UD | 0.86 UD | 0.17 U | 8.6 UD | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 1 J |
| **Benzo[b]fluoranthene** | **0.002** | 0.87 UD | 0.86 UD | 0.17 U | 8.6 UD | 0.17 U | 0.17 U | **1.3** J | 0.17 U | 0.17 U | **1.1** J |
| **Benzo[g,h,i]perylene** | **NS** | 0.66 UD | 0.66 UD | 0.13 U | 6.6 UD | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| **Benzo[k]fluoranthene** | **0.002** | 1.4 UD | 1.4 UD | 0.28 U | 14.1 UD | 0.28 U | 0.28 U | 0.28 U | 0.28 U | 0.28 U | 0.28 U |
| **Bis(2-chloroethoxy)methane** | **5** | 5.7 UD | 5.6 UD | 1.1 U | 56.1 UD | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| **Bis(2-chloroethyl)ether** | **1** | 1.8 UD | 1.8 UD | 0.35 U | 17.7 UD | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U | 0.35 U |
| **Bis(2-ethylhexyl) phthalate** | **5** | 1.5 UD | 1.5 UD | 0.29 U | 14.6 UD | 0.29 U | 0.29 U | 0.29 U | 0.29 U | 0.29 U | 0.29 U |
| **Butyl benzyl phthalate** | **50** | 1.1 UD | 1.1 UD | 0.22 U | 11.1 UD | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U |
| **Chrysene** | **0.002** | 1.2 UD | 1.2 UD | 0.24 U | 12.1 UD | 0.24 U | 0.24 U | 0.24 U | 0.24 U | 0.24 U | **1.3** J |
| **Dibenz(a,h)anthracene** | **NS** | 1.4 UD | 1.4 UD | 0.28 U | 14.1 UD | 0.28 U | 0.28 U | 0.28 U | 0.28 U | 0.28 U | 0.28 U |
| **Dibenzofuran** | **NS** | 57.9 D | 25.1 JD | 12.8 | 160 JD | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U | 2.1 U |
| **Diethyl phthalate** | **50** | 0.51 UD | 0.51 UD | 1.3 J | 5.1 UD | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| **Dimethyl phthalate** | **50** | 0.87 UD | 5.2 JD | 2.2 J | 8.6 UD | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 1.3 J | 0.17 U |
| **Di-n-butyl phthalate** | **50** | 3 UD | 3 UD | 1 J | 29.8 UD | 0.59 U | 0.59 U | 0.6 U | 0.59 U | 0.6 U | 0.6 U |
| **Di-n-octyl phthalate** | **50** | 1.6 UD | 1.6 UD | 0.31 U | 15.7 UD | 0.31 U | 0.31 U | 0.31 U | 0.31 U | 0.31 U | 0.31 U |
| **Fluoranthene** | **50** | 4.3 UD | 4.2 UD | 0.84 U | 42.4 UD | 0.84 U | 0.84 U | 1.1 J | 0.84 U | 2.4 J | 2.9 |
| **Fluorene** | **50** | 21.3 D | 12.1 JDQ | 9 | **75.3** JDQ | 0.15 U | 0.15 UQ | 0.15 U | 0.15 UQ | 7 | 6.7 |
| **Hexachlorobenzene** | **0.04** | 1.1 UD | 1.1 UD | 0.22 U | 11.1 UD | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U |
| **Hexachlorobutadiene** | **0.5** | 0.87 UD | 0.86 UD | 0.17 U | 8.6 UD | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U | 0.17 U |
| **Hexachlorocyclopentadiene** | **5** | 7.7 UDQ | 7.6 UD | 1.5 UQ | 75.8 UD | 1.5 UQ | 1.5 U | 1.5 UQ | 1.5 U | 1.5 UQ | 1.5 UQ |
| **Hexachloroethane** | **5** | 1.3 UD | 1.3 UD | 0.25 U | 12.6 UD | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| **Indeno[1,2,3-cd]pyrene** | **0.002** | 3.4 UD | 3.3 UD | 0.66 U | 33.3 UD | 0.66 U | 0.66 U | 0.67 U | 0.66 U | 0.67 U | 0.67 U |
| **Isophorone** | **50** | 2.1 UD | 2.1 UD | 0.41 U | 20.7 UD | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 0.41 U | 0.41 U |
| **Naphthalene** | **10** | 6.3 JD | 9 JD | 1.1 J | **1300** D | 0.19 U | 0.19 U | 3.2 | 0.19 U | 1.7 J | 1.7 J |
| **Nitrobenzene** | **0.4** | 3.3 UD | 3.3 UD | 0.65 U | 32.8 UD | 0.65 U | 0.65 U | 0.66 U | 0.65 U | 0.66 U | 0.66 U |
| **N-Nitrosodi-n-propylamine** | **NS** | 1.1 UD | 1.1 UD | 0.22 U | 11.1 UD | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U | 0.22 U |
| **N-Nitrosodiphenylamine** | **50** | 4.1 UD | 4 UD | 0.8 U | 40.4 UD | 0.8 U | 0.8 U | 0.81 U | 0.8 U | 0.81 U | 0.81 U |
| **Pentachlorophenol** | **NS** | 13.7 UD | 13.6 UD | 3.3 J | 140 UD | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U | 2.7 U |
| **Phenanthrene** | **50** | 13.5 D | 0.56 UD | 0.11 U | 5.6 UD | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 4.1 | 4.3 |
| **Phenol** | **NS** | 2.3 UD | 2.3 UD | 0.46 U | 23.2 UD | 0.46 U | 0.46 U | 0.46 U | 0.46 U | 0.46 U | 0.46 U |
| **Pyrene** | **50** | 0.66 UD | 0.66 UD | 0.13 U | 6.6 UD | 0.13 U | 0.13 U | 1.1 J | 0.13 U | 2.9 | 3.5 |

**Notes:**

AWQVs - Ambient Water Quality Standards and Guidance Values listed in NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1

NS - No Standard

U - Analyzed for but not detected.

J - Indicates an estimated value.

B - Analyte was detected in assocated blank, as well as in

D - The reported value is from a secondary analysis with a dilution factor. The original analysis exceeded the calibration range.

ug/L - micrograms per liter.

Bold - exceeds TOGS

FB - Field Blank

**Table 5**
**GROUNDWATER ANALYTICAL RESULTS - SEMI-VOLATILE ORGANIC COMPOUNDS**
**QUEENS WEST DEVELOPMENT - PARCEL 9**

| Client ID<br>Lab Sample ID<br>Date Sampled<br>Dilution<br>Units=ug/L | NYSDEC Class GA AWQV | MW-14<br>E3854-07<br>9/24/2013<br>1 | MW15<br>E1676-08<br>3/28/2013<br>1 | MW-15<br>E3854-08<br>9/24/2013<br>1 | MW-15 (DUP)<br>E3854-11<br>9/24/2013<br>1 | MW16<br>E1676-09<br>3/28/2013<br>1 | MW-16<br>E3854-09<br>9/24/2013<br>1 | FB<br>E1676-10<br>3/28/2013<br>1 | FB<br>E3854-10<br>9/24/2013<br>1 |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 5 | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U | 0.14 U |
| 1,2-Dichlorobenzene | 3 | 0.25 U | 0.26 U | 0.26 U | 0.25 U | 0.25 U | 0.26 U | 0.26 U | 0.25 U |
| 1,3-Dichlorobenzene | 3 | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U |
| 1,4-Dichlorobenzene | 3 | 0.18 U | 0.19 U | 0.18 U | 0.18 U | 0.18 U | 0.19 U | 0.18 U | 0.18 U |
| 2,2'-oxybis[1-chloropropane] | 5 | 0.35 U | 0.36 U | 0.36 U | 0.35 U | 0.35 U | 0.36 U | 0.36 U | 0.35 U |
| 2,4,5-Trichlorophenol | NS | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U | 2.3 U |
| 2,4,6-Trichlorophenol | NS | 2.1 U | 2.2 U | 2.2 U | 2.1 U | 2.1 U | 2.2 U | 2.2 U | 2.1 U |
| 2,4-Dichlorophenol | 5 | 3.2 U | 3.3 U | 3.3 U | 3.2 U | 3.2 U | 3.3 U | 3.3 U | 3.2 U |
| 2,4-Dimethylphenol | 50 | 0.71 U | 0.72 U | 0.71 U | 0.7 U | 0.7 U | 0.72 U | 0.71 U | 0.7 U |
| 2,4-Dinitrophenol | 10 | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| 2,4-Dinitrotoluene | 5 | 2.1 U | 2.2 U | 2.2 U | 2.1 U | 2.1 U | 2.2 U | 2.2 U | 2.1 U |
| 2,6-Dinitrotoluene | 5 | 0.27 U | 0.28 U | 0.28 U | 0.27 U | 0.27 U | 0.28 U | 0.28 U | 0.27 U |
| 2-Chloronaphthalene | 10 | 0.15 UQ | 0.15 U | 0.15 UQ | 0.15 UQ | 0.15 U | 0.15 UQ | 0.15 U | 0.15 UQ |
| 2-Chlorophenol | NS | 0.19 U | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U |
| 2-Methylnaphthalene | NS | 3.2 | 0.2 U | 0.19 U | 0.19 U | 0.19 U | 0.2 U | 0.19 U | 0.19 U |
| 2-Methylphenol | NS | 1.8 U | 1.9 U | 1.8 U | 1.8 U | 1.8 U | 1.9 U | 1.8 U | 1.8 U |
| 2-Nitroaniline | 5 | 4.3 U | 4.4 U | 4.3 U | 4.2 U | 4.2 U | 4.4 U | 4.3 U | 4.2 U |
| 2-Nitrophenol | NS | 4.4 U | 4.5 U | 4.5 U | 4.4 U | 4.4 U | 4.5 U | 4.5 U | 4.4 U |
| 3,3'-Dichlorobenzidine | 5 | 3.6 U | 3.7 U | 3.7 U | 3.6 U | 3.6 U | 3.7 U | 3.7 U | 3.6 U |
| 3-Nitroaniline | 5 | 2 U | 2.1 UQ | 2.1 U | 2 U | 2 UQ | 2.1 U | 2.1 UQ | 2 U |
| 4,6-Dinitro-2-methylphenol | NS | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U | 1.9 U |
| 4-Bromophenyl phenyl ether | NS | 0.42 U | 0.43 U | 0.43 U | 0.42 U | 0.42 U | 0.43 U | 0.43 U | 0.42 U |
| 4-Chloro-3-methylphenol | NS | 1.7 U | 1.8 U | 1.8 U | 1.7 U | 1.7 U | 1.8 U | 1.8 U | 1.7 U |
| 4-Chloroaniline | 5 | 2.7 U | 2.7 U | 2.7 U | 2.6 U | 2.6 U | 2.7 U | 2.7 U | 2.6 U |
| 4-Chlorophenyl phenyl ether | NS | 0.27 U | 0.28 U | 0.28 U | 0.27 U | 0.27 U | 0.28 U | 0.28 U | 0.27 U |
| 4-Nitroaniline | 5 | 2.5 UQ | 2.6 U | 2.5 UQ | 2.5 UQ | 2.5 U | 2.6 UQ | 2.5 U | 2.5 UQ |
| 4-Nitrophenol | NS | 3.9 U | 4 U | 3.9 U | 3.9 U | 3.9 U | 4 U | 3.9 U | 3.9 U |
| Acenaphthene | 20 | **24.6** | 0.18 U | **22.1** | **25.7** | 0.17 U | 0.18 U | 0.17 U | 0.17 U |
| Acenaphthylene | NS | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U | 0.16 U |
| Anthracene | 50 | 0.3 U | 0.31 U | 0.31 U | 0.3 U | 0.3 U | 0.31 U | 0.31 U | 0.3 U |
| Benzo[a]anthracene | 0.002 | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U | 0.12 U |
| Benzo[a]pyrene | NS | 0.17 U | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.17 U | 0.17 U |
| Benzo[b]fluoranthene | 0.002 | 0.17 U | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.17 U | 0.17 U |
| Benzo[g,h,i]perylene | NS | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |
| Benzo[k]fluoranthene | 0.002 | 0.28 U | 0.29 U | 0.29 U | 0.28 U | 0.28 U | 0.29 U | 0.29 U | 0.28 U |
| Bis(2-chloroethoxy)methane | 5 | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U | 1.1 U |
| Bis(2-chloroethyl)ether | 1 | 0.35 U | 0.36 U | 0.36 U | 0.35 U | 0.35 U | 0.36 U | 0.36 U | 0.35 U |
| Bis(2-ethylhexyl) phthalate | 5 | 0.29 U | 0.3 U | 0.3 U | 1.2 J | 0.29 U | 0.3 U | 0.3 U | 0.29 U |
| Butyl benzyl phthalate | 50 | 0.22 U | 0.23 U | 0.22 U | 0.22 U | 0.22 U | 0.23 U | 0.22 U | 0.22 U |
| Chrysene | 0.002 | 0.24 U | 0.25 U | 0.24 U | 0.24 U | 0.24 U | 0.25 U | 0.24 U | 0.24 U |
| Dibenz(a,h)anthracene | NS | 0.28 U | 0.29 U | 0.29 U | 0.28 U | 0.28 U | 0.29 U | 0.29 U | 0.28 U |
| Dibenzofuran | NS | 2.1 U | 2.2 U | 15.2 | 17.6 | 2.1 U | 2.2 U | 2.2 U | 2.1 U |
| Diethyl phthalate | 50 | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U | 0.1 U |
| Dimethyl phthalate | 50 | 0.17 U | 2.2 J | 4.4 | 5.6 | 0.17 U | 3.4 | 0.17 U | 0.17 U |
| Di-n-butyl phthalate | 50 | 0.6 U | 0.61 U | 0.6 U | 0.59 U | 0.59 U | 0.61 U | 0.6 U | 0.59 U |
| Di-n-octyl phthalate | 50 | 0.31 U | 0.32 U | 0.32 U | 0.31 U | 0.31 U | 0.32 U | 0.32 U | 0.31 U |
| Fluoranthene | 50 | 0.85 U | 0.87 U | 0.86 U | 0.84 U | 0.84 U | 0.87 U | 0.86 U | 0.84 U |
| Fluorene | 50 | 6.8 Q | 0.15 U | 0.15 UQ | 0.15 UQ | 0.15 U | 0.15 UQ | 0.15 U | 0.15 UQ |
| Hexachlorobenzene | 0.04 | 0.22 U | 0.23 U | 0.22 U | 0.22 U | 0.22 U | 0.23 U | 0.22 U | 0.22 U |
| Hexachlorobutadiene | 0.5 | 0.17 U | 0.18 U | 0.17 U | 0.17 U | 0.17 U | 0.18 U | 0.17 U | 0.17 U |
| Hexachlorocyclopentadiene | 5 | 1.5 U | 1.5 UQ | 1.5 U | 1.5 U | 1.5 UQ | 1.5 U | 1.5 UQ | 1.5 U |
| Hexachloroethane | 5 | 0.25 U | 0.26 U | 0.26 U | 0.25 U | 0.25 U | 0.26 U | 0.26 U | 0.25 U |
| Indeno[1,2,3-cd]pyrene | 0.002 | 0.67 U | 0.68 U | 0.67 U | 0.66 U | 0.66 U | 0.68 U | 0.67 U | 0.66 U |
| Isophorone | 50 | 0.41 U | 0.42 U | 0.42 U | 0.41 U | 0.41 U | 0.42 U | 0.42 U | 0.41 U |
| Naphthalene | 10 | 2.1 J | 0.2 U | 0.19 U | 1.4 J | 0.19 U | 0.2 U | 0.19 U | 0.19 U |
| Nitrobenzene | 0.4 | 0.66 U | 0.67 U | 0.66 U | 0.65 U | 0.65 U | 0.67 U | 0.66 U | 0.65 U |
| N-Nitrosodi-n-propylamine | NS | 0.22 U | 0.23 U | 0.22 U | 0.22 U | 0.22 U | 0.23 U | 0.22 U | 0.22 U |
| N-Nitrosodiphenylamine | 50 | 0.81 U | 0.82 U | 0.82 U | 0.8 U | 0.8 U | 0.82 U | 0.82 U | 0.8 U |
| Pentachlorophenol | NS | 2.7 U | 2.8 U | 2.7 U | 2.7 U | 2.7 U | 2.8 U | 2.7 U | 2.7 U |
| Phenanthrene | 50 | 3.6 | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U | 0.11 U |
| Phenol | NS | 0.46 U | 0.47 U | 0.47 U | 0.46 U | 0.46 U | 0.47 U | 0.47 U | 0.46 U |
| Pyrene | 50 | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U | 0.13 U |

**Notes:**
AWQVs - Ambient Water Quality Standards and Guidance V
NS - No Standard
U - Analyzed for but not detected.
J - Indicates an estimated value.
B - Analyte was detected in assocated blank, as well as in
D - The reported value is from a secondary analysis with a d
ug/L - micrograms per liter.
Bold - exceeds TOGS
FB - Field Blank

# APPENDICES

# Appendix A - Site Cover Inspection Log and Photographs

**SITE CAP INSPECTION FORM**
**QUEENS WEST PARCEL 9**
**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

**Inspector:** JOHN MASCIOLI

**Date:** DECEMBER 31, 2013

**1. Courtyard/landscaped areas:**

Adequate top soil cover present?

YES

Signs of erosion?

NO

Recommended corrective action:

NONE

**2. Outdoor paving/sidewalks:**

Note any signs of cracking or other damage:

NONE

Note any areas where greater than 25% of surface is cracked/damaged:

NONE

Recommended corrective action:

NONE

**3. Lower level garage slab:**

Note any signs of cracking or other damage:

Surficial cracking (hairline) was noted.
No significant visible cracking was observed

Note any areas where greater than 25% of surface is cracked/damaged:

NONE

Recommended corrective action:

NONE

**Comments (attach photos/sketches to illustrate any damage noted):**

photographs attached



Photo 1: View of typical landscaping and paving in courtyard.



Photo 2: View of typical landscaping in courtyard



Photo 3: View of paving along Center Blvd. looking north @ Center Blvd & 48th Ave. intersection.



Photo 4: View of typical landscaping and paving along 5th Street looking north @ 48th Ave & 5th St. intersection.



Photo 5: View of typical landscaping and paving along 47th Rd. looking west @ 47t Rd. & 5th St. intersection.

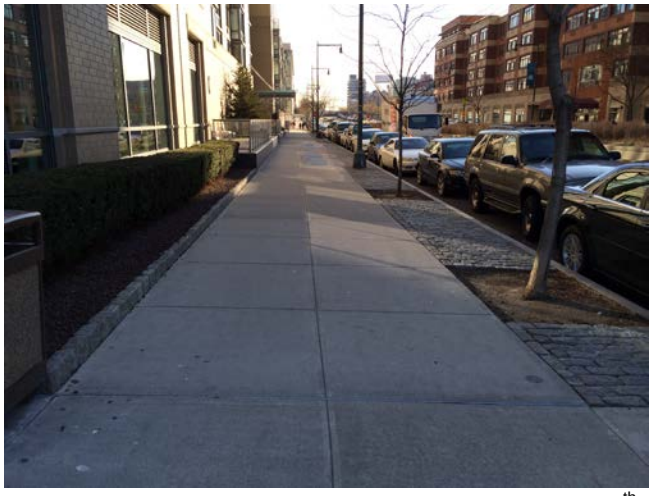


Photo 6: View of typical landscaping and paving along 48th Ave. looking east @ 48th Ave. & Center Blvd. intersection.



Photo 7: View of Zone 3 Equipment.



Photo 8: View of typical condition of concrete slab in parking garage at parking space 105.



Photo 9: View of Zone 4 Equipment.

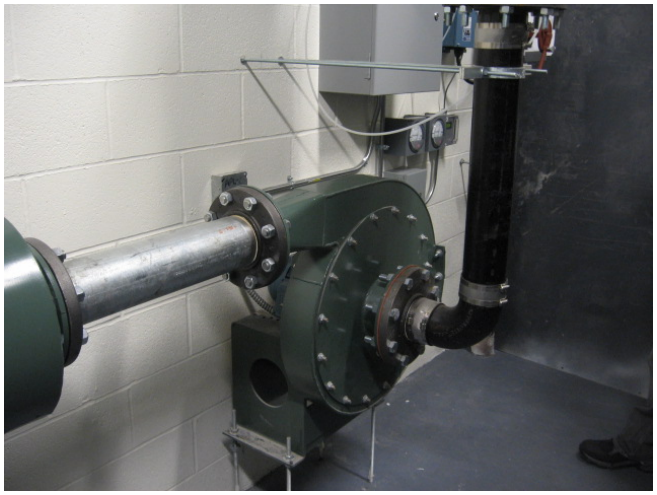


Photo 10: View of Zone 2 Equipment.



Photo 11: View of Zone 1 Equipment.

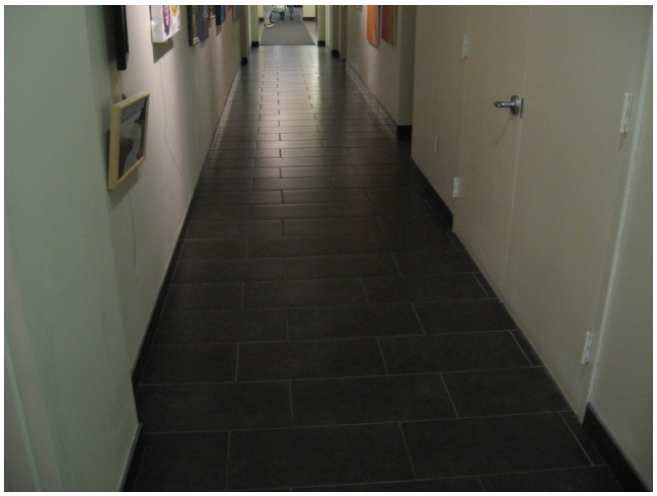


Photo 12: View of typical corridor with ceramic floor tiles.

# Appendix B - Vapor Mitigation System Inspection Logs

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| Inspector Name: JOHN MASCIOLI | Date: 1/15/2013 |
|---|---|
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? ~~yes~~ or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? ~~yes~~ or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 428500.8 | 326 | |
| Zone 2 | 44857.3 | 298 | |
| Zone 3 | 353178 | TOTAL 278 | WELL 520 |
| Zone 4 | 44041.1 | 250 | 430 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.5 | 0.5 | N | | | |
| Zone 2 | 10.0 | 10.0 | 0 | N | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | N | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | N | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| **Inspector Name:** John Mascioli | **Date:** 2/27/2013 |
| **Time IN:** | **Time OUT:** |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 43894.2 | 325 | |
| Zone 2 | 45891.2 | 290 | |
| Zone 3 | 36359 | TOTAL 250 | WELL 360 |
| Zone 4 | 45037.6 | TOTAL 248 | WELL 426 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| **Inspector Name:** John Mascioli | **Date:** 3/28/2013 |
| **Time IN:** | **Time OUT:** |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 44582.7 | 325 | |
| Zone 2 | 46582.3 | 300 | |
| Zone 3 | 37041 | TOTAL 240 | WELL 547 |
| Zone 4 | 43729.0 | TOTAL 250 | WELL 430 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 12.0 | 12.5 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascioli | Date: 4/19/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 4511.40 | 324 | |
| Zone 2 | 47113.8 | 300 | |
| Zone 3 | 37573 | TOTAL 250 | WELL 480 |
| Zone 4 | 46261.3 | TOTAL 250 | WELL 430 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.5 | 0.5 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascilli | Date: 5/30/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 46099.7 | 321 | |
| Zone 2 | 48099.2 | 300 | |
| Zone 3 | 38558 | TOTAL 416 | WELL 217 |
| Zone 4 | 47246 | TOTAL 420 | WELL 250 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Masciolli | Date: 6/26/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 46744.7 | 320 | |
| Zone 2 | 48744.4 | 305 | |
| Zone 3 | 39203 | TOTAL 195 | WELL 280 |
| Zone 4 | 47892.1 | TOTAL 250 | WELL 430 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)**

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | (after filter change) Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascioli | Date: 7/29/13 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 47537.2 | 320 | |
| Zone 2 | 49544.6 | 298 | |
| Zone 3 | 39986 | TOTAL 198 | WELL 230 |
| Zone 4 | 46809.6 | TOTAL 251 | WELL 420 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | NO | | | |
| Zone 2 | 10.0 | 10.0 | 0 | NO | | | |
| Zone 3 | 13.5 | 13.5 | 0 | NO | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | NO | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascioli | Date: 8/16/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 47977.2 | 319 | |
| Zone 2 | 49975.3 | 298 | |
| Zone 3 | 40435 | TOTAL 200 | WELL 295 |
| Zone 4 | 49117.6 | TOTAL 220 | WELL 449 |

Comments:

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)**

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | (after filter change) Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.0 | 4.5 | 0.5 | No | | | |

Comments:

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascioli | Date: 9/24/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 48899.7 | 324 | |
| Zone 2 | 50900.5 | 304 | |
| Zone 3 | 41359.9 | TOTAL 310 | WELL 320 |
| Zone 4 | 50049.1 | TOTAL 250 | WELL 435 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)**

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | (after filter change) Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.5 | 5.0 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
49th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| Inspector Name: John Mascioli | Date: 10/31/2013 |
| Time IN: | Time OUT: |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 49804.16 | 325 | |
| Zone 2 | 51794.3 | 336 | |
| Zone 3 | 42251 | TOTAL 230 | WELL 320 |
| Zone 4 | 50941.7 | TOTAL 253 | WELL 446 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS** (at particulate filter) (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | No | | | |
| Zone 4 | 4.5 | 5.0 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| **Inspector Name:** John Mascioli | **Date:** 11/18/13 |
| **Time IN:** | **Time OUT:** |

**GENERAL**

Are there any leaks in system? yes or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? yes or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 50226.5 | 324 | |
| Zone 2 | 52226.9 | 344 | |
| Zone 3 | 42685 | TOTAL 240 | WELL 430 |
| Zone 4 | 51374.1 | TOTAL 251 | WELL 450 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)** (after filter change)

| | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | Inlet "$H_2O$ | Oulet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | NO | | | |
| Zone 2 | 10.0 | 10.5 | 0.5 | NO | | | |
| Zone 3 | 13.5 | 14.0 | 0.5 | NO | | | |
| Zone 4 | 4.5 | 5.0 | 0.5 | NO | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

PERIODIC INSPECTION FORM
PARCEL 9 VAPOR MITIGATION SYSTEM
48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

| | |
|---|---|
| **Inspector Name:** John Mascioli | **Date:** 12/17/2013 |
| **Time IN:** | **Time OUT:** |

**GENERAL**

Are there any leaks in system? ~~yes~~ or no (circle one)

If yes, plans for repair:

Are daily system checks being completed? ~~yes~~ or no (circle one)

If no, corrective actions taken:

**FLOW RATES**

| Location | Run Time (hours) | Flow Rate (cfm) | |
|---|---|---|---|
| Zone 1 | 60916.2 | 325 | |
| Zone 2 | 52917 | 328 | |
| Zone 3 | 47376 | TOTAL 260 | WELL 490 |
| Zone 4 | 52064.1 | TOTAL 250 | WELL 447 |

**Comments:**

***Notes:***
***1. Blower flow rates should be ~250 cfm***

**VACUUM READINGS (at particulate filter)**

| | Inlet "$H_2O$ | Outlet "$H_2O$ | Differential "$H_2O$ | Filter Changed? | (after filter change) Inlet "$H_2O$ | Outlet "$H_2O$ | Differential "$H_2O$ |
|---|---|---|---|---|---|---|---|
| Zone 1 | 7.0 | 7.0 | 0 | No | | | |
| Zone 2 | 10.0 | 10.0 | 0 | No | | | |
| Zone 3 | 12.5 | 13.0 | 0.5 | No | | | |
| Zone 4 | 4.5 | 5.0 | 0.5 | No | | | |

**Comments:**

***Notes:***
***1. If differential (inlet-outlet pressure) > 3 "$H_2O$ above normal conditions, change out filter.***

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
## ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| Ed Durant | 12/28/12 | ☑ ON ☐ OFF | 42434.2 | 330 | | 7 | 7 |
| | 1/4/13 | ☑ ON ☐ OFF | 42602.0 | 325 | | 7 | 7 |
| | 1/10/13 | ☑ ON ☐ OFF | 42745.0 | 325 | | 7 | 7 |
| | 1/14/13 | ☑ ON ☐ OFF | 428345 | 322 | | 7 | 7 |
| | 1/15/13 | ☑ ON ☐ OFF | 428505 | 324 | | 7 | 7 |
| | 1/16/13 | ☑ ON ☐ OFF | 428821 | 323 | | 7 | 7 |
| | 1/17/13 | ☑ ON ☐ OFF | 429017 | 327 | | 7 | 7 |
| | 1/18/13 | ☑ ON ☐ OFF | 429304 | 325 | | 7 | 7 |
| | 1/22/13 | ☑ ON ☐ OFF | 430294 | 325 | | 7 | 7 |
| | 1/23/13 | ☑ ON ☐ OFF | 430503 | 324 | | 7 | 7 |
| | 1/24/13 | ☑ ON ☐ OFF | 430781 | 325 | | 7 | 7 |
| | 1/25/13 | ☑ ON ☐ OFF | 431053 | 325 | | 7 | 7 |
| | 1/28/13 | ☑ ON ☐ OFF | 431247.0 | 325 | | 7 | 7 |
| | 1/29/13 | ☑ ON ☐ OFF | 431417 | 325 | | 7 | 7 |
| | 1/30/13 | ☑ ON ☐ OFF | 43228.0 | 325 | | 7 | 7 |
| | 1/31/13 | ☑ ON ☐ OFF | 432428 | 328 | | 7 | 7 |
| | 2/1/13 | ☑ ON ☐ OFF | 432669 | 327 | | | |

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
## ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | IW | OUT |
|---|---|---|---|---|---|---|---|
| EC | 2/4 | ☑ ON ☐ OFF | 433393 | 336 | | 7 | 7 |
| | 2/5 | ☑ ON ☐ OFF | 433634 | 334 | | 7 | 7 |
| | 2/6 | ☑ ON ☐ OFF | 433871 | 328 | | 7 | 7 |
| | 2/7 | ☑ ON ☐ OFF | 434115 | 328 | | 7 | 7 |
| | 2/8 | ☑ ON ☐ OFF | 434351 | 330 | | 7 | 7 |
| | 2/11 | ☑ ON ☐ OFF | 435087 | 327 | | 7 | 7 |
| | 2/12 | ☑ ON ☐ OFF | 435346 | 328 | | 7 | 7 |
| | 2/13 | ☑ ON ☐ OFF | 435585 | 325 | | 7 | 7 |
| | 2/14 | ☑ ON ☐ OFF | 435862 | 327 | | 7 | 7 |
| | 2/15 | ☑ ON ☐ OFF | 436100 | 328 | | 7 | 7 |
| | 2/19 | ☑ ON ☐ OFF | 436405 | 326 | | 7 | 7 |
| | 2/20 | ☑ ON ☐ OFF | 436722.8 | 326 | | 7 | 7 |
| | 2/21 | ☑ ON ☐ OFF | 437048.1 | 326 | | 7 | 7 |
| | 2/22 | ☑ ON ☐ OFF | 437372.9 | 323 | | 7 | 7 |
| | 2/25 | ☑ ON ☐ OFF | 437644.1 | 328 | | 7 | 7 |
| | 2/26 | ☑ ON ☐ OFF | 437910.8 | 329 | | 7 | 7 |
| | 2/27 | ☑ ON ☐ OFF | [illegible] ↑ 438944.2 | 328 | | | |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| | 2/28 | ☑ ON ☐ OFF | 43918.5 | 330 | | ✓ | ✓ |
| | 2/29 | ☑ ON ☐ OFF | 43942.0 | 330 | | ✓ | ✓ |
| | 3/1 | ☑ ON ☐ OFF | 43946.0 | 326 | | ✓ | ✓ |
| | 3/4 | ☑ ON ☐ OFF | 440186 | 327 | | ✓ | ✓ |
| | 3/5 | ☑ ON ☐ OFF | 440413 | 325 | | ✓ | ✓ |
| | 3/6 | ☑ ON ☐ OFF | 44065.2 | 325 | | ✓ | ✓ |
| | 3/7 | ☑ ON ☐ OFF | 440901 | 325 | | ✓ | ✓ |
| | 3/8 | ☑ ON ☐ OFF | 44110.8 | 325 | | ✓ | ✓ |
| | 3/11 | ☑ ON ☐ OFF | 44185.1 | 324 | | ✓ | ✓ |
| | 3/12 | ☑ ON ☐ OFF | 44208.7 | 326 | | ✓ | ✓ |
| | 3/13 | ☑ ON ☐ OFF | 44231.6 | 326 | | ✓ | ✓ |
| | 3/14 | ☑ ON ☐ OFF | 44252.5 | 325 | | ✓ | ✓ |
| | 3/18 | ☑ ON ☐ OFF | 44281.4 | 325 | | ✓ | ✓ |
| | 3/19 | ☑ ON ☐ OFF | 44345.5 | 326 | | ✓ | ✓ |
| | 3/20 | ☑ ON ☐ OFF | 44370.2 | 325 | | ✓ | ✓ |
| | 3/21 | ☑ ON ☐ OFF | 44394.3 | 327 | | ✓ | ✓ |
| | | ☑ ON ☐ OFF | 44423.1 | 326 | | ✓ | ✓ |

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
## ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| Ed | 3/22 | ☑ ON ☐ OFF | 44448.2 | 325 | | 7 | 7 |
| | 3/25 | ☑ ON ☐ OFF | 44514.2 | 326 | | 7 | 7 |
| | 3/26 | ☑ ON ☐ OFF | 44543.6 | 325 | | 7 | 7 |
| | 3/27 | ☑ ON ☐ OFF | 44561.4 | 325 | | 7 | 7 |
| | 3/28 | ☑ ON ☐ OFF | 44587.6 | 325 | | 7 | 7 |
| | 3/29 | ☑ ON ☐ OFF | 44617.1 | 326 | | 7 | 7 |
| | 3/31 | ☑ ON ☐ OFF | 44682.8 | 326 | | 7 | 7 |
| | 4/1 | ☑ ON ☐ OFF | 44705.4 | 327 | | 7 | 7 |
| | 4/2 | ☑ ON ☐ OFF | 44730.8 | 327 | | 7 | 7 |
| | 4/3 | ☑ ON ☐ OFF | 44779.3 | 324 | | 7 | 7 |
| | 4/04 | ☑ ON ☐ OFF | 44850.1 | 326 | | 7 | 7 |
| | 4/8 | ☑ ON ☐ OFF | 44863 | 324 | | 7 | 7 |
| | 4/9 | ☑ ON ☐ OFF | 44898 | 325 | | 7 | 7 |
| | 4/10 | ☑ ON ☐ OFF | 44964 | 325 | | 7 | 7 |
| | 4/11 | ☑ ON ☐ OFF | 44947.3 | 324 | | 7 | 7 |
| | 4/11 | ☑ ON ☐ OFF | 45041.7 | 324 | | 7 | 7 |
| | 4/16 | ☑ ON ☐ OFF | 45058 | 325 | | 7 | 7 |
| | 4/17 | | | | | | |

## ROUTINE SYSTEM CHECK
### PARCEL 9 VAPOR MITIGATION SYSTEM
### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
### ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| EC | [illegible] | ☑ ON ☐ OFF | | | | | |
| EC | 4/18 | ☑ ON ☐ OFF | 450912 | 324 | | 7 | 7 |
| EC | 4/19 | ☑ ON ☐ OFF | 451140 | 324 | | 7 | 7 |
| EC | 4/22 | ☑ ON ☐ OFF | 451436 | 325 | | 7 | 7 |
| | 4/23 | ☑ ON ☐ OFF | 452174 | 325 | | 7 | 7 |
| | 4/24 | ☑ ON ☐ OFF | 452348 | 326 | | 7 | 7 |
| | | ☐ ON ☐ OFF | | | | | |
| | 4/26 | ☑ ON ☐ OFF | 452886 | 325 | | 7 | 7 |
| | 4/30 | ☑ ON ☐ OFF | 453783 | 325 | | 7 | 7 |
| | 5/1 | ☑ ON ☐ OFF | 454033 | 325 | | 7 | 7 |
| | 5/2 | ☑ ON ☐ OFF | 454273 | | | | |
| | 5/3 | ☑ ON ☐ OFF | 454505 | 325 | | 7 | 7 |
| | 5/6 | ☑ ON ☐ OFF | 455225 | 325 | | 7 | 7 |
| | 5/7 | ☑ ON ☐ OFF | 455440 | 326 | | 7 | 7 |
| | 5/8 | ☑ ON ☐ OFF | 456104 | 324 | | 7 | 7 |
| | 5/9 | ☑ ON ☐ OFF | 455942 | 322 | | 7 | 7 |
| | 5/13 | ☑ ON ☐ OFF | 456902 | 324 | | | |

## ROUTINE SYSTEM CHECK
### PARCEL 9 VAPOR MITIGATION SYSTEM
### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
### ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| Ed Durant | 5/14 | ☑ ON ☐ OFF | 45714.0 | 325 | | 7 | 7 |
| Ed | 5/16 | ☑ ON ☐ OFF | 45761.5 | 322 | | 7 | 7 |
| Ed | 5/17 | ☑ ON ☐ OFF | 45786.4 | 324 | | 7 | 7 |
| | 5/20 | ☑ ON ☐ OFF | 45855.1 | 322 | | 7 | 7 |
| | 5/21 | ☑ ON ☐ OFF | 45881.1 | 322 | | 7 | 7 |
| | 5/22 | ☑ ON ☐ OFF | 459067 | 321 | | 7 | 7 |
| | 5/23 | ☑ ON ☐ OFF | 459300 | 322 | | 7 | 7 |
| | 5/24 | ☑ ON ☐ OFF | 45954.1 | 323 | | 7 | 7 |
| | 5/28 | ☑ ON ☐ OFF | 460502 | 321 | | 7 | 7 |
| | 6/4 | ☑ ON ☐ OFF | 462248 | 323 | | 7 | 7 |
| | 6/10 | ☑ ON ☐ OFF | 463621 | 325 | | 7 | 7 |
| | 6/11 | ☑ ON ☐ OFF | 463931.8 | 327 | | 7 | 7 |
| | 6/18 | ☑ ON ☐ OFF | 465604 | 322 | | 7 | 7 |
| | 6/19 | ☑ ON ☐ OFF | 465776 | 320 | | 7 | 7 |
| | 8/24 | ☑ ON ☐ OFF | 467053 | 328 | | 7 | 7 |
| | 7/23 | ☑ ON ☐ OFF | 473936 | 320 | | 7 | 7 |
| | 8/6 | ☑ ON ☐ OFF | 473940 | 320 | | 7 | 7 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| | 8/7 | ☑ ON ☐ OFF | 473984 | 325 | | 7 | 7 |
| | 8/8 | ☑ ON ☐ OFF | 474008 | 325 | | 7 | 7 |
| | 8/9 | ☑ ON ☐ OFF | 478085 | 314 | | 7 | 7 |
| | 8/12 | ☑ ON ☐ OFF | 478815 | 318 | | 7 | 7 |
| | 8/27 | ☑ ON ☐ OFF | 482342 | 314 | | 7 | 7 |
| | 8/28 | ☑ ON ☐ OFF | 482654 | 320 | | 7 | 7 |
| | 8/29 | ☑ ON ☐ OFF | 4889.1 | 320 | | 7 | 7 |
| | 8/30 | ☑ ON ☐ OFF | 4913.5 | 320 | | 7 | 7 |
| | 9/2 | ☑ ON ☐ OFF | 4961.1 | 325 | | 7 | 7 |
| | 9/3 | ☑ ON ☐ OFF | 4985.2 | 320 | | 7 | 7 |
| | 9/4 | ☑ ON ☐ OFF | 5009.1 | 325 | | 7 | 7 |
| | 9/5 | ☑ ON ☐ OFF | 50333 | 300 | | 7 | 7 |
| | 9/6 | ☑ ON ☐ OFF | 5057.5 | 315 | | 7 | 7 |
| | 9/9 | ☑ ON ☐ OFF | 5105.1 | 320 | | 7 | 7 |
| | 9/10 | ☑ ON ☐ OFF | 5124.3 | 321 | | 7 | 7 |
| | 9/11 | ☑ ON ☐ OFF | 5153.5 | 320 | | 7 | 7 |
| | 9/12 | ☑ ON ☐ OFF | 5177.0 | 320 | | 7 | 7 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| | 9/13 | ☑ ON ☐ OFF | 5201.7 | 320 | | 7 | 7 |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | 9/16 | ☑ ON ☐ OFF | 48721.2 | 320 | | 7 | 7 |
| | 9/17 | ☑ ON ☐ OFF | 48745 | 320 | | 7 | 7 |
| | 9/18 | ☑ ON ☐ OFF | 48769.5 | 323 | | 7 | 7 |
| | 9/19 | ☑ ON ☐ OFF | | 320 | | 7 | 7 |
| | 9/20 | ☑ ON ☐ OFF | | 320 | | 7 | 7 |
| | 9/23 | ☑ ON ☐ OFF | | 325 | | 7 | 7 |
| | 9/24 | ☑ ON ☐ OFF | | 320 | | 7 | 7 |
| | 9/25 | ☑ ON ☐ OFF | 48929.5 | 324 | | 7 | 7 |
| | 10/1 | ☑ ON ☐ OFF | 49080.0 | 325 | | 7 | 7 |
| | 10/2 | ☐ ON ☐ OFF | ~~49080.0~~ 49104.0 | 325 | | 7 | 7 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| EO | 10/3 | ☑ ON ☐ OFF | 49150.8 | 328 | | 7 | 7 |
| | 10/4 | ☑ ON ☐ OFF | 49174.0 | 322 | | 7 | 7 |
| | 10/7 | ☑ ON ☐ OFF | 49222.8 | 322 | | 7 | 7 |
| | 10/8 | ☑ ON ☐ OFF | 49246.1 | 320 | | 7 | 7 |
| | 10/9 | ☑ ON ☐ OFF | 49270.5 | 320 | | 7 | 7 |
| | 10/10 | ☑ ON ☐ OFF | 49294.1 | 322 | | 7 | 7 |
| | 10/11 | ☑ ON ☐ OFF | 49318.9 | 322 | | 7 | 7 |
| | 10/14 | ☑ ON ☐ OFF | 49391.7 | 324 | | 7 | 7 |
| | 10/15 | ☑ ON ☐ OFF | 49408.7 | 322 | | 7 | 7 |
| | 10/16 | ☑ ON ☐ OFF | 49440.1 | 322 | | 7 | 7 |
| | 10/17 | ☑ ON ☐ OFF | 49486.7 | 322 | | 7 | 7 |
| | 10/21 | ☑ ON ☐ OFF | 49558.6 | 322 | | 7 | 7 |
| | 10/22 | ☑ ON ☐ OFF | 49580.2 | 324 | | 7 | 7 |
| | 10/23 | ☑ ON ☐ OFF | 49604 | 324 | | 7 | 7 |
| | 10/24 | ☑ ON ☐ OFF | 49628.1 | 322 | | 7 | 7 |
| | 10/28 | ☑ ON ☐ OFF | 49604 | 323 | | 7 | 7 |
| | 10/29 | ☑ ON ☐ OFF | 47744.1 | 232 | | 7 | 7 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: (1) 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| EC | 10/30 | ☑ ON ☐ OFF | 49776.5 | 324 | | 7 | 7 |
| | 10/31 | ☑ ON ☐ OFF | 49804.8 | 325 | | 7 | 7 |
| | 11/1 | ☑ ON ☐ OFF | 49816.7 | 332 | | 7 | 7 |
| | 11/5 | ☑ ON ☐ OFF | 49913.6 | 323 | | 7 | 7 |
| | 11/6 | ☑ ON ☐ OFF | 49931.06 | 323 | | 7 | 7 |
| | 11/7 | ☑ ON ☐ OFF | 49946.34 | 325 | | 7 | 7 |
| | 11/8 | ☑ ON ☐ OFF | 49986.3 | 324 | | 7 | 7 |
| | 11/12 | ☑ ON ☐ OFF | 50081.4 | 323 | | 7 | 7 |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| Ed Durant | 12/27/12 | ☑ ON ☐ OFF | 44409.3 | 285 | | 10 | 10 |
| | 1/4/13 | ☑ ON ☐ OFF | 44601.7 | 290 | | 10 | 10 |
| | 1/10/13 | ☑ ON ☐ OFF | 44754.3 | 300 | | 10 | 10 |
| | 1/14/13 | ☑ ON ☐ OFF | 44834.2 | 304 | | 10 | 10 |
| | 1/15/13 | ☑ ON ☐ OFF | 44857.2 | 294 | | 10 | 10 |
| | 1/16/13 | ☑ ON ☐ OFF | 44881.8 | 306 | | 10 | 10 |
| | 1/17/13 | ☑ ON ☐ OFF | 44907.4 | 301 | | 10 | 10 |
| | 1/18/13 | ☑ ON ☐ OFF | 44930.1 | 304 | | 10 | 10 |
| | 1/22/13 | ☑ ON ☐ OFF | 45027.2 | 304 | | 10 | 10 |
| | 1/23/13 | ☑ ON ☐ OFF | 45050.0 | 293 | | 10 | 10 |
| | 1/24 | ☑ ON ☐ OFF | 45080.4 | 295 | | 10 | 10 |
| | 1/25 | ☑ ON ☐ OFF | 45106.2 | 306 | | 10 | 10 |
| | 1/28 | ☑ ON ☐ OFF | 45170.6 | 301 | | 10 | 10 |
| | 1/29 | ☑ ON ☐ OFF | 45144.5 | 297 | | 10 | 10 |
| | 1/30 | ☑ ON ☐ OFF | 45226.2 | 269 | | 10 | 10 |
| | 1/31 | ☑ ON ☐ OFF | 45250.5 | 270 | | 10 | 10 |
| | 2/1 | ☑ ON ☐ OFF | 45274.7 | 268 | | 10 | 10 |

## ROUTINE SYSTEM CHECK
### PARCEL 9 VAPOR MITIGATION SYSTEM
### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
### ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| Ed Durant | 2/4/13 | ☑ ON ☐ OFF | 45339.1 | 2969 | | 10 | 10 |
| | 2/5/13 | ☑ ON ☐ OFF | 45363.2 | 302 | | 10 | 10 |
| | 2/6/13 | ☑ ON ☐ OFF | 45387.5 | 300 | | 10 | 10 |
| | 2/7/13 | ☑ ON ☐ OFF | 45411.0 | 307 | | 10 | 10 |
| | 2/8/13 | ☑ ON ☐ OFF | 45435 | 310 | | 10 | 10 |
| | 2/11/13 | ☑ ON ☐ OFF | 45513.2 | 289 | FUNNY SMELL (waste) | 10 | 10 |
| | 2/12 | ☑ ON ☐ OFF | 45534.0 | 296 | FUNNY SMELL (waste) | 10 | 10 |
| | 2/13 | ☑ ON ☐ OFF | 45558.1 | 299 | FUNNY SMELL WASTE | 10 | 10 |
| | 2/14 | ☑ ON ☐ OFF | 45585.8 | 300 | " " | 10 | 10 |
| | 2/15 | ☑ ON ☐ OFF | 45607.7 | 294 | " " | 10 | 10 |
| | 2/18 | ☑ ON ☐ OFF | 45655.2 | 290 | " " | 10 | 10 |
| | 2/19 | ☑ ON ☐ OFF | 45679.1 | 295 | " " | 10 | 10 |
| | 2/20 | ☑ ON ☐ OFF | 45725 | 307 | | 10 | 10 |
| | 2/21 | ☑ ON ☐ OFF | 45751.8 | 309 | | 10 | 10 |
| | 2/22 | ☑ ON ☐ OFF | 45775 | 300 | | 10 | 10 |
| | 2/25 | ☑ ON ☐ OFF | 45850.1 | 305 | SMELL IS FROM TRANSFORMER IN PANEL | 10 | 10 |
| | 2/26 | ☑ ON ☐ OFF | 45867.0 | 303 | | 10 | 10 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| ED | 2/21 | ☑ ON ☐ OFF | 45841.1 | 290 | | 10 | 10 |
| | 2/24 | ☑ ON ☐ OFF | 45922.1 | 300 | | 10 | 10 |
| | 2/24 | ☑ ON ☐ OFF | 45945.7 | 300 | | 10 | 10 |
| | 3/1 | ☑ ON ☐ OFF | 45945.7 | 308 | | 10 | 10 |
| | 3/4 | ☑ ON ☐ OFF | 460183 | 298 | | 10 | 10 |
| | 3/5 | ☑ ON ☐ OFF | 460422 | 305 | | 10 | 10 |
| | 3/6 | ☑ ON ☐ OFF | 46644.1 | 299 | | 10 | 10 |
| | 3/7 | ☑ ON ☐ OFF | 460848 | 296 | | 10 | 10 |
| | 3/8 | ☑ ON ☐ OFF | 46113.7 | 298 | | 10 | 10 |
| | 3/11 | ☑ ON ☐ OFF | 461784 | 263 | odor from TRANSFORMER | 10 | 10 |
| | 3/12 | ☑ ON ☐ OFF | 462085 | 268 | " " " | 10 | 10 |
| | 3/13 | ☑ ON ☐ OFF | 462326 | 306 | " " " | 10 | 10 |
| | 3/14 | ☑ ON ☐ OFF | 462567 | 299 | | 10 | 10 |
| | 3/15 | ☑ ON ☐ OFF | 42281.1 | 300 | | 10 | 10 |
| | 3/16 | ☑ ON ☐ OFF | 463415.1 | 305 | | 10 | 10 |
| | 3/18 | ☑ ON ☐ OFF | 46377.5 | 290 | | 10 | 10 |
| | 3/20 | ☑ ON ☐ OFF | 46401.2 | 303 | | 10 | 10 |

## ROUTINE SYSTEM CHECK

**PARCEL 9 VAPOR MITIGATION SYSTEM**

**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

**ZONE: 1 (2) 3 4 (Circle One)**

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well CFM | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| | 3/21 | ☑ ON ☐ OFF | 46 4252 | 297 | | 10 | 10 |
| | 3/22 | ☑ ON ☐ OFF | 464488 | 293 | | 10 | 10 |
| | 3/25 | ☑ ON ☐ OFF | 465140 | 285 | | 10 | 10 |
| | 3/26 | ☑ ON ☐ OFF | 465456 | 297 | | 10 | 10 |
| | 3/27 | ☑ ON ☐ OFF | 465618 | 303 | | 10 | 10 |
| | 3/28 | ☑ ON ☐ OFF | 465875 | 287 | | 10 | 10 |
| | 3/27 | ☑ ON ☐ OFF | 466148 | 298 | | 10 | 10 |
| | 4/1 | ☑ ON ☐ OFF | 466825 | 294 | | 10 | 10 |
| | 4/2 | ☑ ON ☐ OFF | 467035.7 | 284 | | 10 | 10 |
| | 4/3 | ☑ ON ☐ OFF | 467306 | 284 | | 10 | 10 |
| | 4/5 | ☑ ON ☐ OFF | 467805 | 301 | | 10 | 10 |
| | 4/8 | ☑ ON ☐ OFF | 468498 | 291 | | 10 | 10 |
| | 4/9 | ☑ ON ☐ OFF | 468740 | 301 | | 10 | 10 |
| | 4/10 | ☑ ON ☐ OFF | 468975 | 298 | | 10 | 10 |
| | 4/11 | ☑ ON ☐ OFF | 469161 | 313 | | 10 | 10 |
| | 4/12 | ☑ ON ☐ OFF | 469471 | 300 | | 10 | 10 |
| | 4/16 | ☑ ON ☐ OFF | 470417 | 295 | | 10 | 10 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

### ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations PRE | Observations Post |
|---|---|---|---|---|---|---|
| | 4/17 | ☑ ON ☐ OFF | 470655 | 291 | 10 | 10 |
| | 4/18 | ☑ ON ☐ OFF | 470904 | 301 | 10 | 10 |
| | 4/19 | ☑ ON ☐ OFF | 47113.7 | 294 | 10 | 10 |
| | 4/22 | ☑ ON ☐ OFF | 471934 | 303 | 10 | 10 |
| | 4/23 | ☑ ON ☐ OFF | 47217.2 | 311 | 10 | 10 |
| | 4/24 | ☑ ON ☐ OFF | 47235.3 | 303 | 10 | 10 |
| | | ☐ ON ☐ OFF | | | | |
| | 4/26 | ☑ ON ☐ OFF | 47288.2 | 292 | 10 | 10 |
| | 4/30 | ☑ ON ☐ OFF | 47358.2 | 291 | 10 | 10 |
| | 5/1 | ☑ ON ☐ OFF | 47403.1 | 305 | 10 | 10 |
| | 5/2 | ☑ ON ☐ OFF | 47432.6 | 300 | 10 | 10 |
| | 5/3 | ☑ ON ☐ OFF | 47457.1 | 304 | 10 | 10 |
| | 5/6 | ☑ ON ☐ OFF | 47522.4 | 294 | 10 | 10 |
| | 5/7 | ☑ ON ☐ OFF | 47546.4 | 292 | 10 | 10 |
| | 5/8 | ☑ ON ☐ OFF | 47570.1 | 292 | 10 | 10 |
| | 5/9 | ☑ ON ☐ OFF | 47594.0 | 304 | 10 | 10 |
| | 5/10 | ☑ ON ☐ OFF | 47625.3 | 303 | 10 | 10 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| | 5/13 | ☑ ON ☐ OFF | 47690 | 281 | | 10 | 10 |
| | 5/14 | ☑ ON ☐ OFF | 47713.7 | 300 | | 10 | 10 |
| | 5/16 | ☑ ON ☐ OFF | 47763 | 294 | | 10 | 10 |
| | 5/17 | ☑ ON ☐ OFF | 47786.2 | 292 | | 10 | 10 |
| | 5/20 | ☑ ON ☐ OFF | 47857.9 | 301 | | 10 | 10 |
| | 5/21 | ☑ ON ☐ OFF | 47886.8 | 293 | | 10 | 10 |
| | 5/22 | ☑ ON ☐ OFF | 47906.4 | 282 | | 10 | 10 |
| | 5/23 | ☑ ON ☐ OFF | 47927.3 | 292 | | 10 | 10 |
| | 5/24 | ☑ ON ☐ OFF | 47953.8 | 296 | | 10 | 10 |
| | 5/28 | ☑ ON ☐ OFF | 48050.2 | 308 | | 10 | 10 |
| | 6/4 | ☑ ON ☐ OFF | 48224.6 | 297 | | 10 | 10 |
| | 6/10 | ☑ ON ☐ OFF | 48361.7 | 314 | | 10 | 10 |
| | 6/11 | ☑ ON ☐ OFF | 48393.3 | 284 | | 10 | 10 |
| | 6/12 | ☑ ON ☐ OFF | 48417.5 | 284 | | 10 | 10 |
| | 6/13 | ☑ ON ☐ OFF | 48421.4 | 287 | | 10 | 10 |
| | 6/14 | ☑ ON ☐ OFF | 48463.4 | 280 | | 10 | 10 |
| | 6/17 | ☑ ON ☐ OFF | 48537.2 | 290 | | 10 | 10 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| | 6/18 | ☑ ON ☐ OFF | 48560.7 | 291 | | 10.5 | 10 |
| | 6/19 | ☑ ON ☐ OFF | 48584.7 | 300 | | 10 | 10 |
| | 6/24 | ☑ ON ☐ OFF | 48704.5 | 300 | | 10 | 10 |
| | 6/25 | ☑ ON ☐ OFF | 48728.5 | 291 | | 10 | 10 |
| | 7/23 | ☑ ON ☐ OFF | 49394 | 294 | | 10 | 10 |
| | 8/6 | ☑ ON ☐ OFF | 49736.1 | 300 | | 10 | 10 |
| | 8/7 | ☑ ON ☐ OFF | 49760.4 | 304 | | 10 | 10 |
| | 8/8 | ☑ ON ☐ OFF | 49784.5 | 304 | | 10 | 10 |
| | 8/9 | ☑ ON ☐ OFF | 49808.9 | 304 | | 10 | 10 |
| | 8/12 | ☑ ON ☐ OFF | 49881.3 | 295 | | 10 | 10 |
| | 8/13 | ☑ ON ☐ OFF | 49903.0 | 296 | | 10 | 10 |
| | 8/14 | ☑ ON ☐ OFF | 49927.7 | 296 | | 10 | 10 |
| | 8/27 | ☑ ON ☐ OFF | 50234.1 | 302 | | 10 | 10 |
| | 8/28 | ☑ ON ☐ OFF | 50265.2 | 294 | | 10 | 10 |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| | | ☐ ON ☐ OFF | | | | ~~[illegible]~~ | ~~[illegible]~~ |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | | ☐ ON ☐ OFF | | | | | |
| | 4/16 | ☑ ON ☐ OFF | 50720.9 | 304 | | 10 | 10 |
| | 4/17 | ☑ ON ☐ OFF | 50744.0 | 305 | | 10 | 10 |
| | 4/18 | ☑ ON ☐ OFF | 50768.4 | 304 | | 10 | 10 |
| | 4/19 | ☑ ON ☐ OFF | 50792.2 | 305 | | 10 | 10 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

**ZONE: 1 (2) 3 4 (Circle One)**

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM | Observations | Pee | Post |
|---|---|---|---|---|---|---|---|
| | 8/20 | ☑ ON ☐ OFF | 5086.2 | 305 | | 10 | 10 |
| | 8/23 | ☑ ON ☐ OFF | 5084.5 | 300 | | 10 | 10 |
| | 8/24 | ☑ ON ☐ OFF | 5084.1 | 305 | | 10 | 10 |
| | 8/25 | ☑ ON ☐ OFF | 5093.0 | 299 | | 10 | 10 |
| | 10/1 | ☑ ON ☐ OFF | 5080.5 | 304 | | 10 | 10 |
| | 10/2 | ☑ ON ☐ OFF | 5104.1 | 304 | | 10 | 10 |
| | 10/3 | ☑ ON ☐ OFF | 5125.3 | 294 | | 10 | 10 |
| | 10/4 | ☑ ON ☐ OFF | 5149.0 | 294 | | 10 | 10 |
| | *10/7 | ☑ ON ☐ OFF | 5167.2 | 300 | | 10 | 10 |
| | 10/8 | ☑ ON ☐ OFF | 5290.1 | 302 | | 10 | 10 |
| | 10/9 | ☑ ON ☐ OFF | 5314.2 | 301 | | 10 | 10 |
| | 10/10 | ☑ ON ☐ OFF | 5338.0 | 295 | | 10 | 10 |
| | 10/11 | ☑ ON ☐ OFF | 5362.1 | 302 | | 10 | 10 |
| | *10/14 | ☑ ON ☐ OFF | 5386.7 | 302 | | 10 | 10 |
| | 10/15 | ☑ ON ☐ OFF | 5410.6 | 302 | | 10 | 10 |
| | 10/16 | ☑ ON ☐ OFF | 5440.8 | 314 | | 10 | 10 |
| | 10/17 | ☑ ON ☐ OFF | 5458.7 | 295 | | 10 | 10 |

## ROUTINE SYSTEM CHECK

### PARCEL 9 VAPOR MITIGATION SYSTEM

### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 (2) 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Observations | PRe | Post |
|---|---|---|---|---|---|---|---|
| | 10/18 | ☑ ON ☐ OFF | 51487.7 | 300 | | 10 | 10 |
| | 10/21 | ☑ ON ☐ OFF | 51559.7 | 300 | | 10 | 10 |
| | 10/22 | ☑ ON ☐ OFF | 51583.1 | 300 | | 10 | 10 |
| | 10/23 | ☑ ON ☐ OFF | 51603.1 | 299 | | 10 | 10 |
| | 10/24 | ☑ ON ☐ OFF | 51628.2 | 309 | | 10 | 10 |
| | 10/25 | ☑ ON ☐ OFF | 51638.1 | 309 | | 10 | 10 |
| | 10/26 | ☑ ON ☐ OFF | [illegible] | 309 | | 10 | 10 |
| ~~[illegible]~~ | ~~[illegible]~~ | ~~☐ ON ☐ OFF~~ | 51721.9 | X X X | | | |
| | 10/29 | ☑ ON ☐ OFF | 51745.1 | 303 | | 10 | 10 |
| | 10/30 | ☑ ON ☐ OFF | 51777.2 | 337 | | 10 | 10 |
| | 10/31 | ☑ ON ☐ OFF | 51794.3 | 327 | | 10 | 10 |
| | 11/1 | ☑ ON ☐ OFF | 51817.1 | 333 | | 10 | 10 |
| | 11/5 | ☑ ON ☐ OFF | 51914.6 | 330 | | 10 | 10 |
| | 11/6 | ☑ ON ☐ OFF | 51932.6 | 340 | | 10 | 10 |
| | 11/7 | ☑ ON ☐ OFF | 51963.0 | 337 | | 10 | 10 |
| | 11/8 | ☑ ON ☐ OFF | 51987.3 | 340 | | 10 | 10 |
| | 11/12 | ☑ ON ☐ OFF | 52082.4 | 346 | | 10 | 10 |

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | TOTAL well | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| ED. | 12/26 | ☑ ON ☐ OFF | 34843.5 | 226 451 | | 13.5 | 13.5 |
| | 1/4 | ☑ ON ☐ OFF | 35061.2 | 236 504 | | 13.5 | 13.5 |
| | 1/10 | ☑ ON ☐ OFF | 35204. | 241 514 | | 13.5 | 13.5 |
| | 1/14 | ☑ ON ☐ OFF | 35293.5 | 236 505 | | 13.5 | 13.5 |
| | 1/15 | ☑ ON ☐ OFF | 35317.4 | 234 519 | | 13.5 | 14 |
| | 1/16 | ☑ ON ☐ OFF | 353413 | 235 500 | | 13.5 | 14 |
| | 1/17 | ☑ ON ☐ OFF | 353610 | 234 501 | | 13.5 | 14 |
| | 1/18 | ☑ ON ☐ OFF | 353893 | 238 526 | | 13.5 | 14 |
| | 1/22 | ☑ ON ☐ OFF | 354586? | 244 556 | | 13.5 | 14 |
| | 1/23 | ☑ ON ☐ OFF | 355095 | 244 560 | | 13.5 | 14 |
| | 1/24 | ☑ ON ☐ OFF | 355534.0 | 246 574 | | 13.5 | 14 |
| | 1/25 | ☑ ON ☐ OFF | 355650 | 249 580 | | 13.5 | 14 |
| | 1/28 | ☑ ON ☐ OFF | 35630 | 248 584 | | 13.5 | 14 |
| | 1/29 | ☑ ON ☐ OFF | 356426. | 249 580 | | 13 | 14 |
| | 1/30 | ☑ ON ☐ OFF | 356851. | 247 566 | | 13 | 14 |
| | 1/31 | ☑ ON ☐ OFF | 357458. | 248 560 | | | |
| | RG-1 | ☐ ON ☐ OFF | 357C.8 | 248 560 | | | |

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well CFM | Total CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|---|
| Ed | 2/4 | ☒ ON ☐ OFF | 35748.2 | 247 | 247 | | 13.5 | 14 |
| | 2/5 | ☒ ON ☐ OFF | 35822.2 | 261 | 247 | | 13.5 | 14 |
| | 2/6 | ☒ ON ☐ OFF | 35846.2 | 260 | 248 | | 13.5 | 14 |
| | 2/7 | ☒ ON ☐ OFF | 35870.2 | 307 | 248 | | 13.5 | 14 |
| | 2/8 | ☒ ON ☐ OFF | 35944.2 | 506 | 246 | | 13.5 | 14 |
| | 2/11 | ☒ ON ☐ OFF | 35968.2 | 542 | 241 | | 13.5 | 14 |
| | 2/12 | ☒ ON ☐ OFF | 35993.2 | 550 | 239 | | 13.5 | 14 |
| | 2/13 | ☒ ON ☐ OFF | 36014.2 | 255 | 242 | | 13.5 | 14 |
| | 2/14 | ☐ ON ☐ OFF | 36038.2 | 554 | 240 | | 13.5 | 14 |
| | 2/15 | ☒ ON ☐ OFF | 36064.2 | 550 | 240 | | 13.5 | 14 |
| | 2/19 | ☒ ON ☐ OFF | 36157.2 | 562 | 244 | | 13.5 | 14 |
| | 2/20 | ☒ ON ☐ OFF | 36182.2 | 570 | 246 | | 13.5 | 14 |
| | 2/21 | ☒ ON ☐ OFF | 36207.2 | 266 | 245 | | 13.5 | 14 |
| | 2/22 | ☒ ON ☐ OFF | 36231 | 260 | 244 | | 13.5 | 14 |
| | 2/25 | ☒ ON ☐ OFF | 36304.2 | 577 | 244 | | 13.5 | 14 |
| | 2/26 | ☐ ON ☐ OFF | 36333.2 | 270 | 249 | | 13.5 | 14 |
| | 2/27 | ☐ ON ☐ OFF | 36357 | 260 | 250 | | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Total | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| | 2/28 | ☑ ON ☐ OFF | 36381.2 | 520 | 236 | | 13.5 | 14 |
| | 2/29 | ☑ ON ☐ OFF | 36404.5 | 521 | 235 | | 13.5 | 14 |
| | 3/01 | ☑ ON ☐ OFF | 36434.6 | 534 | 236 | | 13.5 | 14 |
| | 3/04 | ☑ ON ☐ OFF | 36476.4 | 560 | 240 | | 13.5 | 14 |
| | 3/5 | ☑ ON ☐ OFF | 36501.? | 555 | 243 | | 13.5 | 14 |
| | 3/6 | ☑ ON ☐ OFF | 36525.? | 555 | 242 | | 13.5 | 14 |
| | 3/7 | ☑ ON ☐ OFF | 36548.5 | 558 | 243 | | 13.5 | 14 |
| | 3/8 | ☑ ON ☐ OFF | 36573.2 | 556 | 234 | | 13.5 | 14 |
| | 3/10 | ☑ ON ☐ OFF | 36638.? | 449 | 217 | | 13.5 | 14 |
| | 3/12 | ☑ ON ☐ OFF | 36660.? | 511 | 234 | | 13.5 | 14 |
| | 3/13 | ☐ ON ☐ OFF | 36686.3 | 522 | 234 | | 13.5 | 14 |
| | 3/14 | ☑ ON ☐ OFF | 3711.? | 517 | 234 | | 13.5 | 14 |
| | 3/15 | ☑ ON ☐ OFF | 36735.? | 522 | 237 | | 13.5 | 14 |
| | 3/18 | ☑ ON ☐ OFF | 36804.5 | 539 | 237 | | 13.5 | 14 |
| | 3/19 | ☑ ON ☐ OFF | 36831.6 | 521 | 230 | | 13.5 | 14 |
| | 3/20 | ☑ ON ☐ OFF | 36855.? | 513 | 233 | | 13.5 | 14 |
| | 3/21 | ☑ ON ☐ OFF | 36878.1 | 514 | 233 | | 13 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well CFM | Observations | PRE | POST |
|---|---|---|---|---|---|---|---|
| EC | 3/22 | ☑ ON ☐ OFF | 36908.3 | 518 | 238 | 13 | 14 |
| | 3/25 | ☑ ON ☐ OFF | 36973.4 | 530 | 234 | 13 | 14 |
| | 3/26 | ☑ ON ☐ OFF | 36972.4 | 550 | 234 | 13 | 14 |
| | 3/27 | ☑ ON ☐ OFF | 370206 | 534 | 239 | 13 | 14 |
| | 3/28 | ☑ ON ☐ OFF | 37047.2 | 444 | 281 | 13 | 14 |
| | 3/29 | ☑ ON ☐ OFF | 37069.0 | 474 | 285 | 13 | 14 |
| | 4/1 | ☑ ON ☐ OFF | 37142.5 | 504 | 258 | 13 | 14 |
| | 4/2 | ☐ ON ☐ OFF | 37165.? | 517 | 260 | 13.5 | 14 |
| | 4/3 | ☐ ON ☐ OFF | 37189 | 510 | 261 | 13.5 | 14 |
| | 4/5 | ☐ ON ☐ OFF | 37241.? | 508 | 260 | 13.5 | 14 |
| | 4/8 | ☐ ON ☐ OFF | 37305.3 | 500 | 255 | 13.5 | 14 |
| | 4/9 | ☐ ON ☐ OFF | 37335.0 | 502 | 257 | 13.5 | 14 |
| | 4/10 | ☐ ON ☐ OFF | 37357.0 | 494 | 255 | 13.5 | 14 |
| | 4/11 | ☐ ON ☐ OFF | 37375.2 | 486 | 251 | 13.5 | 14 |
| | 4/12 | ☐ ON ☐ OFF | 37406.0 | 452 | 241 | 13.5 | 14 |
| | 4/16 | ☐ ON ☐ OFF | 37501.2 | 494 | 253 | 13.5 | 14 |
| | 4/17 | ☐ ON ☐ OFF | 37525.6 | 494 | 252 | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Well | CFM Total | Observations | Filters PRE | Filters Post |
|---|---|---|---|---|---|---|---|---|
| Ed Dumont | 4/18 | ☑ ON ☐ OFF | 37549.9 | 482 | 253 | | 13 | 14 |
| | 4/19 | ☑ ON ☐ OFF | 37573.2 | 486 | 250 | | 13.5 | 14 |
| | 4/22 | ☑ ON ☐ OFF | 37652.4 | 482 | 252 | | 13.5 | 14 |
| | 4/23 | ☑ ON ☐ OFF | 37677.0 | 474 | 254 | | 13.5 | 14 |
| | 4/24 | ☑ ON ☐ OFF | 37694.6 | 480 | 250 | | 13.5 | 14 |
| | | ☐ ON ☐ OFF | | | | | | |
| | 4/26 | ☑ ON ☐ OFF | 37747.7 | 491 | 253 | | 13.5 | 14 |
| | 5/1 | ☑ ON ☐ OFF | 37862.7 | 465 | 253 | | 13.5 | 14 |
| | 5/2 | ☑ ON ☐ OFF | 37892.0 | 482 | 251 | | 13.5 | 14 |
| | 5/3 | ☑ ON ☐ OFF | 37910.5 | 488 | 250 | | 13.5 | 14 |
| | 5/6 | ☑ ON ☐ OFF | 37981.5 | 474 | 250 | | 13.5 | 14 |
| | 5/7 | ☑ ON ☐ OFF | 380008 | 478 | 248 | | 13.5 | 14 |
| | 5/8 | ☑ ON ☐ OFF | 380030.2 | 405 | 238 | | 13.5 | 14 |
| | 5/9 | ☑ ON ☐ OFF | 380053.0 | 413 | 236 | | 13.5 | 14 |
| | 5/10 | ☑ ON ☐ OFF | 380840 | 420 | 238 | | 13.5 | 14 |
| | 5/13 | ☑ ON ☐ OFF | 38149.. | 423 | 240 | | 13.5 | 14 |
| | 5/14 | ☑ ON ☐ OFF | 38173.0 | 436 | 241 | | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Well | Observations | Filters PRE | Filters POST |
|---|---|---|---|---|---|---|---|
| EDDOZAIT | ~~5/16~~ 5/16 | ☑ ON ☐ OFF | 38221.0 | 418 | 235 | 12 | 13 |
| | 5/17 | ☑ ON ☐ OFF | 38245.0 | 422 | 241 | 12.5 | 13 |
| | 5/20 | ☑ ON ☐ OFF | 38317.3 | 370 | 236 | 13 | 13.5 |
| | 5/21 | ☑ ON ☐ OFF | 38342.0 | 434 | 215 | 13 | 13.5 |
| | 5/22 | ☑ ON ☐ OFF | 38365.0 | 445 | 214 | 13 | 13.5 |
| | 5/23 | ☑ ON ☐ OFF | 38388.0 | 404 | 215 | 13 | 13.5 |
| | 5/24 | ☑ ON ☐ OFF | 38409.5 | 412 | 214 | 13 | 13.5 |
| | 6/4 | ☑ ON ☐ OFF | 38484.0 | 371 | 210 | 13 | 13.5 |
| | 6/10 | ☑ ON ☐ OFF | 38521.6 | 240 | ~~195~~ 195 | 13 | 13.5 |
| | 6/11 | ☑ ON ☐ OFF | 38557.7 | 263 | 193 | 14 | 14.5 |
| | 6/12 | ☑ ON ☐ OFF | 38586.5 | 243 | 194 | 14 | 14.5 |
| | 6/13 | ☑ ON ☐ OFF | 38900 | 260 | 191 | 14 | 14.5 |
| | 6/14 | ☑ ON ☐ OFF | 38920.5 | 247 | 191 | 13.5 | 14 |
| | 6/17 | ☑ ON ☐ OFF | 38996.0 | 277 | 195 | 13.5 | 14 |
| | 6/18 | ☑ ON ☐ OFF | 39020.1 | 267 | 194 | 13.5 | 14 |
| | 6/19 | ☑ ON ☐ OFF | 39044.0 | 331 | 196 | 13.5 | 14 |
| | 6/24 | ☑ ON ☐ OFF | 39164.0 | 242 | 196 | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Well | CFM Total | Observations Filter PRE | Observations Filter POST |
|---|---|---|---|---|---|---|---|
| EDUARDO | 7/1/13 | ☑ ON ☐ OFF | 39332.4 | 264 | 192 | 13.5 | 14 |
| | 7/22/13 | ☑ ON ☐ OFF | 39852.5 | 236 | 195 | 13.5 | 14 |
| | 8/6 | ☑ ON ☐ OFF | 3998.1 | 236 | 195 | 13.5 | 14 |
| | 8/7 | ☑ ON ☐ OFF | 40202 | 230 | 200 | 13.5 | 14 |
| | 8/8 | ☑ ON ☐ OFF | 40244.1 | 260 | 201 | 13.5 | 14 |
| | 8/9 | ☑ ON ☐ OFF | 40268.2 | 260 | 201 | 13.5 | 14 |
| | 8/12 | ☑ ON ☐ OFF | 40340.2 | 271 | 202 | 13.5 | 14 |
| | 8/13 | ☑ ON ☐ OFF | 40363.5 | 271 | 202 | 13.5 | 14 |
| | 8/14 | ☑ ON ☐ OFF | 40387.1 | 284 | 200 | 13.5 | 14 |
| | 8/27 | ☑ ON ☐ OFF | 40693.1 | 240 | 205 | 13.5 | 14 |
| | 8/28 | ☑ ON ☐ OFF | 40717.7 | 241 | 204 | 13.5 | 14 |
| | 8/29 | ☑ ON ☐ OFF | 40748.0 | 290 | 204 | 13.5 | 14 |
| | 8/30 | ☑ ON ☐ OFF | 40772.5 | 300 | 200 | 13.5 | 14 |
| | 9/2 | ☑ ON ☐ OFF | 40796.1 | 270 | 205 | 13.5 | 14 |
| | 9/3 | ☑ ON ☐ OFF | 40820.3 | 270 | 200 | 13.5 | 14 |
| | 9/4 | ☑ ON ☐ OFF | 40844.1 | 200 | 200 | 13.5 | 14 |
| | 9/5 | ☑ ON ☐ OFF | 40868.5 | 270 | 205 | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Total | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| | 9/6 | ☑ ON ☐ OFF | 41084 2.1 | 244 | 209 | | 13.5 | 14 |
| | 9/9 | ☑ ON ☐ OFF | 40440.5 | 230 | 200 | | 13.5 | 14 |
| | 9/10 | ☑ ON ☐ OFF | 40964.0 | 230 | 209 | | 13.5 | 14 |
| | 9/11 | ☑ ON ☐ OFF | 40988.1 | 230 | 209 | | 13.5 | 14 |
| | 9/12 | ☑ ON ☐ OFF | 41012.5 | 230 | 209 | | 13.5 | 14 |
| | 9/13 | ☑ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | 9/16 | ☑ ON ☐ OFF | 41180.9 | 311 | 209 | | 13.5 | 14 |
| | 9/17 | ☑ ON ☐ OFF | 41227.3 | 316 | 209 | | 13 | 14 |
| | 9/18 | ☑ ON ☐ OFF | 41251.4 | 316 | 212 | | 13 | 14 |
| | 9/19 | ☑ ON ☐ OFF | 41275.2 | 316 | 212 | | 13 | 14 |
| | 9/20 | ☑ ON ☐ OFF | 41299.4 | 318 | 211 | | 13 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 (3) 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | TOTAL | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| | 9/23 | ☑ ON ☐ OFF | 4341.5 | 320 | 210 | | 13.5 | 14 |
| | 9/24 | ☑ ON ☐ OFF | 4365.5 | 333 | 202 | | 13.5 | 14 |
| | 9/25 | ☑ ON ☐ OFF | 4389.2 | 330 | 211 | | 13.5 | 14 |
| | 9/26 | ☑ ON ☐ OFF | 4412.1 | 330 | 209 | | 13.5 | 14 |
| | 10/1 | ☑ ON ☐ OFF | 4540.5 | 335 | 210 | | 13.5 | 14 |
| | 10/2 | ☑ ON ☐ OFF | 4564 | 335 | 210 | | 13.5 | 14 |
| | 10/3 | ☑ ON ☐ OFF | 4584.0 | 324 | 209 | | 13.5 | 14 |
| | 10/4 | ☑ ON ☐ OFF | 4608.0 | 324 | 209 | | 13.5 | 14 |
| | 10/7 | ☑ ON ☐ OFF | 4646.1 | 320 | 210 | | 13.5 | 14 |
| | 10/8 | ☑ ON ☐ OFF | 4668.0 | 323 | 210 | | 13.5 | 14 |
| | 10/9 | ☑ ON ☐ OFF | 4704.0 | 324 | 210 | | 13.5 | 14 |
| | 10/10 | ☑ ON ☐ OFF | 4728.1 | 324 | 209 | | 13.5 | 14 |
| | 10/11 | ☑ ON ☐ OFF | 4756.0 | 325 | 209 | | 13.5 | 14 |
| | 10/14 | ☑ ON ☐ OFF | 4780.1 | 324 | 210 | | 13.5 | 14 |
| | 10/15 | ☑ ON ☐ OFF | 4820.2 | 324 | 209 | | 13.5 | 14 |
| | 10/16 | ☑ ON ☐ OFF | 4849.0 | 349 | 213 | | 13.5 | 14 |
| | 10/17 | ☑ ON ☐ OFF | 4923.2 | 349 | 213 | | 13.5 | 14 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Total | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|---|
| BC | 10/18 | ☑ ON ☐ OFF | 419478 | 356 | 216 | | 13.5 | 14 |
| | 10/21 | ☑ ON ☐ OFF | 42020.0 | 371 | 219 | | 13.5 | 14 |
| | 10/22 | ☑ ON ☐ OFF | 42036.4 | 346 | 219 | | 13.5 | 14 |
| | 10/23 | ☑ ON ☐ OFF | 42061.2 | 376 | 221 | | 13.5 | 14 |
| | 10/24 | ☑ ON ☐ OFF | 42088.0 | 405 | 225 | | 13.5 | 14 |
| | 10/25 | ☑ ON ☐ OFF | 42112.5 | 405 | 225 | | 13.5 | 14 |
| | 10/28 | ☑ ON ☐ OFF | 42221.1 | 378 | 232 | | 13.5 | 14 |
| | 10/29 | ☑ ON ☐ OFF | 42205.1 | 378 | 233 | | 13.5 | 14 |
| | 10/30 | ☑ ON ☐ OFF | 42236.2 | 378 | 230 | | 13.5 | 14 |
| | 10/31 | ☑ ON ☐ OFF | 42253.5 | 394 | 230 | | 13.5 | 14 |
| | 11/1 | ☑ ON ☐ OFF | 42276.2 | 384 | 228 | | 13.5 | 14 |
| | 11/5 | ☑ ON ☐ OFF | 42374.2 | 424 | 238 | | 13.5 | 14 |
| | 11/6 | ☑ ON ☐ OFF | 42392. | 424 | 234 | | 13.5 | 14 |
| | 11/7 | ☑ ON ☐ OFF | 42422.5 | 424 | 235 | | 13.5 | 14 |
| | 11/8 | ☑ ON ☐ OFF | 42445. | 424 | 235 | | 13.5 | 14 |
| | 11/12 | ☑ ON ☐ OFF | 42541.5 | 444 | 240 | | 13.5 | 14 |
| | | ☐ ON ☐ OFF | | | | | | |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 (4) (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Total | CFM Well | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|---|
| EC | 1/14/13 | ☑ ON ☐ OFF | 439904 | 248 | 428 | | 4 | 4.0 |
| | 1/15 | ☑ ON ☐ OFF | 440410 | 250 | 431 | | 4 | 4.5 |
| | 1/16 | ☑ ON ☐ OFF | 440383 | 249 | 428 | | 4 | 4.0 |
| | 1/17 | ☑ ON ☐ OFF | 440627 | 250 | 433 | | 4 | 4.5 |
| | 1/18 | ☑ ON ☐ OFF | 440840 | 250 | 425 | | 4 | 4.5 |
| | 1/22 | ☑ ON ☐ OFF | 440421 | 250 | 427 | | 4 | 4.5 |
| | 1/23 | ☑ ON ☐ OFF | 441978 | 248 | 437 | | 4 | 4.5 |
| | 1/24 | ☑ ON ☐ OFF | 442210 | 250 | 434 | | 4 | 4.0 |
| | 1/26 | ☑ ON ☐ OFF | 442445 | 249 | 430 | | 4 | 4.5 |
| | 1/28 | ☑ ON ☐ OFF | 443140 | 251 | 435 | | 4 | 4.5 |
| | 1/29 | ☑ ON ☐ OFF | 443514 | 245 | 446 | | 4 | 4.5 |
| | 1/30 | ☑ ON ☐ OFF | 443655 | 250 | 437 | | 4 | 4.5 |
| | 1/31 | ☑ ON ☐ OFF | 443896 | 251 | 434 | | 4 | 4.5 |
| | 2/1 | ☑ ON ☐ OFF | 444132 | 250 | 438 | | 4 | 4.5 |
| | 2/4 | ☑ ON ☐ OFF | 444571 | 250 | 427 | | 4 | 4.5 |
| | 2/5 | ☑ ON ☐ OFF | 445119 | 255 | 426 | | 4 | 4.5 |
| | 2/6 | ☑ ON ☐ OFF | 445352 | 250 | 437 | | 4 | 4.5 |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM TOTAL | CFM Well | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| EC | 2/7 | ☑ ON ☐ OFF | 44359.0 | 248 | 428 | | 4 | 4.5 |
| | 2/8 | ☑ ON ☐ OFF | 44583.2 | 250 | 437 | | 4 | 4.5 |
| | 2/11 | ☑ ON ☐ OFF | 44661.4 | 250 | 426 | | 4 | 4.5 |
| | 2/12 | ☑ ON ☐ OFF | 44685.5 | 250 | 427 | | 4 | 4.5 |
| | 2/13 | ☑ ON ☐ OFF | 44709.8 | 248 | 420 | | 4 | 4.5 |
| | 2/14 | ☑ ON ☐ OFF | 44731.0 | 251 | 425 | | 4 | 4.5 |
| | 2/15 | ☑ ON ☐ OFF | 44755.3 | 250 | 425 | | 4 | 4.5 |
| | 2/19 | ☑ ON ☐ OFF | 44779.5 | 249 | 420 | | 4 | 4.5 |
| | 2/20 | ☑ ON ☐ OFF | 44803.9 | 240 | 425 | | 4 | 4.5 |
| | 2/21 | ☑ ON ☐ OFF | 44843.5 | 251 | 424 | | 4 | 4.5 |
| | 2/22 | ☑ ON ☐ OFF | 44917.9 | 250 | 424 | | 4 | 4.5 |
| | 2/25 | ☑ ON ☐ OFF | 44989.5 | 251 | 427 | | 4 | 4.5 |
| | 2/26 | ☑ ON ☐ OFF | 45013.7 | 250 | 428 | | 4 | 4.5 |
| | 2/27 | ☑ ON ☐ OFF | 45037.6 | 249 | 426 | | 4 | 4.5 |
| | 2/28 | ☑ ON ☐ OFF | 45061.5 | 249 | 425 | | 4 | 4.5 |
| | 3/1 | ☑ ON ☐ OFF | 45085.4 | 249 | 420 | | 4 | 4.5 |
| | 3/4 | ☑ ON ☐ OFF | 45160.4 | 250 | 426 | | 4 | 4.5 |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Total CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| Edward S. Dunn | 3/5 | ☑ ON ☐ OFF | 45181.6 | 251 | 427 | 4.5 | 4.5 |
| | 3/6 | ☑ ON ☐ OFF | 45205.5 | 251 | 427 | 4.5 | 4.5 |
| | 3/7 | ☑ ON ☐ OFF | 45230.0 | 251 | 430 | 4.5 | 4.5 |
| | 3/8 | ☑ ON ☐ OFF | 45254.1 | 250 | 432 | 4.5 | 4.0 |
| | 3/11 | ☑ ON ☐ OFF | 45324.2 | 249 | 424 | 4 | 4.5 |
| | 3/12 | ☑ ON ☐ OFF | 45358.4 | 250 | 425 | 4 | 4.5 |
| | 3/13 | ☑ ON ☐ OFF | 45376.2 | 250 | 414 | 4 | 4.3 |
| | 3/14 | ☑ ON ☐ OFF | 45396.7 | 250 | 429 | 4 | 4.5 |
| | 3/15 | ☑ ON ☐ OFF | 45420.7 | 251 | 428 | 4 | 4.5 |
| | 3/16 | ☑ ON ☐ OFF | 45492.6 | 250 | 433 | 4 | 4.5 |
| | 3/19 | ☑ ON ☐ OFF | 45517.6 | 250 | 431 | 4 | 4.5 |
| | 3/20 | ☑ ON ☐ OFF | 45540.6 | 250 | 430 | 4 | 4.5 |
| | 3/21 | ☑ ON ☐ OFF | 45566.8 | 251 | 431 | 4 | 4.5 |
| | 3/22 | ☑ ON ☐ OFF | 45589.0 | 250 | 434 | 4 | 4.5 |
| | 3/25 | ☑ ON ☐ OFF | 45667.0 | 250 | 433 | 4 | 4.5 |
| | 3/26 | ☑ ON ☐ OFF | 45691.5 | 251 | 430 | 4 | 4.5 |
| | 3/27 | ☑ ON ☐ OFF | 45708.5 | 249 | 425 | 4 | 4.5 |

# ROUTINE SYSTEM CHECK

PARCEL 9 VAPOR MITIGATION SYSTEM

48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
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4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | TOA Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| | 3/27 | ☑ ON ☐ OFF | 45709.5 | 430 | 250 | 4 | 4.5 |
| | 3/28 | ☑ ON ☐ OFF | 45733.9 | 430 | 250 | 4 | 4.5 |
| | 3/29 | ☑ ON ☐ OFF | 45752.5 | 430 | 251 | 4 | 4.5 |
| | 4/1 | ☑ ON ☐ OFF | 45830.9 | 431 | 250 | 4 | 4.5 |
| | 4/2 | ☑ ON ☐ OFF | 45853.2 | 429 | 252 | 4 | 4.5 |
| | 4/3 | ☑ ON ☐ OFF | 45878.4 | 426 | 252 | 4 | 4.5 |
| | 4/5 | ☑ ON ☐ OFF | 45933.4 | 429 | 250 | 4 | 4.5 |
| | 4/8 | ☑ ON ☐ OFF | 45997.4 | 429 | 251 | 4 | 4.5 |
| | 4/9 | ☑ ON ☐ OFF | 46023.6 | 438 | 251 | 4 | 4.5 |
| | 4/10 | ☑ ON ☐ OFF | 46054.2 | 428 | 250 | 4 | 4.5 |
| | 4/11 | ☑ ON ☐ OFF | 46063.7 | 426 | 249 | 4 | 4.5 |
| | 4/12 | ☑ ON ☐ OFF | 46094.6 | 433 | 251 | 4 | 4.5 |
| | 4/16 | ☑ ON ☐ OFF | 46189.5 | 435 | 250 | 4 | 4.5 |
| | 4/17 | ☑ ON ☐ OFF | 46214.0 | 428 | 248 | 4 | 4.5 |
| | 4/18 | ☑ ON ☐ OFF | 46240.3 | 429 | 250 | 4 | 4.5 |
| | 4/19 | ☑ ON ☐ OFF | 46261.3 | 431 | 250 | 4 | 4.3 |
| | 4/22 | ☑ ON ☐ OFF | 46285.5 | 431 | 250 | 4 | 4.5 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Well | CFM Total | Observations | i Pre | i Post |
|---|---|---|---|---|---|---|---|---|
| EC | 4/23 | ☑ ON ☐ OFF | 463575 | 422 | 251 | | 4 | 4.5 |
| EC | 4/30 | ☑ ON ☐ OFF | 465270 | 425 | 251 | | 4 | 4.5 |
| | 5/1 | ☑ ON ☐ OFF | 465661.2 | 425 | 250 | | 4 | 4.5 |
| | 5/2 | ☑ ON ☐ OFF | 466073.6 | 426 | 251 | | 4 | 4.5 |
| | 5/3 | ☑ ON ☐ OFF | 466604.6 | 421 | 251 | | 4 | 4.5 |
| | 5/6 | ☑ ON ☐ OFF | 466609.6 | 422 | 250 | | 4 | 4.5 |
| | 5/7 | ☑ ON ☐ OFF | 466996.2 | 425 | 251 | | 4 | 4.5 |
| | 5/8 | ☑ ON ☐ OFF | 467183.8 | 424 | 250 | | 4 | 4.5 |
| | 5/9 | ☑ ON ☐ OFF | 467418 | 432 | 250 | | 4 | 4.5 |
| | 5/13 | ☑ ON ☐ OFF | 468376 | 426 | 250 | | 4 | 4.5 |
| | 5/14 | ☑ ON ☐ OFF | 468614 | 425 | 250 | | 4 | 4.5 |
| | 5/16 | ☑ ON ☐ OFF | 469040 | 424 | 251 | | 4 | 4.5 |
| | 5/17 | ☑ ON ☐ OFF | 469340 | 427 | 251 | | 4 | 4.5 |
| | 5/20 | ☑ ON ☐ OFF | 470056 | 418 | 250 | | 4 | 4.5 |
| | 5/21 | ☑ ON ☐ OFF | 470305 | 414 | 250 | | 4 | 4.5 |
| | 5/22 | ☑ ON ☐ OFF | 470554 | 414 | 250 | | 4 | 4.5 |
| | 5/23 | ☑ ON ☐ OFF | 470776 | ~~250~~ 416 | 250 | | 4 | 4.5 |

# ROUTINE SYSTEM CHECK
## PARCEL 9 VAPOR MITIGATION SYSTEM
## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | CFM Well | CFM Total | Observations | Filters Pre | Filters Post |
|---|---|---|---|---|---|---|---|---|
| EA | 5/24 | ☐ ON ☐ OFF | 47101.5 | 427 | 248 | | 4 | 5 |
| EC | 5/28 | ☑ ON ☐ OFF | 47198.1 | 426 | 251 | | 4 | 5 |
| | 6/4 | ☑ ON ☐ OFF | 47372.2 | 421 | 250 | | 4 | 5 |
| | 6/11 | ☑ ON ☐ OFF | 47536.1 | 435 | 250 | | 4 | 4.5 |
| | 6/12 | ☑ ON ☐ OFF | 47560.2 | 435 | 250 | | 4 | 4.5 |
| | 6/13 | ☑ ON ☐ OFF | 47584.8 | 426 | 250 | | 4 | 4.5 |
| | 6/14 | ☑ ON ☐ OFF | 47611.4 | 433 | 248 | | 4 | 4.5 |
| | 6/17 | ☑ ON ☐ OFF | 47674.5 | 433 | 251 | | 4 | 4.5 |
| | 7/1 | ☑ ON ☐ OFF | 48012.5 | 430 | 251 | | 4 | 4.5 |
| | 7/23 | ☑ ON ☐ OFF | 48541.1 | 426 | 251 | | 4 | 4.5 |
| | 7/24 | ☑ ON ☐ OFF | 48689.0 | 425 | 251 | | 4 | 4.5 |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
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| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |

## ROUTINE SYSTEM CHECK
### PARCEL 9 VAPOR MITIGATION SYSTEM
### 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK
### ZONE: 1 2 3 4 (Circle One)

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Total CFM | Observations | PRE | Post |
|---|---|---|---|---|---|---|---|
| | 8/27 | ☑ ON ☐ OFF | 4938.5 | 252 | 451 | 4 | 5 |
| | 8/29 | ☑ ON ☐ OFF | 4943.44 | 0250 | 446 | 4 | 5 |
| | | ☐ ON ☐ OFF | | | | | |
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## ROUTINE SYSTEM CHECK

**PARCEL 9 VAPOR MITIGATION SYSTEM**

**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

**ZONE: 1 2 3 (4) (Circle One)**

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Total | well | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | 4/18 | ☑ ON ☐ OFF | 4993.5.5 | 250 | 450 | | 4 | 4.5 |
| | 4/19 | ☑ ON ☐ OFF | 4995.0 | 250 | 440 | | 4 | 4.5 |
| | 4/20 | ☑ ON ☐ OFF | 4996.3.2 | 250 | 450 | | 4 | 4.5 |
| | | ☐ ON ☐ OFF | | | | | | |
| | | ☐ ON ☐ OFF | | | | | | |
| | 4/23 | ☑ ON ☐ OFF | 5002.9.5 | 250 | 400 | | 4 | 4.5 |
| | 4/24 | ☑ ON ☐ OFF | 5006.3.0 | 250 | 440 | | 4 | 4.5 |
| | 4/25 | ☑ ON ☐ OFF | 5007.7.2 | 250 | 442 | | 4 | 4.5 |
| | 4/26 | ☑ ON ☐ OFF | 5010.1.2 | 250 | 442 | | 4 | 4.5 |
| | 4/27 | ☑ ON ☐ OFF | 5012.5.4 | 249 | 445 | | 4 | 4.5 |
| | 10/1 | ☑ ON ☐ OFF | 5022.8.5 | 252 | 446 | | 4 | 4.5 |
| | 10/2 | ☑ ON ☐ OFF | 5024.8.7 | 253 | 444 | | 4 | 4.5 |
| | 10/3 | ☑ ON ☐ OFF | 5027.2.8 | 253 | 444 | | 4 | 4.5 |

## ROUTINE SYSTEM CHECK

**PARCEL 9 VAPOR MITIGATION SYSTEM**

**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

**ZONE: 1 2 3 4 (Circle One)**

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Total Observations | Pre | Post |
|---|---|---|---|---|---|---|---|
| | 10/4 | ☑ ON ☐ OFF | 50296.0 | 450 | 252 | 4 | 4.5 |
| | 10/7 | ☑ ON ☐ OFF | 50344.1 | 451 | 252 | 4 | 4.5 |
| | 10/8 | ☑ ON ☐ OFF | 50368.7 | 452 | 250 | 4 | 4.5 |
| | 10/9 | ☑ ON ☐ OFF | 50392.1 | 450 | 250 | 4 | 4.5 |
| | 10/10 | ☑ ON ☐ OFF | 50416.2 | 451 | 252 | 4 | 4.5 |
| | 10/11 | ☑ ON ☐ OFF | 50440.1 | 450 | 250 | 4 | 4.5 |
| | 10/14 | ☑ ON ☐ OFF | 50488.2 | 452 | 252 | 4 | 4.5 |
| | 10/15 | ☑ ON ☐ OFF | 50558.2 | 452 | 252 | 4 | 4.5 |
| | 10/16 | ☑ ON ☐ OFF | 50583.7 | 442 | 252 | 4 | 5 |
| | 10/17 | ☑ ON ☐ OFF | 50604.8 | 451 | 251 | 4 | 5 |
| | 10/18 | ☑ ON ☐ OFF | 50628.1 | 450 | 250 | 4 | 5 |
| | 10/21 | ☑ ON ☐ OFF | 50696.7 | 450 | 250 | 4 | 5 |
| | 10/22 | ☑ ON ☐ OFF | 50728.0 | 448 | 253 | 4 | 5 |
| | 10/23 | ☑ ON ☐ OFF | 50750.2 | 446 | 252 | 4 | 5 |
| | 10/24 | ☑ ON ☐ OFF | 50776.5 | 444 | 253 | 4 | 5 |
| | 10/25 | ☑ ON ☐ OFF | 50800.2 | 444 | 253 | 4 | 5 |
| | 10/28 | ☑ ON ☐ OFF | 50848 | 444 | 253 | 4 | 5 |

# ROUTINE SYSTEM CHECK

## PARCEL 9 VAPOR MITIGATION SYSTEM

## 48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK

**ZONE: 1 2 3 4 (Circle One)**

**Readings/Observations to be recorded by AvalonBay Site Representative.**

1. Record Inspector Name and Date.
2. Observe and record if blower is on or off. **If blower is off, immediately notify an emergency contact listed on attached page.**
3. Observe and record the elapsed runtime.
4. Record any other comments e.g., unusual odors, spills, leaks, etc. **If such conditions exsist, immediately notify an emergency contact listed on attached page.**
5. Retain this page on-site for collection by ATC Associates.
6. Conduct inspections daily during first month of operation and weekly thereafter.

| Inspector Name | Date | Blower On/Off | Runtime (hours) | Well | Total | Observations | Pre | Post |
|---|---|---|---|---|---|---|---|---|
| CD | 10/29 | ☑ ON ☐ OFF | 50893.7 | 445 | 252 | | 4.5 | 5 |
| | 10/30 | ☑ ON ☐ OFF | 5091 7.5 | 444 | 252 | | 4.5 | 5 |
| | 10/31 | ☑ ON ☐ OFF | 50941.7 | 448 | 253 | | 4.5 | 5 |
| | 11/1 | ☑ ON ☐ OFF | 50964.7 | 445 | 251 | | 4.5 | 5 |
| | 11/5 | ☑ ON ☐ OFF | 51062.3 | 449 | 253 | | 4.5 | 5 |
| | 11/6 | ☑ ON ☐ OFF | 51080.3 | 450 | 253 | | 4.5 | 5 |
| | 11/7 | ☑ ON ☐ OFF | 51110.5 | 448 | 253 | | 4.5 | 5 |
| | 11/8 | ☑ ON ☐ OFF | 51134.9 | 444 | 251 | | 4.5 | 4 |
| | | ☐ ON ☐ OFF | | | | | | |
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# Appendix C - Monitoring Well Sampling Logs

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW2 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 14:10 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** ~~32~~ 32.1 ft. below top of casing | **Water Column (WC):** 24.08 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 8.02 ft. below top of casing | **Well Volume*:** 3.93 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.53 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 18 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 33 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 25 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 1355 | 9.95 | ~100 | 13.22 | 1.03 | 11.55 | 7.40 | 10 | 5.0 | |
| 1400 | 9.72 | | 13.81 | 1.02 | 11.52 | 7.40 | 15 | 10.1 | |
| 1405 | 9.64 | | 14.25 | 1.27 | 11.57 | 7.41 | 14 | 10.9 | |
| 1410 | 9.60 | | 15.44 | 2.27 | 12.05 | 7.32 | 12 | 15.6 | Pre sample |
| 1415 | 9.53 | ↓ | 15.50 | 3.14 | 12.10 | 7.31 | 10 | 25.1 | Post samp |
| | | | | | | | | | |
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| | | | | | | | | | |
| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW-8 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 1335 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 29.25 ft. below top of casing | **Water Column (WC):** 19.15 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 10.1 ft. below top of casing | **Well Volume*:** 3.12 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 1.32 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 30 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 20 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 1250 | 10.2 | ~100 | 12.01 | 1.78 | 6.01 | 8.29 | 61 | 21.6 | |
| 1255 | 10.25 | | 12.14 | 1.75 | 12.46 | 7.95 | 67 | 21.8 | |
| 1300 | 10.27 | | 12.30 | 1.74 | 12.66 | 7.82 | 63 | 21.6 | |
| 1305 | 10.32 | | 12.52 | 1.75 | 12.30 | 7.74 | 41 | 13.9 | |
| 1310 | 10.34 | | 12.58 | 1.75 | 12.05 | 7.64 | 28 | 11.8 | |
| 1315 | 10.34 | | 13.01 | 1.80 | 11.33 | 7.59 | -4 | 11.9 | |
| 1320 | 10.35 | | 13.16 | 1.87 | 11.26 | 7.59 | -14 | 10.7 | |
| 1325 | 10.36 | | 13.32 | 1.97 | 11.34 | 7.56 | -12 | 10.8 | |
| 1330 | 10.37 | | 13.39 | 1.01 | 11.41 | 7.63 | -14 | 10.1 | |
| 1335 | 10.38 | | 12.88 | .802 | 11.45 | 7.65 | -15 | 9.9 | Pre sample |
| 1340 | 10.39 | ↓ | 12.75 | 1.05 | 11.69 | 7.67 | -12 | 15.1 | Post sample |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 11R |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 10:00 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 20.20 ft. below top of casing | **Water Column (WC):** 9.25 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 10.95 ft. below top of casing | **Well Volume*:** 1.51 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.79 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 20 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 14 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 9:30 | 10.98 | ~ 100 | 11.61 | 0.888 | 1.74 | 7.92 | 136 | 73.9 | |
| 9:35 | 10.98 | ↓ | 11.73 | 0.879 | 1.65 | 7.87 | 138 | 69.6 | |
| 9:40 | 10.97 | | 13.04 | 0.868 | 1.36 | 7.64 | 141 | 44.1 | |
| 9:45 | 10.97 | | 13.19 | 0.869 | 1.27 | 7.60 | 139 | 35.4 | |
| 9:50 | 10.98 | | 13.28 | 0.868 | 1.23 | 7.59 | 138 | 42.4 | |
| 9:55 | 10.98 | | 13.45 | 0.868 | 1.21 | 7.59 | 137 | 39.9 | |
| 9:57 | 10.98 | | 13.60 | 0.868 | 1.20 | 7.59 | 137 | 40.0 | Pre sample |
| 10:00 | 10.99 | ↓ | 13.61 | 0.869 | 1.20 | 7.59 | 136 | 39.6 | Post sample |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

MS/MSD collected

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | **Well No.:** | |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | 12R | |
| **Date:** March 28, 2013 | **Sampling Time:** 9:15 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 17.9 ft. below top of casing | **Water Column (WC):** 7.87 feet | * = 0.163 * WC for 2" wells | |
| **Depth to Water:** 10.03 ft. below top of casing | **Well Volume*:** 1.28 gallons | * = 0.653 * WC for 4" wells | |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 1.32 gallons | * = 1.469 * WC for 6" wells | |
| **Depth to top of screen:** ~ 3 ft. below top of casing | **Well Diameter:** 2 inches | Target maximum flow rate is 100 ml/min | |
| **Depth to bottom of screen:** ~ 18 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 13 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 8:30 | 10.03 | ~100 | 9.48 | 0.744 | 14.43 | 7.01 | 175 | 800 | |
| 8:35 | 12.40 | | 9.98 | 0.733 | 13.49 | 7.50 | 173 | 600 | |
| 8:40 | 12.41 | | 9.96 | 0.731 | 13.18 | 7.58 | 170 | 495 | |
| 8:45 | 12.41 | | 10.89 | 0.721 | 11.76 | 7.80 | 87 | 247 | |
| 8:50 | 12.42 | | 10.83 | 0.719 | 11.22 | 7.83 | 79 | 97 | |
| 8:55 | 12.44 | | 10.83 | 0.717 | 11.06 | 7.84 | 75 | 49 | |
| 9:00 | 12.44 | | 10.77 | 0.721 | 11.61 | 7.84 | 75 | 40 | |
| 9:05 | 12.45 | | 10.83 | 0.721 | 11.98 | 7.81 | 76 | 39.5 | |
| 9:10 | 12.46 | | 11.00 | 0.720 | 11.79 | 7.85 | 74 | 32.1 | |
| 9:15 | 12:47 | | 11.11 | 0.723 | 11.62 | 7.85 | 71 | 35.2 | Pre sample |
| 9:20 | 12:48 | | 11.12 | 0.724 | 11.64 | 7.96 | 70 | 34.7 | Post sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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Shaping the Future

# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 14 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 1045 | | |
| **PID at surface:** 5.0 | | | |
| **Total Depth:** 18.05 ft. below top of casing | **Water Column (WC):** 10.06 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 7.99 ft. below top of casing | **Well Volume*:** 1.64 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.72 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 19 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 13 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 10:15 | 7.99 | ~100 | 10.04 | 3.42 | 5.40 | 7.30 | -112 | 402 | |
| 10:20 | 8.18 | ↓ | 9.82 | 3.43 | 8.89 | 6.98 | -108 | 230 | |
| 10:25 | 8.19 | | 9.99 | 3.49 | 8.40 | 6.94 | -110 | 116 | |
| 10:30 | 8.22 | | 10.10 | 3.53 | 7.05 | 6.93 | -114 | 32 | |
| 10:35 | 8.22 | | 10.15 | 3.53 | 7.04 | 6.93 | -115 | 20.5 | |
| 10:40 | 8.24 | | 10.23 | 3.52 | 6.80 | 6.92 | -116 | 11.4 | |
| 10:45 | 8.26 | | 10.24 | 3.52 | 6.79 | 6.92 | -117 | 10.9 | MS/MSD sample |
| 10:50 | 8.25 | ↓ | 10.26 | 3.52 | 6.78 | 6.94 | -117 | 10.1 | post sample |
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| Stabilization Criteria: | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |
|---|---|---|---|---|---|---|

* DUP Collected

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 15 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 12:30 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 18 ft. below top of casing | **Water Column (WC):** 10.95 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 7.05 ft. below top of casing | **Well Volume*:** 1.78 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 1.06 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~19 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~12 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 11:55 | 7.09 | ~100 | 11.43 | 9.19 | 3.87 | 7.96 | 1 | 459 | |
| 12:00 | 7.95 | | 11.72 | 9.32 | 0.80 | 7.10 | -5 | 295 | |
| 12:05 | 8.02 | | 12.12 | 9.36 | 1.17 | 6.80 | 15 | 114 | |
| 12:10 | 8.08 | | 12.27 | 9.41 | 0.96 | 6.78 | 12 | 70 | |
| 12:15 | 8.13 | | 12.57 | 9.41 | 0.88 | 6.76 | 11 | 42.3 | |
| 12:20 | 8.16 | | 12.76 | 9.40 | 0.87 | 6.75 | 10 | 36.2 | |
| 12:25 | 8.43 | | 13.27 | 9.41 | 0.75 | 6.71 | 12 | 31.3 | |
| 12:30 | 8.46 | | 13.27 | 9.40 | 0.76 | 6.71 | 11 | 30.1 | Pre Samp |
| 12:35 | 8.47 | ↓ | 13.26 | 9.40 | 0.77 | 6.71 | 11 | 30.2 | Post Sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

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|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 16 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** March 28, 2013 | **Sampling Time:** 11:35 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 13.75 ft. below top of casing | **Water Column (WC):** 5.55 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 8.20 ft. below top of casing | **Well Volume*:** 0.90 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 1.06 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 15 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 11 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 8.44 | ~ 100 | 10.31 | 6.74 | 4.06 | 7.27 | -18 | 720 | |
| 11:05 | 8.45 | | 10.83 | 6.28 | 1.35 | 6.75 | -16 | 515 | |
| 11:10 | 8.57 | | 11.05 | 6.12 | 1.71 | 6.74 | -13 | 194 | |
| 11:15 | 9.09 | | 10.82 | 6.13 | 1.67 | 6.74 | -13 | 66.0 | |
| 11:20 | 9.21 | | 11.23 | 6.73 | 1.55 | 6.74 | -16 | 48.7 | |
| 11:25 | 9.35 | | 11.36 | 6.21 | 1.49 | 6.74 | -17 | 45.1 | |
| 11:30 | 9.45 | | 11.78 | 6.44 | 1.24 | 6.76 | -23 | 38.7 | |
| 11:35 | 9.60 | | 11.77 | 6.45 | 1.28 | 6.76 | -24 | 35.4 | Pre sample |
| 11:40 | 9.62 | ↓ | 11.79 | 6.47 | 1.27 | 6.74 | -23 | 34.2 | Post sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

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|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 2 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** September 24, 2013 | **Sampling Time:** 14.20 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 32.12 ft. below top of casing | **Water Column (WC):** 22.5 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 9.62 ft. below top of casing | **Well Volume*:** 3.67 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.66 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 18 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 33 ft. below top of casing | **Pump Type:** SS Masoon Pump | | |
| **Approx. Pump Intake:** ~ 24 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 14:00 | 10.32 | ~100 | 20.53 | 2.54 | 2.87 | 8.01 | -227 | 5.8 | |
| 14:05 | 10.20 | | 20.77 | 4.02 | 1.91 | 7.63 | -241 | 0.7 | |
| 14:10 | 10.12 | | 20.74 | 4.85 | 1.79 | 7.65 | -262 | 0.8 | |
| 14:15 | 10.01 | | 20.78 | 4.99 | 1.85 | 7.66 | -266 | 0.7 | |
| 14:20 | 9.79 | | 20.80 | 5.14 | 1.85 | 7.67 | -270 | 0.6 | Pre Sample |
| 14:25 | 10.11 | ↓ | 21.07 | 5.58 | 1.43 | 7.74 | -277 | 2.3 | Post Sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

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|---|---|---|---|
| **Project Number:** 015.75420.0016 | | **Client:** Avalon Bay | **Well No.:** MW 8 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | | **Sampled By:** John Mascioli | |
| **Date:** September 24, 2013 | | **Sampling Time:** 13:40 | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 29.2 | ft. below top of casing | **Water Column (WC):** 18.65 feet | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 10.55 | ft. below top of casing | **Well Volume*:** 3.04 gallons | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — | ft. below top of casing | **Volume Purged:** 0.25 gallons | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~5 | ft. below top of casing | **Well Diameter:** 2 inches | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~30 | ft. below top of casing | **Pump Type:** SS Mason Pump | |
| **Approx. Pump Intake:** ~20 | ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 13:35 | 10.60 | ~100 | 20.47 | 1.02 | 9.16 | 7.58 | -89 | 34.1 | |
| 13:36 | 10.65 | ↓ | 20.11 | 1.16 | 6.88 | 7.36 | -126 | 3.3 | |
| 13:37 | 10.69 | ↓ | 19.62 | 2.19 | 6.43 | 7.25 | -234 | 0.0 | |
| 13:38 | 10.70 | ↓ | 19.51 | 2.71 | 6.36 | 7.25 | -240 | 0.0 | |
| 13:39 | 10.70 | ↓ | 19.11 | 2.85 | 6.20 | 7.29 | -245 | 0.0 | |
| 13:40 | 10.72 | ↓ | 19.05 | 3.00 | 6.14 | 7.32 | -249 | 0.0 | Pre sample. |
| 13:42 | 10.80 | ↓ | 19.03 | 5.45 | 1.06 | 7.59 | -322 | 18.1 | Post sample. |
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| **Stabilization Criteria:** | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |
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# Well Sampling Log

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|---|---|---|---|
| **Project Number:** 015.75420.0016 | | **Client:** Avalon Bay | **Well No.:** MW-11R |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | | **Sampled By:** John Mascioli | |
| **Date:** September 24, 2013 | | **Sampling Time:** 10:35 | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 20.2 | ft. below top of casing | **Water Column (WC):** 9.76 feet | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 10.44 | ft. below top of casing | **Well Volume*:** 1.59 gallons | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — | ft. below top of casing | **Volume Purged:** 0.66 gallons | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 5 | ft. below top of casing | **Well Diameter:** 2 inches | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 20 | ft. below top of casing | **Pump Type:** SS Monsoon Pump | |
| **Approx. Pump Intake:** ~ 12 | ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 10:15 | 10.2 | ~ 100 | 17.38 | 1.67 | 5.29 | 7.29 | 159 | 32.5 | |
| 10:20 | 10.46 | ↓ | 17.43 | 1.69 | 3.75 | 7.29 | 157 | 32.9 | |
| 10:25 | 10.47 | | 17.43 | 1.71 | 3.17 | 7.29 | 157 | 31.0 | |
| 10:30 | 10.50 | | 17.64 | 1.72 | 3.22 | 7.29 | 157 | 32.4 | |
| 10:35 | 10.51 | | 17.76 | 1.72 | 3.07 | 7.29 | 157 | 36.7 | Pre Sample |
| 10:40 | 10.54 | ↓ | 17.71 | 1.77 | 3.64 | 7.39 | 166 | 5.2 | Post Sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

* MS/MSD Collected

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# Well Sampling Log

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|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW-12R |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** September 24, 2013 | **Sampling Time:** 9:40 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 17.85 ft. below top of casing | **Water Column (WC):** 8.81 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 9.04 ft. below top of casing | **Well Volume*:** 1.44 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** ft. below top of casing | **Volume Purged:** 0.92 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~ 3 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~ 18 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~ 13 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 9:10 | 10.1 | ~100 | 16.42 | 0.578 | 8.01 | 7.00 | 137 | 338 | |
| 9:15 | 9.65 | | 16.89 | 0.587 | 7.68 | 7.47 | 129 | 259 | |
| 9:20 | 9.54 | | 17.65 | 0.583 | 6.19 | 7.59 | 121 | 75.5 | |
| 9:25 | 9.81 | | 17.72 | 0.587 | 6.10 | 7.61 | 116 | 41.1 | |
| 9:30 | 9.83 | | 17.71 | 0.590 | 5.96 | 7.62 | 110 | 30.0 | |
| 9:35 | 9.87 | | 17.70 | 0.591 | 5.89 | 7.63 | 106 | 15.6 | |
| 9:40 | 10.01 | | 17.79 | 0.594 | 5.91 | 7.65 | 104 | 10.1 | Pre Sample |
| 9:45 | 11.5 | | 17.55 | 0.595 | 6.13 | 7.65 | 103 | 24.5 | Post Sample |
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| Stabilization Criteria: | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |
|---|---|---|---|---|---|---|

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | | **Client:** Avalon Bay | **Well No.:** MW 14 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | | **Sampled By:** John Mascioli | |
| **Date:** September 24, 2013 | | **Sampling Time:** 12:05 | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 18.05 | ft. below top of casing | **Water Column (WC):** 9.90 feet | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 8.15 | ft. below top of casing | **Well Volume*:** 1.61 gallons | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — | ft. below top of casing | **Volume Purged:** 0.53 gallons | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~5 | ft. below top of casing | **Well Diameter:** 2 inches | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~19 | ft. below top of casing | **Pump Type:** SS Monsoon Pump | |
| **Approx. Pump Intake:** ~18 | ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 11:50 | 8.35 | ~100 | 19.08 | 3.34 | 10.39 | 7.08 | -118 | 128 | odor, sheen noted |
| 11:55 | 8.40 | ↓ | 19.26 | 3.38 | 9.38 | 6.98 | -132 | 35.2 | |
| 12:00 | 8.46 | ↓ | 19.30 | 3.37 | 9.04 | 6.98 | -135 | 13.4 | |
| 12:05 | 8.50 | ↓ | 19.30 | 3.37 | 8.89 | 6.98 | -139 | 3.4 | Pre sample |
| 12:10 | 8.52 | ↓ | 19.31 | 3.38 | 8.87 | 6.97 | -140 | 3.1 | Post sample |
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| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

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# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | **Well No.:** MW 15 | |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** September 24, 2013 | **Sampling Time:** 13:10 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 17.55 ft. below top of casing | **Water Column (WC):** 9.82 feet | * = 0.163 * WC for 2" wells | |
| **Depth to Water:** 7.73 ft. below top of casing | **Well Volume*:** 1.60 gallons | * = 0.653 * WC for 4" wells | |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.92 gallons | * = 1.469 * WC for 6" wells | |
| **Depth to top of screen:** ~5 ft. below top of casing | **Well Diameter:** 2 inches | Target maximum flow rate is 100 ml/min | |
| **Depth to bottom of screen:** ~19 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~13 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 12:40 | 7.73 | ~100 | 18.95 | 1.80 | 3.50 | 7.35 | 56 | 480 | |
| 12:45 | 9.42 | | 19.36 | 1.79 | 2.87 | 7.22 | 59 | 307 | |
| 12:50 | 11.65 | | 18.63 | 1.31 | 1.31 | 6.94 | -12 | 229 | |
| 12:55 | 11.74 | | 18.53 | 3.19 | 1.17 | 6.93 | -16 | 92.3 | |
| 13:00 | 11 9.2 | | 18.53 | 3.42 | 1.17 | 6.93 | -16 | 48.5 | |
| 13:05 | 12.04 | | 18.56 | 3.54 | 1.07 | 6.93 | -13 | 27.8 | |
| 13:10 | 12.15 | | 18.61 | 3.54 | 1.00 | 6.93 | -13 | 23.6 | Pre sample QC |
| 13:15 | 12.34 | ↓ | 18.74 | 3.69 | 1.40 | 6.93 | 2 | 37.9 | Post sample |
| | | | | | | | | | |
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| | | | | | | | | | |
| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

Field Dup

Cardno ATC
Shaping the Future

# Well Sampling Log

| | | | |
|---|---|---|---|
| **Project Number:** 015.75420.0016 | **Client:** Avalon Bay | | **Well No.:** MW 16 |
| **Project Location:** Queens West Parcel 9, Long Island City, NY | **Sampled By:** John Mascioli | | |
| **Date:** September 24, 2013 | **Sampling Time:** 8:45 | | |
| **PID at surface:** 0.0 | | | |
| **Total Depth:** 13.82 ft. below top of casing | **Water Column (WC):** 5.51 feet | | * = 0.163 * WC for 2" wells |
| **Depth to Water:** 8.31 ft. below top of casing | **Well Volume*:** 0.90 gallons | | * = 0.653 * WC for 4" wells |
| **Depth to Product:** — ft. below top of casing | **Volume Purged:** 0.92 gallons | | * = 1.469 * WC for 6" wells |
| **Depth to top of screen:** ~5 ft. below top of casing | **Well Diameter:** 2 inches | | Target maximum flow rate is 100 ml/min |
| **Depth to bottom of screen:** ~15 ft. below top of casing | **Pump Type:** SS Monsoon Pump | | |
| **Approx. Pump Intake:** ~12 ft. below top of casing | **Field Screening Instrument:** Horiba U-52 | | |

| Time | Depth to Water (Ft.) | Purge Rate (ml/min) | Temp (°C) | Conductivity (mS/cm) | DO (mg/L) | pH | ORP (mV) | Turbidity* (NTU) | Comments (odor, sheen, problems) |
|---|---|---|---|---|---|---|---|---|---|
| 8:15 | 9.12 | ~100 | 20.91 | 3.29 | 2.04 | 6.89 | 41 | 3.86 | |
| 8:20 | 9.25 | | 20.59 | 4.02 | 1.56 | 6.75 | 23 | 3.48 | |
| 8:25 | 9.31 | | 20.65 | 4.85 | 1.35 | 6.76 | 8 | 2.30 | |
| 8:30 | 9.41 | | 21.51 | 6.13 | 1.09 | 6.72 | -15 | 1.31 | |
| 8:35 | 9.75 | | 21.50 | 6.30 | 1.15 | 6.74 | -18 | 49.7 | |
| 8:40 | 9.90 | | 21.38 | 6.36 | 1.14 | 6.75 | -19 | 41.3 | |
| 8:45 | 9.99 | | 21.31 | 6.39 | 1.12 | 6.75 | -20 | 34.3 | Pre sample |
| 8:50 | 10.1 | | 20.36 | 6.63 | 11.05 | 6.81 | -30 | 45.2 | Pos Samp |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| | | | | | | | | | |
| **Stabilization Criteria:** | | | | +/- 3 mS/cm | +/- 0.3 mg/L | +/- 0.1 pH units | +/- 10mV | <50 NTU | If water quality parameters do not stabilize and/or turbidity is greater than 50 NTU within two hours, discontinue purging and collect sample. |

# Appendix D - Groundwater Sampling Analytical Results

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# ANALYTICAL RESULTS SUMMARY

SEMI-VOLATILE ORGANICS
VOLATILE ORGANICS

**PROJECT NAME : AVALON- WP9**

**CARDNO ATC**

**104 East 25th Street**

**New York, NY - 10010**

**Phone No: 212-353-8280**

**ORDER ID : E1676**

**ATTENTION : John Mascioli**

ACCREDITED IN ACCORDANCE WITH nelac

DoD ELAP

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7.2) Lab Certificate 184

7.3) Internal COC 185

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# Cover Page

**Order ID :** E1676

**Project ID :** Avalon- WP9

**Client :** Cardno ATC

| Lab Sample Number | Client Sample Number |
|---|---|
| E1676-01 | MW-2-Q12013 |
| E1676-02 | MW-8-Q12013 |
| E1676-03 | MW-11R-Q12013 |
| E1676-04 | E1676-03MS |
| E1676-05 | E1676-03MSD |
| E1676-06 | MW-12R-Q12013 |
| E1676-07 | MW-14-Q12013 |
| E1676-08 | MW-15-Q12013 |
| E1676-09 | MW-16-Q12013 |
| E1676-10 | FB-Q-12013 |
| E1676-11 | DUP-Q-12013 |
| E1676-12 | TB-Q-12013 |

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____

Date: 4/5/2013

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FORM S-I

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

| NYSDEC Sample ID/Code | Laboratory Sampl ID/Code | VOA GC/MS (Method #) | BNA GC/MS (Method #) | VOA GC (Method #) | Pest PCBs (Method #) | Metals (Method #) | Other (Method #) |
|---|---|---|---|---|---|---|---|
| MW-2-Q12013 | E1676-01 | 8260-Low | 625 | | | | |
| MW-8-Q12013 | E1676-02 | 8260-Low | 625 | | | | |
| MW-11R-Q12013 | E1676-03 | 8260-Low | 625 | | | | |
| MW-12R-Q12013 | E1676-06 | 8260-Low | 625 | | | | |
| MW-14-Q12013 | E1676-07 | 8260-Low | 625 | | | | |
| MW-15-Q12013 | E1676-08 | 8260-Low | 625 | | | | |
| MW-16-Q12013 | E1676-09 | 8260-Low | 625 | | | | |
| FB-Q-12013 | E1676-10 | 8260-Low | 625 | | | | |
| DUP-Q-12013 | E1676-11 | 8260-Low | 625 | | | | |
| TB-Q-12013 | E1676-12 | 8260-Low | 625 | | | | |

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-IIa

SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

| Laboratory Sample ID | Matrix | Date Collected | Date Rec'd at Lab | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|
| E1676-01 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-02 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-03 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-06 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-07 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-08 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/02/13 |
| E1676-09 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-10 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |
| E1676-11 | Water | 03/28/13 | 03/28/13 | 03/29/13 | 04/03/13 |

*** Details For Test :** SVOC- Chemtech Full

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-IIb

SAMPLE PREPARATION AND ANALYSIS SUMMARY VOLATILE (VOA) ANALYSES

| Laboratory Sample ID | Matrix | Date Collected | Date Rec'd at Lab | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|
| E1676-01 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-02 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-03 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-06 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-07 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-08 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-09 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-10 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-11 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |
| E1676-12 | Water | 03/28/13 | 03/28/13 | | 03/29/13 |

*** Details For Test :** VOC- Chemtech Full

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-III

SAMPLE PREPARATION AND ANALYSIS SUMMARY MISCELLANEOUS ORGANIC ANALYSES

| Laboratory Sample ID | Matrix | Analytical Protocol | Extraction Method | Auxiliary Cleanup | Dil/Conc Factor |
|---|---|---|---|---|---|
| E1676-01 | Water | 8260-Low | NA | | |
| E1676-02 | Water | 8260-Low | NA | | |
| E1676-03 | Water | 8260-Low | NA | | |
| E1676-04 | Water | 8260-Low | NA | | |
| E1676-05 | Water | 8260-Low | NA | | |
| E1676-06 | Water | 8260-Low | NA | | |
| E1676-07 | Water | 8260-Low | NA | | |
| E1676-08 | Water | 8260-Low | NA | | |
| E1676-09 | Water | 8260-Low | NA | | |
| E1676-10 | Water | 8260-Low | NA | | |
| E1676-11 | Water | 8260-Low | NA | | |
| E1676-12 | Water | 8260-Low | NA | | |

2

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**

**FORM S-III**

**SAMPLE PREPARATION AND ANALYSIS SUMMARY**
**MISCELLANEOUS ORGANIC ANALYSES**

| Laboratory Sample ID | Matrix | Analytical Protocol | Extraction Method | Auxiliary Cleanup | Dil/Conc Factor |
|---|---|---|---|---|---|
| E1676-01 | Water | 625 | 3510C | | |
| E1676-02 | Water | 625 | 3510C | | |
| E1676-03 | Water | 625 | 3510C | | |
| E1676-04 | Water | 625 | 3510C | | |
| E1676-05 | Water | 625 | 3510C | | |
| E1676-06 | Water | 625 | 3510C | | |
| E1676-07 | Water | 625 | 3510C | | |
| E1676-08 | Water | 625 | 3510C | | |
| E1676-09 | Water | 625 | 3510C | | |
| E1676-10 | Water | 625 | 3510C | | |
| E1676-11 | Water | 625 | 3510C | | |

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# CASE NARRATIVE

**Cardno ATC**
**Project Name: Avalon- WP9**
**Project # N/A**
**Chemtech Project # E1676**
**Test Name: VOC- Chemtech Full**

**A. Number of Samples and Date of Receipt:**
12 Water samples were received on 03/28/2013.

**B. Parameters**
According to the Chain of Custody document, the following analyses were requested: SVOC- Chemtech Full and VOC- Chemtech Full. This data package contains results for VOC- Chemtech Full.

**C. Analytical Techniques:**
The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.The analysis of VOC- Chemtech Full was based on method 8260-Low.

**D. QA/ QC Samples:**
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS recoveries for {E1676-04MS} with File ID: VN004758.D met requirements for all samples except for Methyl iodide [51%] and 2-Chloroethyl vinyl ether .
The MSD {E1676-05MSD} with File ID: VN004759.D recoveries met requirements for all samples except for Methyl iodide [66%] and 2-Chloroethyl vinyl ether .
The RPD for {E1676-05MSD} with File ID: VN004759.D recoveries met criteria except for Bromomethane[23%], Methyl iodide [26%] .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The %RSD is greater than 15% in the Initial Calibration (Method 82N032713W.M) for Acrolein, Cyclohexane & Methyl Iodide these compounds are passing on Linear regression .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.
Sample MW-8-Q12013 was diluted due to high concentration.

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**E. Additional Comments:**
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

**F. Manual Integration Comments:**
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

---

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

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# CASE NARRATIVE

**Cardno ATC**
**Project Name: Avalon- WP9**
**Project # N/A**
**Chemtech Project # E1676**
**Test Name: SVOC- Chemtech Full**

**A. Number of Samples and Date of Receipt:**
12 Water samples were received on 03/28/2013.

**B. Parameters**
According to the Chain of Custody document, the following analyses were requested: SVOC- Chemtech Full and VOC- Chemtech Full. This data package contains results for SVOC- Chemtech Full.

**C. Analytical Techniques:**
The samples were analyzed on instrument BNA_F using GC Column RTX-5 which is 20 meters, 0.18 mm ID, 0.36 um dfThe analysis of SVOC- Chemtech Full was based on method 625 and extraction was done based on method 3510.

**D. QA/ QC Samples:**
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {E1676-04MS} with File ID: BF061304.D recoveries met the requirements for all compounds except for 1,4-Dioxane[32%], Aniline[11%] and Benzidine[0%] .
The MSD {E1676-05MSD} with File ID: BF061305.D recoveries met the acceptable requirements except for 1,4-Dioxane[33%], Aniline[11%] and Benzidine[0%] .
The RPD for {E1676-05MSD} with File ID: BF061305.D recoveries met criteria except for 3-Nitroaniline[29%], Benzaldehyde[46%] .
The Blank Spike for {PB68924BS} with File ID: BF061297.D met requirements for all samples except for 1,4-Dioxane[65%], 3-Nitroaniline[17%], Aniline[13%], Benzidine[9%] and Hexachlorocyclopentadiene[180%].
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Continuous Calibration met the requirements .
The Tuning criteria met requirements.
Sample MW-2-Q12013 was diluted due to high concentration.

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**.E: Manual Integration Comments:**
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his designee, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

# DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value |
| **U** | Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required. |
| **ND** | Indicates the analyte was analyzed for, but not detected |
| **J** | Indicates an estimated value**.** This flag is used:<br>(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.)<br>(2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others. |
| **B** | Indicates the analyte was found in the blank as well as the sample report as "12 B". |
| **E** | Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis. |
| **D** | This flag identifies all compounds identified in an analysis at a secondary dilution factor. |
| **P** | This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P". |
| **N** | This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used. |
| **A** | This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product. |
| **Q** | Indicates the LCS did not meet the control limits requirements |

## APPENDIX A

## QA REVIEW GENERAL DOCUMENTATION

**Project #:** E1676

| | Completed |
|---|---|
| **For thorough review, the report must have the following:** | |
| **GENERAL:** | |
| **Are all original paperwork present (chain of custody, record of communication,airbill, sample management lab chronicle, login page)** | ✓ |
| **Check chain-of-custody for proper relinquish/return of samples** | ✓ |
| **Is the chain of custody signed and complete** | ✓ |
| **Check internal chain-of-custody for proper relinquish/return of samples /sample extracts** | ✓ |
| **Collect information for each project id from server. Were all requirements followed** | ✓ |
| **COVER PAGE:** | |
| **Do numbers of samples correspond to the number of samples in the Chain of Custody on login page** | ✓ |
| **Do lab numbers and client Ids on cover page agree with the Chain of Custody** | ✓ |
| **CHAIN OF CUSTODY:** | |
| **Do requested analyses on Chain of Custody agree with form I results** | ✓ |
| **Do requested analyses on Chain of Custody agree with the log-in page** | ✓ |
| **Were the correct method log-in for analysis according to the Analytical Request and Chain of Castody** | ✓ |
| **Were the samples received within hold time** | ✓ |
| **Were any problems found with the samples at arrival recorded in the Sample Management Laboratory Chronicle** | ✓ |
| **ANALYTICAL:** | |
| **Was method requirement followed?** | ✓ |
| **Was client requirement followed?** | ✓ |
| **Does the case narrative summarize all QC failure?** | ✓ |
| **All runlogs and manual integration are reviewed for requirements** | ✓ |
| **All manual calculations and /or hand notations verified** | ✓ |

**1st Level QA Review Signature:** MOHINI SONI **Date:** 04/05/2013

**2nd Level QA Review Signature:** _____ **Date:** _____

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | E1676 | **OrderDate:** | 3/28/2013 5:31:00 PM |
| **Client:** | Cardno ATC | **Project:** | Avalon- WP9 |
| **Contact:** | John Mascioli | **Location:** | L62 |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **E1676-01** | **MW-2-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-02** | **MW-8-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-02DL** | **MW-8-Q12013DL** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-03** | **MW-11R-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-06** | **MW-12R-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-07** | **MW-14-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-08** | **MW-15-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-09** | **MW-16-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-10** | **FB-Q-12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-11** | **DUP-Q-12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |
| **E1676-12** | **TB-Q-12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 03/29/13 | |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| **Client ID:** | **DUP-Q-12013** | | | | | | | | |
| E1676-11 | DUP-Q-12013 | Water | Acetone | 4.50 | J | 0.5 | 2.5 | 5 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Cyclohexane | 2.00 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Methylcyclohexane | 1.90 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Benzene | 2.30 | | 0.32 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Ethyl Benzene | 0.78 | J | 0.2 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | o-Xylene | 0.97 | J | 0.43 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Isopropylbenzene | 30.20 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | n-propylbenzene | 35.60 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | tert-Butylbenzene | 2.30 | | 0.44 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | 1,2,4-Trimethylbenzene | 0.51 | J | 0.38 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | sec-Butylbenzene | 4.80 | | 0.46 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | n-Butylbenzene | 2.40 | | 0.41 | 0.5 | 1 | ug/L |
| E1676-11 | DUP-Q-12013 | Water | Naphthalene | 3.00 | | 0.2 | 0.5 | 1 | ug/L |
| | | | **Total Voc :** | **91.26** | | | | | |
| | | | **Total Concentration:** | **91.26** | | | | | |
| **Client ID:** | **MW-12R-Q12013** | | | | | | | | |
| E1676-06 | MW-12R-Q12013 | Water | Benzene | 0.98 | J | 0.32 | 0.5 | 1 | ug/L |
| E1676-06 | MW-12R-Q12013 | Water | Naphthalene | 3.30 | | 0.2 | 0.5 | 1 | ug/L |
| | | | **Total Voc :** | **4.28** | | | | | |
| | | | **Total Concentration:** | **4.28** | | | | | |
| **Client ID:** | **MW-14-Q12013** | | | | | | | | |
| E1676-07 | MW-14-Q12013 | Water | Cyclohexane | 2.30 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | Methylcyclohexane | 2.40 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | Benzene | 2.40 | | 0.32 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | Ethyl Benzene | 0.83 | J | 0.2 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | o-Xylene | 0.94 | J | 0.43 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | Isopropylbenzene | 34.00 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | n-propylbenzene | 40.10 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | tert-Butylbenzene | 2.50 | | 0.44 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | 1,2,4-Trimethylbenzene | 0.43 | J | 0.38 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | sec-Butylbenzene | 5.20 | | 0.46 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | n-Butylbenzene | 2.70 | | 0.41 | 0.5 | 1 | ug/L |
| E1676-07 | MW-14-Q12013 | Water | Naphthalene | 1.70 | | 0.2 | 0.5 | 1 | ug/L |
| | | | **Total Voc :** | **95.50** | | | | | |
| | | | **Total Concentration:** | **95.50** | | | | | |
| **Client ID:** | **MW-2-Q12013** | | | | | | | | |
| E1676-01 | MW-2-Q12013 | Water | Methyl tert-butyl Ether | 2.50 | | 0.35 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | Benzene | 66.70 | | 0.32 | 0.5 | 1 | ug/L |

# Hit Summary Sheet
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| E1676-01 | MW-2-Q12013 | Water | Toluene | 0.74 | J | 0.37 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | Ethyl Benzene | 59.40 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | m/p-Xylenes | 2.20 | | 0.95 | 1 | 2 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | o-Xylene | 4.50 | | 0.43 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | Isopropylbenzene | 13.90 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | n-propylbenzene | 5.70 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | 1,2,4-Trimethylbenzene | 1.50 | | 0.38 | 0.5 | 1 | ug/L |
| E1676-01 | MW-2-Q12013 | Water | Naphthalene | 10.00 | | 0.2 | 0.5 | 1 | ug/L |
| | | | **Total Voc :** | **167.14** | | | | | |
| | | | **Total Concentration:** | **167.14** | | | | | |
| **Client ID:** | **MW-8-Q12013** | | | | | | | | |
| E1676-02 | MW-8-Q12013 | Water | Acetone | 3.00 | J | 0.5 | 2.5 | 5 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Carbon Disulfide | 0.49 | J | 0.2 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Methylcyclohexane | 0.78 | J | 0.2 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Benzene | 0.81 | J | 0.32 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Ethyl Benzene | 15.90 | | 0.2 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | m/p-Xylenes | 12.80 | | 0.95 | 1 | 2 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | o-Xylene | 19.00 | | 0.43 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Isopropylbenzene | 10.60 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | n-propylbenzene | 3.90 | | 0.45 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | 1,3,5-Trimethylbenzene | 12.80 | | 0.46 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | 1,2,4-Trimethylbenzene | 100.00 | | 0.38 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | p-Isopropyltoluene | 2.30 | | 0.43 | 0.5 | 1 | ug/L |
| E1676-02 | MW-8-Q12013 | Water | Naphthalene | 680.00 | E | 0.2 | 0.5 | 1 | ug/L |
| | | | **Total Voc :** | **862.38** | | | | | |
| | | | **Total Concentration:** | **862.38** | | | | | |
| **Client ID:** | **MW-8-Q12013DL** | | | | | | | | |
| E1676-02DL | MW-8-Q12013DL | Water | 1,2,4-Trimethylbenzene | 98.50 | D | 19 | 25 | 50 | ug/L |
| E1676-02DL | MW-8-Q12013DL | Water | Naphthalene | 1,500.00 | D | 10 | 25 | 50 | ug/L |
| | | | **Total Voc :** | **1,598.50** | | | | | |
| | | | **Total Concentration:** | **1,598.50** | | | | | |

# SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004751.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 2.5 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004751.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 66.7 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.74 | J | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 59.4 | | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 2.2 | | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 4.5 | | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 13.9 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 5.7 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004751.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1.5 | | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 10 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.5 | | 61 - 141 | | 97% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.4 | | 69 - 133 | | 95% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48 | | 65 - 126 | | 96% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 46.3 | | 58 - 135 | | 93% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 887052 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1391560 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1239230 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 653541 | 13.56 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004751.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004753.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 3 | J | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.49 | J | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.78 | J | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004753.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.81 | J | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 15.9 | | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 12.8 | | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 19 | | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 10.6 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 3.9 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004753.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 12.8 | | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 100 | | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 2.3 | | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 680 | E | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 47.3 | | 61 - 141 | | 95% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47 | | 69 - 133 | | 94% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 49 | | 65 - 126 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.3 | | 58 - 135 | | 94% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 914968 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1414510 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1281790 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 683251 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004753.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02DL | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004754.D | 50 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 74-87-3 | Chloromethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-01-4 | Vinyl Chloride | 17 | UD | 17 | 25 | 50 | ug/L |
| 141-78-6 | Ethyl Acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 108-21-4 | Isopropyl Acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 74-83-9 | Bromomethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-00-3 | Chloroethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 17.5 | UD | 17.5 | 25 | 50 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 22.5 | UD | 22.5 | 25 | 50 | ug/L |
| 75-65-0 | Tert butyl alcohol | 25 | UD | 25 | 130 | 250 | ug/L |
| 60-29-7 | Diethyl Ether | 13.5 | UD | 13.5 | 25 | 50 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 23.5 | UD | 23.5 | 25 | 50 | ug/L |
| 107-02-8 | Acrolein | 25 | UD | 25 | 130 | 250 | ug/L |
| 107-13-1 | Acrylonitrile | 88 | UD | 88 | 130 | 250 | ug/L |
| 67-64-1 | Acetone | 25 | UD | 25 | 130 | 250 | ug/L |
| 75-15-0 | Carbon Disulfide | 10 | UD | 10 | 25 | 50 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 17.5 | UD | 17.5 | 25 | 50 | ug/L |
| 79-20-9 | Methyl Acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-09-2 | Methylene Chloride | 20.5 | UD | 20.5 | 25 | 50 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 20.5 | UD | 20.5 | 25 | 50 | ug/L |
| 108-05-4 | Vinyl Acetate | 52.5 | UD | 52.5 | 130 | 250 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 18 | UD | 18 | 25 | 50 | ug/L |
| 110-82-7 | Cyclohexane | 10 | UD | 10 | 25 | 50 | ug/L |
| 78-93-3 | 2-Butanone | 66 | UD | 66 | 130 | 250 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 10 | UD | 10 | 25 | 50 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 10 | UD | 10 | 25 | 50 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 17.5 | UD | 17.5 | 25 | 50 | ug/L |
| 74-97-5 | Bromochloromethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 67-66-3 | Chloroform | 17 | UD | 17 | 25 | 50 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 20 | UD | 20 | 25 | 50 | ug/L |
| 108-87-2 | Methylcyclohexane | 10 | UD | 10 | 25 | 50 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02DL | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004754.D | 50 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 19.5 | UD | 19.5 | 25 | 50 | ug/L |
| 71-43-2 | Benzene | 16 | UD | 16 | 25 | 50 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 24 | UD | 24 | 25 | 50 | ug/L |
| 79-01-6 | Trichloroethene | 14 | UD | 14 | 25 | 50 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 23 | UD | 23 | 25 | 50 | ug/L |
| 74-95-3 | Dibromomethane | 22 | UD | 22 | 25 | 50 | ug/L |
| 75-27-4 | Bromodichloromethane | 18 | UD | 18 | 25 | 50 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 110 | UD | 110 | 130 | 250 | ug/L |
| 108-88-3 | Toluene | 18.5 | UD | 18.5 | 25 | 50 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 14.5 | UD | 14.5 | 25 | 50 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 15.5 | UD | 15.5 | 25 | 50 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 19 | UD | 19 | 25 | 50 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 17.5 | UD | 17.5 | 25 | 50 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 89.5 | UD | 89.5 | 130 | 250 | ug/L |
| 591-78-6 | 2-Hexanone | 97 | UD | 97 | 130 | 250 | ug/L |
| 124-48-1 | Dibromochloromethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 20.5 | UD | 20.5 | 25 | 50 | ug/L |
| 127-18-4 | Tetrachloroethene | 13.5 | UD | 13.5 | 25 | 50 | ug/L |
| 108-90-7 | Chlorobenzene | 24.5 | UD | 24.5 | 25 | 50 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 21.5 | UD | 21.5 | 25 | 50 | ug/L |
| 67-72-1 | Hexachloroethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 100-41-4 | Ethyl Benzene | 10 | UD | 10 | 25 | 50 | ug/L |
| 179601-23-1 | m/p-Xylenes | 47.5 | UD | 47.5 | 50 | 100 | ug/L |
| 95-47-6 | o-Xylene | 21.5 | UD | 21.5 | 25 | 50 | ug/L |
| 100-42-5 | Styrene | 18 | UD | 18 | 25 | 50 | ug/L |
| 75-25-2 | Bromoform | 23.5 | UD | 23.5 | 25 | 50 | ug/L |
| 98-82-8 | Isopropylbenzene | 22.5 | UD | 22.5 | 25 | 50 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 15.5 | UD | 15.5 | 25 | 50 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 25 | UD | 25 | 25 | 50 | ug/L |
| 108-86-1 | Bromobenzene | 10 | UD | 10 | 25 | 50 | ug/L |
| 103-65-1 | n-propylbenzene | 22.5 | UD | 22.5 | 25 | 50 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 21.5 | UD | 21.5 | 25 | 50 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02DL | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004754.D | 50 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 23 | UD | 23 | 25 | 50 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 21 | UD | 21 | 25 | 50 | ug/L |
| 98-06-6 | tert-Butylbenzene | 22 | UD | 22 | 25 | 50 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 98.5 | D | 19 | 25 | 50 | ug/L |
| 135-98-8 | sec-Butylbenzene | 23 | UD | 23 | 25 | 50 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 21.5 | UD | 21.5 | 25 | 50 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 21.5 | UD | 21.5 | 25 | 50 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 16 | UD | 16 | 25 | 50 | ug/L |
| 104-51-8 | n-Butylbenzene | 20.5 | UD | 20.5 | 25 | 50 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 22.5 | UD | 22.5 | 25 | 50 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 23 | UD | 23 | 25 | 50 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | UD | 10 | 25 | 50 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 10 | UD | 10 | 25 | 50 | ug/L |
| 91-20-3 | Naphthalene | 1500 | D | 10 | 25 | 50 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | UD | 10 | 25 | 50 | ug/L |
| 628-63-7 | N-amyl acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 74-88-4 | Methyl Iodide | 10 | UD | 10 | 25 | 50 | ug/L |
| 107-05-1 | Allyl chloride | 10 | UD | 10 | 25 | 50 | ug/L |
| 126-98-7 | Methacrylonitrile | 10 | UD | 10 | 25 | 50 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 10 | UD | 10 | 25 | 50 | ug/L |
| 97-63-2 | Ethyl methacrylate | 10 | UD | 10 | 25 | 50 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 47.1 | | 61 - 141 | | 94% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 46.7 | | 69 - 133 | | 93% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.4 | | 65 - 126 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 45.3 | | 58 - 135 | | 91% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 917862 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1414170 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1283720 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 642308 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02DL | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004754.D | 50 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004757.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004757.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004757.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46.6 | | 61 - 141 | | 93% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47 | | 69 - 133 | | 94% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.4 | | 65 - 126 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 45.2 | | 58 - 135 | | 90% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 922873 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1415120 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1274580 | 11.613 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 637029 | 13.564 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004757.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004747.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004747.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.98 | J | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004747.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 3.3 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.4 | | 61 - 141 | | 97% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.9 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 49 | | 65 - 126 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 44 | | 58 - 135 | | 88% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 875024 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1346690 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1227910 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 598726 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004747.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004748.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 2.3 | | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 2.4 | | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004748.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 2.4 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.83 | J | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.94 | J | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 34 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 40.1 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004748.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 2.5 | | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.43 | J | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 5.2 | | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 2.7 | | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 1.7 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.2 | | 61 - 141 | | 96% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.1 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.7 | | 65 - 126 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 46.6 | | 58 - 135 | | 93% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 846812 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1309550 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1183830 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 615013 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004748.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004749.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004749.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004749.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 47.9 | | 61 - 141 | | 96% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.6 | | 69 - 133 | | 95% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.9 | | 65 - 126 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 46.9 | | 58 - 135 | | 94% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 896227 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1378590 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1268660 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 676597 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004749.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004750.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004750.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004750.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 47.9 | | 61 - 141 | | 96% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.4 | | 69 - 133 | | 95% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.8 | | 65 - 126 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 45 | | 58 - 135 | | 90% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 902759 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1384870 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1249210 | 11.613 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 622171 | 13.565 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004750.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004744.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004744.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004744.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.1 | | 61 - 141 | | 96% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.5 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.8 | | 65 - 126 | | 98% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 43.7 | | 58 - 135 | | 87% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 885303 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1356120 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1230670 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 591499 | 13.56 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004744.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004755.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 4.5 | J | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 2 | | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 1.9 | | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004755.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 2.3 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.78 | J | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.97 | J | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 30.2 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 35.6 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004755.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 2.3 | | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.51 | J | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 4.8 | | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 2.4 | | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 3 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46.5 | | 61 - 141 | | 93% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 46.4 | | 69 - 133 | | 93% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.4 | | 65 - 126 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 46.4 | | 58 - 135 | | 93% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 933663 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1440720 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1288100 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 665397 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004755.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | TB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-12 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004742.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | TB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-12 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004742.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | TB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-12 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004742.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.7 | | 61 - 141 | | 97% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.7 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.7 | | 65 - 126 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 43.9 | | 58 - 135 | | 88% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 868603 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1344620 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1217280 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 584713 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | TB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-12 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004742.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# QC SUMMARY

## Surrogate Summary

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** EPA SW846 8260

| Lab Sample ID | Client ID | Parameter | Spike | Result | Recovery | Qual | Limits Low | Limits High |
|---|---|---|---|---|---|---|---|---|
| E1676-01 | MW-2-Q12013 | 1,2-Dichloroethane-d4 | 50 | 48.46 | 97 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.35 | 95 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.03 | 96 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 46.34 | 93 | | 58 | 135 |
| E1676-02 | MW-8-Q12013 | 1,2-Dichloroethane-d4 | 50 | 47.34 | 95 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.03 | 94 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.99 | 98 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 47.25 | 94 | | 58 | 135 |
| E1676-02DL | MW-8-Q12013DL | 1,2-Dichloroethane-d4 | 50 | 47.07 | 94 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 46.71 | 93 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.43 | 97 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 45.28 | 91 | | 58 | 135 |
| E1676-03 | MW-11R-Q12013 | 1,2-Dichloroethane-d4 | 50 | 46.64 | 93 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.02 | 94 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.42 | 97 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 45.16 | 90 | | 58 | 135 |
| E1676-04MS | MW-11R-Q12013MS | 1,2-Dichloroethane-d4 | 50 | 48.71 | 97 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 48.89 | 98 | | 85 | 115 |
| | | Toluene-d8 | 50 | 47.56 | 95 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 47.47 | 95 | | 75 | 120 |
| E1676-05MSD | MW-11R-Q12013MSD | 1,2-Dichloroethane-d4 | 50 | 49.5 | 99 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 49.32 | 99 | | 85 | 115 |
| | | Toluene-d8 | 50 | 48.25 | 96 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 48.06 | 96 | | 75 | 120 |
| E1676-06 | MW-12R-Q12013 | 1,2-Dichloroethane-d4 | 50 | 48.39 | 97 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.91 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 49 | 98 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 43.96 | 88 | | 58 | 135 |
| E1676-07 | MW-14-Q12013 | 1,2-Dichloroethane-d4 | 50 | 48.23 | 96 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.08 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.69 | 97 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 46.61 | 93 | | 58 | 135 |
| E1676-08 | MW-15-Q12013 | 1,2-Dichloroethane-d4 | 50 | 47.9 | 96 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.61 | 95 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.94 | 98 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 46.85 | 94 | | 58 | 135 |
| E1676-09 | MW-16-Q12013 | 1,2-Dichloroethane-d4 | 50 | 47.86 | 96 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.39 | 95 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.81 | 98 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 45.04 | 90 | | 58 | 135 |
| E1676-10 | FB-Q-12013 | 1,2-Dichloroethane-d4 | 50 | 48.14 | 96 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.47 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.76 | 98 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 43.68 | 87 | | 58 | 135 |
| E1676-11 | DUP-Q-12013 | 1,2-Dichloroethane-d4 | 50 | 46.52 | 93 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 46.38 | 93 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.36 | 97 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 46.38 | 93 | | 58 | 135 |
| E1676-12 | TB-Q-12013 | 1,2-Dichloroethane-d4 | 50 | 48.7 | 97 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.68 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 48.72 | 97 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 43.93 | 88 | | 58 | 135 |

## Surrogate Summary

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** EPA SW846 8260

| Lab Sample ID | Client ID | Parameter | Spike | Result | Recovery | Qual | Limits Low | Limits High |
|---|---|---|---|---|---|---|---|---|
| VN0329WBL01 | VN0329WBL01 | 1,2-Dichloroethane-d4 | 50 | 48.89 | 98 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 49.18 | 98 | | 85 | 115 |
| | | Toluene-d8 | 50 | 48.7 | 97 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 42.36 | 85 | | 75 | 120 |
| VN0329WBS01 | VN0329WBS01 | 1,2-Dichloroethane-d4 | 50 | 46.02 | 92 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 49.37 | 99 | | 85 | 115 |
| | | Toluene-d8 | 50 | 48.58 | 97 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 47.46 | 95 | | 75 | 120 |

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MS **Analytical Method:** EPA SW846 8260 **Datafile :** VN004758.D

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50 | | 48.7 | 97 | (30-155) |
| Chloromethane | 50 | | 46.4 | 93 | (40-125) |
| Vinyl Chloride | 50 | | 48.7 | 97 | (50-145) |
| Ethyl Acetate | 50 | | 48.4 | 97 | (70-130) |
| Isopropyl Acetate | 50 | | 47.7 | 95 | (70-130) |
| Bromomethane | 50 | | 38.3 | 77 | (30-145) |
| Chloroethane | 50 | | 50.1 | 100 | (60-135) |
| Trichlorofluoromethane | 50 | | 47.9 | 96 | (60-145) |
| 1,1,2-Trichlorotrifluoroethane | 50 | | 49.1 | 98 | (52-142) |
| Tert butyl alcohol | 250 | | 270 | 108 | (46-147) |
| Diethyl Ether | 50 | | 51.1 | 102 | (70-130) |
| 1,1-Dichloroethene | 50 | | 49.7 | 99 | (70-130) |
| Acrolein | 250 | | 250 | 100 | (38-155) |
| Acrylonitrile | 250 | | 270 | 108 | (53-150) |
| Acetone | 250 | | 230 | 92 | (40-140) |
| Carbon Disulfide | 50 | | 45.6 | 91 | (35-160) |
| Methyl tert-butyl Ether | 50 | | 52.2 | 104 | (65-125) |
| Methyl Acetate | 50 | | 49 | 98 | (51-158) |
| Methylene Chloride | 50 | | 49.1 | 98 | (55-140) |
| trans-1,2-Dichloroethene | 50 | | 49 | 98 | (60-140) |
| Vinyl Acetate | 250 | | 300 | 120 | (47-166) |
| 1,1-Dichloroethane | 50 | | 50.2 | 100 | (70-135) |
| Cyclohexane | 50 | | 50.8 | 102 | (56-141) |
| 2-Butanone | 250 | | 270 | 108 | (30-150) |
| Carbon Tetrachloride | 50 | | 45.6 | 91 | (65-140) |
| 2,2-Dichloropropane | 50 | | 40.7 | 81 | (70-135) |
| cis-1,2-Dichloroethene | 50 | | 50.9 | 102 | (70-125) |
| Bromochloromethane | 50 | | 51.3 | 103 | (65-130) |
| Chloroform | 50 | | 50.4 | 101 | (65-135) |
| 1,1,1-Trichloroethane | 50 | | 49.2 | 98 | (65-130) |
| Methylcyclohexane | 50 | | 47 | 94 | (56-137) |
| 1,1-Dichloropropene | 50 | | 47.2 | 94 | (75-130) |
| Benzene | 50 | | 47.5 | 95 | (80-120) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MS **Analytical Method:** EPA SW846 8260 **Datafile :** VN004758.D

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50 | | 47.5 | 95 | (70-130) |
| Trichloroethene | 50 | | 45.8 | 92 | (70-125) |
| 1,2-Dichloropropane | 50 | | 48.5 | 97 | (75-125) |
| Dibromomethane | 50 | | 47.2 | 94 | (75-125) |
| Bromodichloromethane | 50 | | 47.8 | 96 | (75-120) |
| 4-Methyl-2-Pentanone | 250 | | 260 | 104 | (60-135) |
| Toluene | 50 | | 48.4 | 97 | (75-120) |
| t-1,3-Dichloropropene | 50 | | 47.7 | 95 | (55-140) |
| cis-1,3-Dichloropropene | 50 | | 46.5 | 93 | (70-130) |
| 1,1,2-Trichloroethane | 50 | | 48.4 | 97 | (75-125) |
| 1,3-Dichloropropane | 50 | | 48.3 | 97 | (75-125) |
| 2-Chloroethyl Vinyl ether | 250 | | 0 | 0* | (54-151) |
| 2-Hexanone | 250 | | 250 | 100 | (55-130) |
| Dibromochloromethane | 50 | | 48.1 | 96 | (60-135) |
| 1,2-Dibromoethane | 50 | | 47.9 | 96 | (80-120) |
| Tetrachloroethene | 50 | | 33 | 66 | (45-150) |
| Chlorobenzene | 50 | | 47.2 | 94 | (80-120) |
| 1,1,1,2-Tetrachloroethane | 50 | | 48.4 | 97 | (80-130) |
| Hexachloroethane | 50 | | 47.7 | 95 | (70-130) |
| Ethyl Benzene | 50 | | 49 | 98 | (75-125) |
| m/p-Xylenes | 100 | | 97.4 | 97 | (75-130) |
| o-Xylene | 50 | | 49.7 | 99 | (80-120) |
| Styrene | 50 | | 49.9 | 100 | (65-135) |
| Bromoform | 50 | | 48.4 | 97 | (70-130) |
| Isopropylbenzene | 50 | | 50.4 | 101 | (75-125) |
| 1,1,2,2-Tetrachloroethane | 50 | | 50.9 | 102 | (65-130) |
| 1,2,3-Trichloropropane | 50 | | 46.5 | 93 | (75-125) |
| Bromobenzene | 50 | | 49.3 | 99 | (75-125) |
| n-propylbenzene | 50 | | 50 | 100 | (70-130) |
| 2-Chlorotoluene | 50 | | 50.2 | 100 | (75-125) |
| 1,3,5-Trimethylbenzene | 50 | | 51.7 | 103 | (75-130) |
| 4-Chlorotoluene | 50 | | 49.4 | 99 | (75-130) |
| tert-Butylbenzene | 50 | | 51.5 | 103 | (70-130) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MS **Analytical Method:** EPA SW846 8260 **Datafile :** VN004758.D

| COMPOUND | SPIKE ADDED (ug/L) | SAMPLE CONCENTRATION (ug/L) | MS CONCENTRATION (ug/L) | MS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 50 | | 51.4 | 103 | (75-130) |
| sec-Butylbenzene | 50 | | 49.9 | 100 | (70-125) |
| p-Isopropyltoluene | 50 | | 50.1 | 100 | (75-130) |
| 1,3-Dichlorobenzene | 50 | | 48.5 | 97 | (75-125) |
| 1,4-Dichlorobenzene | 50 | | 47.1 | 94 | (75-125) |
| n-Butylbenzene | 50 | | 48.6 | 97 | (70-135) |
| 1,2-Dichlorobenzene | 50 | | 48.3 | 97 | (70-120) |
| 1,2-Dibromo-3-Chloropropane | 50 | | 49.8 | 100 | (50-130) |
| 1,2,4-Trichlorobenzene | 50 | | 49.5 | 99 | (65-135) |
| Hexachlorobutadiene | 50 | | 46.3 | 93 | (50-140) |
| Naphthalene | 50 | | 55.3 | 111 | (55-140) |
| 1,2,3-Trichlorobenzene | 50 | | 49.8 | 100 | (55-140) |
| N-amyl acetate | 50 | | 52.5 | 105 | (70-130) |
| Methyl Iodide | 50 | | 25.4 | 51* | (70-130) |
| Allyl chloride | 50 | | 48.8 | 98 | (70-130) |
| trans-1,4-Dichloro-2-butene | 50 | | 47.3 | 95 | (70-130) |
| Methacrylonitrile | 50 | | 50.2 | 100 | (70-130) |
| Ethyl methacrylate | 50 | | 52.6 | 105 | (70-130) |

**RPD : 0 Out of 84 outside limits**

**Spike Recovery : 2 Out of 84 outside limits**

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MSD **Analytical Method:** EPA SW846 8260 **Datafile :** VN004759.D

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD %REC | MSD %RPD | QC LIMITS RPD | QC LIMITS REC |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50 | 48.6 | 97 | 0 | 20 | (30-155) |
| Chloromethane | 50 | 46.6 | 93 | 0 | 20 | (40-125) |
| Vinyl Chloride | 50 | 48.6 | 97 | 0 | 20 | (50-145) |
| Ethyl Acetate | 50 | 44 | 88 | 10 | 20 | (70-130) |
| Isopropyl Acetate | 50 | 44.8 | 90 | 6 | 20 | (70-130) |
| Bromomethane | 50 | 48.1 | 96 | 23* | 20 | (30-145) |
| Chloroethane | 50 | 50 | 100 | 0 | 20 | (60-135) |
| Trichlorofluoromethane | 50 | 48.1 | 96 | 0 | 20 | (60-145) |
| 1,1,2-Trichlorotrifluoroethane | 50 | 48.8 | 98 | 1 | 20 | (52-142) |
| Tert butyl alcohol | 250 | 270 | 108 | 0 | 20 | (46-147) |
| Diethyl Ether | 50 | 51.6 | 103 | 1 | 20 | (70-130) |
| 1,1-Dichloroethene | 50 | 49.5 | 99 | 0 | 20 | (70-130) |
| Acrolein | 250 | 250 | 100 | 0 | 20 | (38-155) |
| Acrylonitrile | 250 | 270 | 108 | 0 | 20 | (53-150) |
| Acetone | 250 | 230 | 92 | 0 | 20 | (40-140) |
| Carbon Disulfide | 50 | 46.7 | 93 | 2 | 20 | (35-160) |
| Methyl tert-butyl Ether | 50 | 52.7 | 105 | 1 | 20 | (65-125) |
| Methyl Acetate | 50 | 44.2 | 88 | 10 | 20 | (51-158) |
| Methylene Chloride | 50 | 49.3 | 99 | 0 | 20 | (55-140) |
| trans-1,2-Dichloroethene | 50 | 50.3 | 101 | 3 | 20 | (60-140) |
| Vinyl Acetate | 250 | 260 | 104 | 14 | 20 | (47-166) |
| 1,1-Dichloroethane | 50 | 51.1 | 102 | 2 | 20 | (70-135) |
| Cyclohexane | 50 | 51.3 | 103 | 1 | 20 | (56-141) |
| 2-Butanone | 250 | 270 | 108 | 0 | 20 | (30-150) |
| Carbon Tetrachloride | 50 | 46.6 | 93 | 2 | 20 | (65-140) |
| 2,2-Dichloropropane | 50 | 40.8 | 82 | 0 | 20 | (70-135) |
| cis-1,2-Dichloroethene | 50 | 51.2 | 102 | 1 | 20 | (70-125) |
| Bromochloromethane | 50 | 51.8 | 104 | 1 | 20 | (65-130) |
| Chloroform | 50 | 50.5 | 101 | 0 | 20 | (65-135) |
| 1,1,1-Trichloroethane | 50 | 49.6 | 99 | 1 | 20 | (65-130) |
| Methylcyclohexane | 50 | 46.8 | 94 | 0 | 20 | (56-137) |
| 1,1-Dichloropropene | 50 | 47.6 | 95 | 1 | 20 | (75-130) |
| Benzene | 50 | 48 | 96 | 1 | 20 | (80-120) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MSD **Analytical Method:** EPA SW846 8260 **Datafile :** VN004759.D

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD %REC | MSD %RPD | QC LIMITS RPD | QC LIMITS REC |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 50 | 48 | 96 | 1 | 20 | (70-130) |
| Trichloroethene | 50 | 46.1 | 92 | 1 | 20 | (70-125) |
| 1,2-Dichloropropane | 50 | 49.3 | 99 | 2 | 20 | (75-125) |
| Dibromomethane | 50 | 47.7 | 95 | 1 | 20 | (75-125) |
| Bromodichloromethane | 50 | 48.2 | 96 | 1 | 20 | (75-120) |
| 4-Methyl-2-Pentanone | 250 | 260 | 104 | 0 | 20 | (60-135) |
| Toluene | 50 | 49.2 | 98 | 2 | 20 | (75-120) |
| t-1,3-Dichloropropene | 50 | 49.3 | 99 | 3 | 20 | (55-140) |
| cis-1,3-Dichloropropene | 50 | 47.2 | 94 | 1 | 20 | (70-130) |
| 1,1,2-Trichloroethane | 50 | 49.2 | 98 | 2 | 20 | (75-125) |
| 1,3-Dichloropropane | 50 | 49.2 | 98 | 2 | 20 | (75-125) |
| 2-Chloroethyl Vinyl ether | 250 | 0 | 0* | 0 | 20 | (54-151) |
| 2-Hexanone | 250 | 250 | 100 | 0 | 20 | (55-130) |
| Dibromochloromethane | 50 | 48.7 | 97 | 1 | 20 | (60-135) |
| 1,2-Dibromoethane | 50 | 48.3 | 97 | 1 | 20 | (80-120) |
| Tetrachloroethene | 50 | 32.7 | 65 | 1 | 20 | (45-150) |
| Chlorobenzene | 50 | 47.7 | 95 | 1 | 20 | (80-120) |
| 1,1,1,2-Tetrachloroethane | 50 | 49.1 | 98 | 1 | 20 | (80-130) |
| Hexachloroethane | 50 | 48.5 | 97 | 2 | 20 | (70-130) |
| Ethyl Benzene | 50 | 49.5 | 99 | 1 | 20 | (75-125) |
| m/p-Xylenes | 100 | 98.7 | 99 | 1 | 20 | (75-130) |
| o-Xylene | 50 | 50.2 | 100 | 1 | 20 | (80-120) |
| Styrene | 50 | 50.1 | 100 | 0 | 20 | (65-135) |
| Bromoform | 50 | 49.4 | 99 | 2 | 20 | (70-130) |
| Isopropylbenzene | 50 | 50.9 | 102 | 1 | 20 | (75-125) |
| 1,1,2,2-Tetrachloroethane | 50 | 51.3 | 103 | 1 | 20 | (65-130) |
| 1,2,3-Trichloropropane | 50 | 46.2 | 92 | 1 | 20 | (75-125) |
| Bromobenzene | 50 | 50 | 100 | 1 | 20 | (75-125) |
| n-propylbenzene | 50 | 50.9 | 102 | 2 | 20 | (70-130) |
| 2-Chlorotoluene | 50 | 50.9 | 102 | 1 | 20 | (75-125) |
| 1,3,5-Trimethylbenzene | 50 | 52.3 | 105 | 1 | 20 | (75-130) |
| 4-Chlorotoluene | 50 | 50.3 | 101 | 2 | 20 | (75-130) |
| tert-Butylbenzene | 50 | 52.3 | 105 | 2 | 20 | (70-130) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

## WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Client SampleID :** MW-11R-Q12013MSD **Analytical Method:** EPA SW846 8260 **Datafile :** VN004759.D

| COMPOUND | SPIKE ADDED (ug/L) | MSD CONCENTRATION (ug/L) | MSD %REC | MSD %RPD | QC LIMITS RPD | QC LIMITS REC |
|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 50 | 52 | 104 | 1 | 20 | (75-130) |
| sec-Butylbenzene | 50 | 50.4 | 101 | 1 | 20 | (70-125) |
| p-Isopropyltoluene | 50 | 50.5 | 101 | 1 | 20 | (75-130) |
| 1,3-Dichlorobenzene | 50 | 49.3 | 99 | 2 | 20 | (75-125) |
| 1,4-Dichlorobenzene | 50 | 47.9 | 96 | 2 | 20 | (75-125) |
| n-Butylbenzene | 50 | 49.4 | 99 | 2 | 20 | (70-135) |
| 1,2-Dichlorobenzene | 50 | 49.2 | 98 | 2 | 20 | (70-120) |
| 1,2-Dibromo-3-Chloropropane | 50 | 50.8 | 102 | 2 | 20 | (50-130) |
| 1,2,4-Trichlorobenzene | 50 | 51.2 | 102 | 3 | 20 | (65-135) |
| Hexachlorobutadiene | 50 | 47.2 | 94 | 2 | 20 | (50-140) |
| Naphthalene | 50 | 56.2 | 112 | 2 | 20 | (55-140) |
| 1,2,3-Trichlorobenzene | 50 | 50.7 | 101 | 2 | 20 | (55-140) |
| N-amyl acetate | 50 | 47 | 94 | 11 | 20 | (70-130) |
| Methyl Iodide | 50 | 32.9 | 66* | 26* | 20 | (70-130) |
| Allyl chloride | 50 | 49.2 | 98 | 1 | 20 | (70-130) |
| trans-1,4-Dichloro-2-butene | 50 | 47.3 | 95 | 0 | 20 | (70-130) |
| Methacrylonitrile | 50 | 49.6 | 99 | 1 | 20 | (70-130) |
| Ethyl methacrylate | 50 | 53.2 | 106 | 1 | 20 | (70-130) |

**RPD : 2 Out of 84 outside limits**

**Spike Recovery : 2 Out of 84 outside limits**

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

## Water VOLATILE LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Matrix Spike - EPA Sample No :** VN0329WBS01 **Analytical Method:** EPA SW846 8260 **Datafile :** VN004739.D

| COMPOUND | SPIKE ADDED (ug/L) | CONCENTRATION (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 20 | | 20.2 | 101 | (30-155) |
| Chloromethane | 20 | | 20.2 | 101 | (40-125) |
| Vinyl Chloride | 20 | | 20.6 | 103 | (50-145) |
| Ethyl Acetate | 20 | | 19.7 | 99 | (70-130) |
| Isopropyl Acetate | 20 | | 19.4 | 97 | (70-130) |
| Bromomethane | 20 | | 24.2 | 121 | (30-145) |
| Chloroethane | 20 | | 20 | 100 | (60-135) |
| Trichlorofluoromethane | 20 | | 19.7 | 99 | (60-145) |
| 1,1,2-Trichlorotrifluoroethane | 20 | | 21 | 105 | (52-142) |
| Tert butyl alcohol | 100 | | 91.3 | 91 | (46-147) |
| Diethyl Ether | 20 | | 19.1 | 96 | (70-130) |
| 1,1-Dichloroethene | 20 | | 19.5 | 98 | (70-130) |
| Acrolein | 100 | | 150 | 150 | (38-155) |
| Acrylonitrile | 100 | | 100 | 100 | (53-150) |
| Acetone | 100 | | 100 | 100 | (40-140) |
| Carbon Disulfide | 20 | | 18.7 | 94 | (35-160) |
| Methyl tert-butyl Ether | 20 | | 19.3 | 97 | (65-125) |
| Methyl Acetate | 20 | | 19 | 95 | (51-158) |
| Methylene Chloride | 20 | | 20.1 | 101 | (55-140) |
| trans-1,2-Dichloroethene | 20 | | 19.9 | 100 | (60-140) |
| Vinyl Acetate | 100 | | 110 | 110 | (47-166) |
| 1,1-Dichloroethane | 20 | | 19.9 | 100 | (70-135) |
| Cyclohexane | 20 | | 20.9 | 104 | (56-141) |
| 2-Butanone | 100 | | 100 | 100 | (30-150) |
| Carbon Tetrachloride | 20 | | 20 | 100 | (65-140) |
| 2,2-Dichloropropane | 20 | | 20 | 100 | (70-135) |
| cis-1,2-Dichloroethene | 20 | | 19.8 | 99 | (70-125) |
| Bromochloromethane | 20 | | 21.2 | 106 | (65-130) |
| Chloroform | 20 | | 20 | 100 | (65-135) |
| 1,1,1-Trichloroethane | 20 | | 19.5 | 98 | (65-130) |
| Methylcyclohexane | 20 | | 21 | 105 | (56-137) |
| 1,1-Dichloropropene | 20 | | 20.6 | 103 | (75-130) |
| Benzene | 20 | | 20.6 | 103 | (80-120) |
| 1,2-Dichloroethane | 20 | | 20.6 | 103 | (70-130) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

**Comments:** _____

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

## Water VOLATILE LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Matrix Spike - EPA Sample No :** VN0329WBS01 **Analytical Method:** EPA SW846 8260 **Datafile :** VN004739.D

| COMPOUND | SPIKE ADDED (ug/L) | CONCENTRATION (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| Trichloroethene | 20 | | 20 | 100 | (70-125) |
| 1,2-Dichloropropane | 20 | | 20.9 | 104 | (75-125) |
| Dibromomethane | 20 | | 20.5 | 103 | (75-125) |
| Bromodichloromethane | 20 | | 20.5 | 103 | (75-120) |
| 4-Methyl-2-Pentanone | 100 | | 100 | 100 | (60-135) |
| Toluene | 20 | | 20.6 | 103 | (75-120) |
| t-1,3-Dichloropropene | 20 | | 20.5 | 103 | (55-140) |
| cis-1,3-Dichloropropene | 20 | | 20.5 | 103 | (70-130) |
| 1,1,2-Trichloroethane | 20 | | 21 | 105 | (75-125) |
| 1,3-Dichloropropane | 20 | | 20.6 | 103 | (75-125) |
| 2-Chloroethyl Vinyl ether | 100 | | 100 | 100 | (54-151) |
| 2-Hexanone | 100 | | 97.9 | 98 | (55-130) |
| Dibromochloromethane | 20 | | 20.4 | 102 | (60-135) |
| 1,2-Dibromoethane | 20 | | 20 | 100 | (80-120) |
| Tetrachloroethene | 20 | | 20.4 | 102 | (45-150) |
| Chlorobenzene | 20 | | 20.2 | 101 | (80-120) |
| 1,1,1,2-Tetrachloroethane | 20 | | 20.6 | 103 | (80-130) |
| Hexachloroethane | 20 | | 20 | 100 | (70-130) |
| Ethyl Benzene | 20 | | 20.5 | 103 | (75-125) |
| m/p-Xylenes | 40 | | 41.4 | 104 | (75-130) |
| o-Xylene | 20 | | 20.3 | 102 | (80-120) |
| Styrene | 20 | | 20.7 | 104 | (65-135) |
| Bromoform | 20 | | 20.3 | 102 | (70-130) |
| Isopropylbenzene | 20 | | 20.4 | 102 | (75-125) |
| 1,1,2,2-Tetrachloroethane | 20 | | 20.3 | 102 | (65-130) |
| 1,2,3-Trichloropropane | 20 | | 18.7 | 94 | (75-125) |
| Bromobenzene | 20 | | 20.1 | 101 | (75-125) |
| n-propylbenzene | 20 | | 20.9 | 104 | (70-130) |
| 2-Chlorotoluene | 20 | | 20.6 | 103 | (75-125) |
| 1,3,5-Trimethylbenzene | 20 | | 21.1 | 106 | (75-130) |
| 4-Chlorotoluene | 20 | | 20.7 | 104 | (75-130) |
| tert-Butylbenzene | 20 | | 20.4 | 102 | (70-130) |
| 1,2,4-Trimethylbenzene | 20 | | 21 | 105 | (75-130) |
| sec-Butylbenzene | 20 | | 20.9 | 104 | (70-125) |

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

**Comments:** _____

## Water VOLATILE LABORATORY CONTROL SPIKE/LABORATORY CONTROL SPIKE DUPLICATE RECOVERY

**Lab Name:** CHEMTECH **Client:** Cardno ATC

**Lab Code:** CHEM **Cas No:** E1676 **SAS No :** E1676 **SDG No:** E1676

**Matrix Spike - EPA Sample No :** VN0329WBS01 **Analytical Method:** EPA SW846 8260 **Datafile :** VN004739.D

| COMPOUND | SPIKE ADDED (ug/L) | CONCENTRATION (ug/L) | LCS CONCENTRATION (ug/L) | LCS % REC# | QC LIMITS REC |
|---|---|---|---|---|---|
| p-Isopropyltoluene | 20 | | 20.8 | 104 | (75-130) |
| 1,3-Dichlorobenzene | 20 | | 20.5 | 103 | (75-125) |
| 1,4-Dichlorobenzene | 20 | | 20.1 | 101 | (75-125) |
| n-Butylbenzene | 20 | | 20.7 | 104 | (70-135) |
| 1,2-Dichlorobenzene | 20 | | 20.1 | 101 | (70-120) |
| 1,2-Dibromo-3-Chloropropane | 20 | | 18.8 | 94 | (50-130) |
| 1,2,4-Trichlorobenzene | 20 | | 21.3 | 106 | (65-135) |
| Hexachlorobutadiene | 20 | | 21.7 | 109 | (50-140) |
| Naphthalene | 20 | | 21 | 105 | (55-140) |
| 1,2,3-Trichlorobenzene | 20 | | 21 | 105 | (55-140) |
| N-amyl acetate | 20 | | 19.4 | 97 | (70-130) |
| Methyl Iodide | 20 | | 17.2 | 86 | (70-130) |
| Allyl chloride | 20 | | 19.2 | 96 | (70-130) |
| trans-1,4-Dichloro-2-butene | 20 | | 19.7 | 99 | (70-130) |
| Methacrylonitrile | 20 | | 19.7 | 99 | (70-130) |
| Ethyl methacrylate | 20 | | 19.9 | 100 | (70-130) |

**RPD : 0 Out of 84 outside limits**

**Spike Recovery : 0 Out of 84 outside limits**

**# Column to be used to flag recovery and RPD values with an asterisk**

*** Values outside of QC limits**

**Comments:** _____

# VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0329WBL01

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: VN004738.D Lab Sample ID: VN0329WBL01

Date Analyzed: 03/29/2013 Time Analyzed: 12:44

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| VN0329WBS01 | VN0329WBS01 | VN004739.D | 03/29/2013 |
| TB-Q-12013 | E1676-12 | VN004742.D | 03/29/2013 |
| FB-Q-12013 | E1676-10 | VN004744.D | 03/29/2013 |
| MW-12R-Q12013 | E1676-06 | VN004747.D | 03/29/2013 |
| MW-14-Q12013 | E1676-07 | VN004748.D | 03/29/2013 |
| MW-15-Q12013 | E1676-08 | VN004749.D | 03/29/2013 |
| MW-16-Q12013 | E1676-09 | VN004750.D | 03/29/2013 |
| MW-2-Q12013 | E1676-01 | VN004751.D | 03/29/2013 |
| MW-8-Q12013 | E1676-02 | VN004753.D | 03/29/2013 |
| MW-8-Q12013DL | E1676-02DL | VN004754.D | 03/29/2013 |
| DUP-Q-12013 | E1676-11 | VN004755.D | 03/29/2013 |
| MW-11R-Q12013 | E1676-03 | VN004757.D | 03/29/2013 |
| MW-11R-Q12013MS | E1676-04MS | VN004758.D | 03/29/2013 |
| MW-11R-Q12013MSD | E1676-05MSD | VN004759.D | 03/29/2013 |

COMMENTS:

# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: VN004663.D BFB Injection Date: 03/27/2013

Instrument ID: MSVOA_N BFB Injection Time: 14:21

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 16.3 |
| 75 | 30.0 - 60.0% of mass 95 | 48.3 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.5 |
| 173 | Less than 2.0% of mass 174 | 0.8 ( 0.8 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 94.1 |
| 175 | 5.0 - 9.0% of mass 174 | 7.1 ( 7.5 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 90.7 ( 96.4 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.7 ( 6.3 ) 2 |
| | | |

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDICC001 | VSTDICC001 | VN004664.D | 03/27/2013 | 15:14 |
| VSTDICC005 | VSTDICC005 | VN004665.D | 03/27/2013 | 15:42 |
| VSTDICC020 | VSTDICC020 | VN004666.D | 03/27/2013 | 16:10 |
| VSTDICCC050 | VSTDICCC050 | VN004667.D | 03/27/2013 | 16:38 |
| VSTDICC100 | VSTDICC100 | VN004668.D | 03/27/2013 | 17:06 |
| VSTDICC200 | VSTDICC200 | VN004669.D | 03/27/2013 | 17:35 |

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: VN004736.D BFB Injection Date: 03/29/2013

Instrument ID: MSVOA_N BFB Injection Time: 11:13

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 15.3 |
| 75 | 30.0 - 60.0% of mass 95 | 45 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.4 |
| 173 | Less than 2.0% of mass 174 | 0.9 ( 1 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 92.2 |
| 175 | 5.0 - 9.0% of mass 174 | 6.4 ( 7 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 88.4 ( 95.9 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.8 ( 6.5 ) 2 |
| | | |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDCCC050 | VSTDCCC050 | VN004737.D | 03/29/2013 | 11:59 |
| VN0329WBL01 | VN0329WBL01 | VN004738.D | 03/29/2013 | 12:44 |
| VN0329WBS01 | VN0329WBS01 | VN004739.D | 03/29/2013 | 13:20 |
| TB-Q-12013 | E1676-12 | VN004742.D | 03/29/2013 | 15:13 |
| FB-Q-12013 | E1676-10 | VN004744.D | 03/29/2013 | 16:09 |
| MW-12R-Q12013 | E1676-06 | VN004747.D | 03/29/2013 | 17:34 |
| MW-14-Q12013 | E1676-07 | VN004748.D | 03/29/2013 | 18:02 |
| MW-15-Q12013 | E1676-08 | VN004749.D | 03/29/2013 | 18:30 |
| MW-16-Q12013 | E1676-09 | VN004750.D | 03/29/2013 | 18:59 |
| MW-2-Q12013 | E1676-01 | VN004751.D | 03/29/2013 | 19:27 |
| MW-8-Q12013 | E1676-02 | VN004753.D | 03/29/2013 | 20:23 |
| MW-8-Q12013DL | E1676-02DL | VN004754.D | 03/29/2013 | 20:52 |
| DUP-Q-12013 | E1676-11 | VN004755.D | 03/29/2013 | 21:20 |
| MW-11R-Q12013 | E1676-03 | VN004757.D | 03/29/2013 | 22:16 |
| MW-11R-Q12013MS | E1676-04MS | VN004758.D | 03/29/2013 | 22:44 |
| MW-11R-Q12013MSD | E1676-05MSD | VN004759.D | 03/29/2013 | 23:12 |

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: VN004737.D Date Analyzed: 03/29/2013

Instrument ID: MSVOA_N Time Analyzed: 11:59

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS1 AREA # | RT # | IS2 AREA # | RT # | IS3 AREA # | RT # |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 811721 | 7.87 | 1208650 | 8.79 | 1104760 | 11.61 |
| UPPER LIMIT | 1623440 | 8.37 | 2417290 | 9.29 | 2209520 | 12.11 |
| LOWER LIMIT | 405861 | 7.37 | 604324 | 8.29 | 552380 | 11.11 |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q12013 | 887052 | 7.87 | 1391560 | 8.79 | 1239230 | 11.61 |
| MW-8-Q12013 | 914968 | 7.87 | 1414510 | 8.79 | 1281790 | 11.61 |
| MW-8-Q12013DL | 917862 | 7.87 | 1414170 | 8.79 | 1283720 | 11.61 |
| MW-11R-Q12013 | 922873 | 7.87 | 1415120 | 8.79 | 1274580 | 11.61 |
| MW-11R-Q12013MS | 790437 | 7.87 | 1281960 | 8.79 | 1165050 | 11.61 |
| MW-11R-Q12013MSD | 787253 | 7.87 | 1274260 | 8.79 | 1164500 | 11.61 |
| MW-12R-Q12013 | 875024 | 7.87 | 1346690 | 8.79 | 1227910 | 11.61 |
| MW-14-Q12013 | 846812 | 7.87 | 1309550 | 8.79 | 1183830 | 11.61 |
| MW-15-Q12013 | 896227 | 7.87 | 1378590 | 8.79 | 1268660 | 11.61 |
| MW-16-Q12013 | 902759 | 7.87 | 1384870 | 8.79 | 1249210 | 11.61 |
| FB-Q-12013 | 885303 | 7.87 | 1356120 | 8.79 | 1230670 | 11.61 |
| DUP-Q-12013 | 933663 | 7.87 | 1440720 | 8.79 | 1288100 | 11.61 |
| TB-Q-12013 | 868603 | 7.87 | 1344620 | 8.79 | 1217280 | 11.61 |
| VN0329WBL01 | 841912 | 7.87 | 1307010 | 8.79 | 1173630 | 11.61 |
| VN0329WBS01 | 800907 | 7.87 | 1197090 | 8.79 | 1088860 | 11.61 |

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: VN004737.D Date Analyzed: 03/29/2013

Instrument ID: MSVOA_N Time Analyzed: 11:59

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS4 AREA # | RT # | | | | |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 585352 | 13.56 | | | | |
| UPPER LIMIT | 1170700 | 14.06 | | | | |
| LOWER LIMIT | 292676 | 13.06 | | | | |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q12013 | 653541 | 13.56 | | | | |
| MW-8-Q12013 | 683251 | 13.56 | | | | |
| MW-8-Q12013DL | 642308 | 13.56 | | | | |
| MW-11R-Q12013 | 637029 | 13.56 | | | | |
| MW-11R-Q12013MS | 594394 | 13.56 | | | | |
| MW-11R-Q12013MSD | 592338 | 13.56 | | | | |
| MW-12R-Q12013 | 598726 | 13.56 | | | | |
| MW-14-Q12013 | 615013 | 13.56 | | | | |
| MW-15-Q12013 | 676597 | 13.56 | | | | |
| MW-16-Q12013 | 622171 | 13.57 | | | | |
| FB-Q-12013 | 591499 | 13.56 | | | | |
| DUP-Q-12013 | 665397 | 13.56 | | | | |
| TB-Q-12013 | 584713 | 13.56 | | | | |
| VN0329WBL01 | 551769 | 13.56 | | | | |
| VN0329WBS01 | 575661 | 13.56 | | | | |

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

# QC SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBL01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBL01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004738.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.34 | U | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.4 | U | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBL01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBL01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004738.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.48 | U | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.28 | U | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 2.1 | U | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 0.37 | U | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.29 | U | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.49 | U | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.95 | U | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 0.36 | U | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.47 | U | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.31 | U | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | U | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBL01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBL01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004738.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.42 | U | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.44 | U | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.38 | U | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.43 | U | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.32 | U | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.41 | U | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.45 | U | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.46 | U | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.9 | | 70 - 120 | | 98% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.2 | | 85 - 115 | | 98% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.7 | | 85 - 120 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 42.4 | | 75 - 120 | | 85% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 841912 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1307010 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1173630 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 551769 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBL01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBL01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004738.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBS01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBS01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004739.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 20.2 | | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 20.2 | | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 20.6 | | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 19.7 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 19.4 | | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 24.2 | | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 20 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 19.7 | | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 21 | | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 91.3 | | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 19.1 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 19.5 | | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 150 | | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 100 | | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 100 | | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 18.7 | | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 19.3 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 19 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 20.1 | | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 19.9 | | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 110 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 19.9 | | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 20.9 | | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 100 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 20 | | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 20 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 19.8 | | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 21.2 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 20 | | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 19.5 | | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 21 | | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBS01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBS01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004739.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 20.6 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 20.6 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 20.6 | | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 20 | | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 20.9 | | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 20.5 | | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 20.5 | | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 100 | | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 20.6 | | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 20.5 | | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 20.5 | | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 21 | | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 20.6 | | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 100 | | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 97.9 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 20.4 | | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 20 | | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 20.4 | | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 20.2 | | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20.6 | | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 20 | | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 20.5 | | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 41.4 | | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 20.3 | | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 20.7 | | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 20.3 | | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 20.4 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20.3 | | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 18.7 | | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 20.1 | | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 20.9 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 20.6 | | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBS01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBS01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004739.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 21.1 | | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 20.7 | | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 20.4 | | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 21 | | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 20.9 | | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 20.8 | | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 20.5 | | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 20.1 | | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 20.7 | | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 20.1 | | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 18.8 | | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 21.3 | | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 21.7 | | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 21 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 21 | | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 19.4 | | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 17.2 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 19.2 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 19.7 | | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 19.7 | | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 19.9 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46 | | 70 - 120 | | 92% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.4 | | 85 - 115 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.6 | | 85 - 120 | | 97% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.5 | | 75 - 120 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 800907 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1197090 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1088860 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 575661 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0329WBS01 | SDG No.: | E1676 |
| Lab Sample ID: | VN0329WBS01 | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004739.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004758.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 48.7 | | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 46.4 | | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 48.7 | | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 48.4 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 47.7 | | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 38.3 | | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 50.1 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 47.9 | | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 49.1 | | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 270 | | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 51.1 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 49.7 | | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 250 | | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 270 | | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 230 | | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 45.6 | | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 52.2 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 49 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 49.1 | | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 49 | | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 300 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 50.2 | | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 50.8 | | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 270 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 45.6 | | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 40.7 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 50.9 | | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 51.3 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 50.4 | | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 49.2 | | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 47 | | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004758.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 47.2 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 47.5 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 47.5 | | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 45.8 | | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 48.5 | | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 47.2 | | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 47.8 | | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 260 | | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 48.4 | | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 47.7 | | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 46.5 | | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 48.4 | | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 48.3 | | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 250 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 48.1 | | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 47.9 | | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 33 | | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 47.2 | | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 48.4 | | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 47.7 | | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 49 | | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 97.4 | | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 49.7 | | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 49.9 | | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 48.4 | | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 50.4 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 50.9 | | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 46.5 | | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 49.3 | | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 50 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 50.2 | | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004758.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 51.7 | | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 49.4 | | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 51.5 | | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 51.4 | | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 49.9 | | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 50.1 | | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 48.5 | | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 47.1 | | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 48.6 | | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 48.3 | | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 49.8 | | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 49.5 | | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 46.3 | | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 55.3 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 49.8 | | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 52.5 | | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 25.4 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 48.8 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 50.2 | | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 47.3 | | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 52.6 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 48.7 | | 70 - 120 | | 97% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.9 | | 85 - 115 | | 98% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 47.6 | | 85 - 120 | | 95% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.5 | | 75 - 120 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 790437 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1281960 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1165050 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 594394 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004758.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004759.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 48.6 | | 0.2 | 0.5 | 1 | ug/L |
| 74-87-3 | Chloromethane | 46.6 | | 0.2 | 0.5 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 48.6 | | 0.34 | 0.5 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 44 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 44.8 | | 0.2 | 0.5 | 1 | ug/L |
| 74-83-9 | Bromomethane | 48.1 | | 0.2 | 0.5 | 1 | ug/L |
| 75-00-3 | Chloroethane | 50 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 48.1 | | 0.35 | 0.5 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 48.8 | | 0.45 | 0.5 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 270 | | 0.5 | 2.5 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 51.6 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 49.5 | | 0.47 | 0.5 | 1 | ug/L |
| 107-02-8 | Acrolein | 250 | | 0.5 | 2.5 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 270 | | 1.8 | 2.5 | 5 | ug/L |
| 67-64-1 | Acetone | 230 | | 0.5 | 2.5 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 46.7 | | 0.2 | 0.5 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 52.7 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 44.2 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 49.3 | | 0.41 | 0.5 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 50.3 | | 0.41 | 0.5 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 260 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 51.1 | | 0.36 | 0.5 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 51.3 | | 0.2 | 0.5 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 270 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 46.6 | | 0.2 | 0.5 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 40.8 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 51.2 | | 0.35 | 0.5 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 51.8 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 50.5 | | 0.34 | 0.5 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 49.6 | | 0.4 | 0.5 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 46.8 | | 0.2 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004759.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 47.6 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 48 | | 0.32 | 0.5 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 48 | | 0.48 | 0.5 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 46.1 | | 0.28 | 0.5 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 49.3 | | 0.46 | 0.5 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 47.7 | | 0.44 | 0.5 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 48.2 | | 0.36 | 0.5 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 260 | | 2.1 | 2.5 | 5 | ug/L |
| 108-88-3 | Toluene | 49.2 | | 0.37 | 0.5 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 49.3 | | 0.29 | 0.5 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 47.2 | | 0.31 | 0.5 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 49.2 | | 0.38 | 0.5 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 49.2 | | 0.35 | 0.5 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1.8 | U | 1.8 | 2.5 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 250 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 48.7 | | 0.2 | 0.5 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 48.3 | | 0.41 | 0.5 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 32.7 | | 0.27 | 0.5 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 47.7 | | 0.49 | 0.5 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 49.1 | | 0.43 | 0.5 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 48.5 | | 0.2 | 0.5 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 49.5 | | 0.2 | 0.5 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 98.7 | | 0.95 | 1 | 2 | ug/L |
| 95-47-6 | o-Xylene | 50.2 | | 0.43 | 0.5 | 1 | ug/L |
| 100-42-5 | Styrene | 50.1 | | 0.36 | 0.5 | 1 | ug/L |
| 75-25-2 | Bromoform | 49.4 | | 0.47 | 0.5 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 50.9 | | 0.45 | 0.5 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 51.3 | | 0.31 | 0.5 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 46.2 | | 0.5 | 0.5 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 50 | | 0.2 | 0.5 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 50.9 | | 0.45 | 0.5 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 50.9 | | 0.43 | 0.5 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004759.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 52.3 | | 0.46 | 0.5 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 50.3 | | 0.42 | 0.5 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 52.3 | | 0.44 | 0.5 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 52 | | 0.38 | 0.5 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 50.4 | | 0.46 | 0.5 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 50.5 | | 0.43 | 0.5 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 49.3 | | 0.43 | 0.5 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 47.9 | | 0.32 | 0.5 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 49.4 | | 0.41 | 0.5 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 49.2 | | 0.45 | 0.5 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 50.8 | | 0.46 | 0.5 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 51.2 | | 0.2 | 0.5 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 47.2 | | 0.2 | 0.5 | 1 | ug/L |
| 91-20-3 | Naphthalene | 56.2 | | 0.2 | 0.5 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 50.7 | | 0.2 | 0.5 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 47 | | 0.2 | 0.5 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 32.9 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 49.2 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 49.6 | | 0.2 | 0.5 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 47.3 | | 0.2 | 0.5 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 53.2 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 49.5 | | 70 - 120 | | 99% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.3 | | 85 - 115 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 48.3 | | 85 - 120 | | 96% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.1 | | 75 - 120 | | 96% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 787253 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1274260 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 1164500 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 592338 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | SW8260C | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN004759.D | 1 | | 03/29/13 | VN032913 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Calibration Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN004664.D RRF005 = VN004665.D RRF020 = VN004666.D
RRF050 = VN004667.D RRF100 = VN004668.D RRF200 = VN004669.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.588 | 0.525 | 0.586 | 0.569 | 0.544 | 0.560 | 0.562 | 4.3 |
| Chloromethane | 0.658 | 0.585 | 0.579 | 0.554 | 0.541 | 0.546 | 0.577 | 7.5 |
| Vinyl Chloride | 0.679 | 0.657 | 0.656 | 0.641 | 0.612 | 0.625 | 0.645 | 3.7 |
| Ethyl Acetate | 0.247 | 0.301 | 0.306 | 0.305 | 0.302 | 0.312 | 0.295 | 8.2 |
| Isopropyl Acetate | 0.510 | 0.505 | 0.507 | 0.517 | 0.514 | 0.545 | 0.516 | 2.8 |
| Bromomethane | 0.292 | 0.262 | 0.279 | 0.284 | 0.286 | 0.311 | 0.286 | 5.6 |
| Chloroethane | 0.355 | 0.333 | 0.332 | 0.319 | 0.308 | 0.319 | 0.328 | 4.9 |
| Trichlorofluoromethane | 0.874 | 0.828 | 0.799 | 0.765 | 0.737 | 0.757 | 0.793 | 6.4 |
| 1,1,2-Trichlorotrifluoroethane | 0.513 | 0.463 | 0.457 | 0.435 | 0.421 | 0.427 | 0.453 | 7.5 |
| Tert butyl alcohol | 0.040 | 0.046 | 0.050 | 0.051 | 0.050 | 0.053 | 0.048 | 9.7 |
| Diethyl Ether | 0.300 | 0.287 | 0.277 | 0.275 | 0.272 | 0.285 | 0.283 | 3.7 |
| 1,1-Dichloroethene | 0.487 | 0.462 | 0.443 | 0.435 | 0.422 | 0.437 | 0.448 | 5.2 |
| Acrolein | 0.026 | 0.031 | 0.030 | 0.036 | 0.038 | 0.045 | 0.034 | 20 |
| Acrylonitrile | 0.144 | 0.176 | 0.192 | 0.197 | 0.192 | 0.201 | 0.184 | 11.5 |
| Acetone | 0.166 | 0.154 | 0.151 | 0.159 | 0.157 | 0.164 | 0.158 | 3.8 |
| Carbon Disulfide | 1.492 | 1.345 | 1.262 | 1.246 | 1.219 | 1.265 | 1.305 | 7.8 |
| Methyl tert-butyl Ether | 1.354 | 1.313 | 1.373 | 1.393 | 1.357 | 1.418 | 1.368 | 2.6 |
| Methyl Acetate | 0.537 | 0.563 | 0.569 | 0.597 | 0.591 | 0.663 | 0.587 | 7.4 |
| Methylene Chloride | 0.600 | 0.537 | 0.525 | 0.498 | 0.482 | 0.496 | 0.523 | 8.2 |
| trans-1,2-Dichloroethene | 0.507 | 0.512 | 0.494 | 0.483 | 0.470 | 0.483 | 0.492 | 3.2 |
| Vinyl Acetate | 0.642 | 0.670 | 0.696 | 0.680 | 0.622 | 0.588 | 0.650 | 6.2 |
| 1,1-Dichloroethane | 0.905 | 0.855 | 0.837 | 0.814 | 0.793 | 0.815 | 0.836 | 4.8 |
| Cyclohexane | 1.523 | 0.879 | 0.749 | 0.715 | 0.686 | 0.706 | 0.876 | 37 |
| 2-Butanone | 0.180 | 0.199 | 0.217 | 0.228 | 0.221 | 0.234 | 0.213 | 9.4 |
| Carbon Tetrachloride | 0.510 | 0.446 | 0.436 | 0.432 | 0.420 | 0.433 | 0.446 | 7.3 |
| 2,2-Dichloropropane | 0.750 | 0.718 | 0.715 | 0.697 | 0.672 | 0.692 | 0.707 | 3.8 |
| cis-1,2-Dichloroethene | 0.591 | 0.567 | 0.562 | 0.557 | 0.542 | 0.561 | 0.563 | 2.8 |
| Bromochloromethane | 0.356 | 0.368 | 0.383 | 0.361 | 0.344 | 0.344 | 0.359 | 4.1 |
| Chloroform | 0.956 | 0.936 | 0.909 | 0.886 | 0.853 | 0.880 | 0.903 | 4.2 |
| 1,1,1-Trichloroethane | 0.851 | 0.778 | 0.780 | 0.764 | 0.743 | 0.768 | 0.781 | 4.7 |
| Methylcyclohexane | 0.566 | 0.484 | 0.496 | 0.506 | 0.504 | 0.518 | 0.512 | 5.6 |
| 1,1-Dichloropropene | 0.494 | 0.436 | 0.431 | 0.423 | 0.411 | 0.422 | 0.436 | 6.8 |
| Benzene | 1.466 | 1.311 | 1.286 | 1.264 | 1.222 | 1.253 | 1.300 | 6.7 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Calibration Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN004664.D RRF005 = VN004665.D RRF020 = VN004666.D
RRF050 = VN004667.D RRF100 = VN004668.D RRF200 = VN004669.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 0.459 | 0.436 | 0.444 | 0.426 | 0.408 | 0.420 | 0.432 | 4.2 |
| Trichloroethene | 0.440 | 0.371 | 0.364 | 0.368 | 0.360 | 0.376 | 0.380 | 7.9 |
| 1,2-Dichloropropane | 0.360 | 0.323 | 0.321 | 0.312 | 0.305 | 0.315 | 0.323 | 6.1 |
| Dibromomethane | 0.250 | 0.228 | 0.231 | 0.225 | 0.218 | 0.225 | 0.230 | 4.6 |
| Bromodichloromethane | 0.473 | 0.429 | 0.439 | 0.430 | 0.421 | 0.439 | 0.438 | 4.1 |
| 4-Methyl-2-Pentanone | 0.255 | 0.277 | 0.299 | 0.311 | 0.307 | 0.318 | 0.295 | 8.1 |
| Toluene | 0.829 | 0.813 | 0.809 | 0.816 | 0.800 | 0.824 | 0.815 | 1.3 |
| t-1,3-Dichloropropene | 0.431 | 0.433 | 0.446 | 0.472 | 0.472 | 0.503 | 0.460 | 6.1 |
| cis-1,3-Dichloropropene | 0.514 | 0.487 | 0.502 | 0.512 | 0.509 | 0.535 | 0.510 | 3.1 |
| 1,1,2-Trichloroethane | 0.362 | 0.335 | 0.335 | 0.333 | 0.323 | 0.332 | 0.337 | 4 |
| 1,3-Dichloropropane | 0.591 | 0.535 | 0.533 | 0.534 | 0.516 | 0.537 | 0.541 | 4.7 |
| 2-Chloroethyl Vinyl ether | 0.168 | 0.176 | 0.208 | 0.219 | 0.220 | 0.233 | 0.204 | 12.7 |
| 2-Hexanone | 0.184 | 0.203 | 0.213 | 0.227 | 0.225 | 0.228 | 0.213 | 8.2 |
| Dibromochloromethane | 0.381 | 0.349 | 0.366 | 0.371 | 0.367 | 0.385 | 0.370 | 3.5 |
| 1,2-Dibromoethane | 0.362 | 0.348 | 0.348 | 0.347 | 0.340 | 0.354 | 0.350 | 2.2 |
| Tetrachloroethene | 0.427 | 0.445 | 0.474 | 0.510 | 0.517 | 0.555 | 0.488 | 9.9 |
| Chlorobenzene | 1.199 | 1.087 | 1.037 | 1.015 | 0.994 | 1.035 | 1.061 | 7 |
| 1,1,1,2-Tetrachloroethane | 0.370 | 0.378 | 0.368 | 0.369 | 0.359 | 0.376 | 0.370 | 1.8 |
| Hexachloroethane | 0.619 | 0.517 | 0.541 | 0.536 | 0.536 | 0.561 | 0.552 | 6.5 |
| Ethyl Benzene | 1.659 | 1.615 | 1.626 | 1.648 | 1.631 | 1.710 | 1.648 | 2.1 |
| m/p-Xylenes | 0.626 | 0.638 | 0.644 | 0.649 | 0.640 | 0.667 | 0.644 | 2.1 |
| o-Xylene | 0.596 | 0.617 | 0.639 | 0.641 | 0.641 | 0.670 | 0.634 | 4 |
| Styrene | 0.890 | 0.946 | 1.011 | 1.042 | 1.041 | 1.097 | 1.004 | 7.4 |
| Bromoform | 0.292 | 0.288 | 0.299 | 0.310 | 0.308 | 0.320 | 0.303 | 4 |
| Isopropylbenzene | 3.098 | 3.084 | 3.216 | 3.266 | 3.232 | 3.416 | 3.219 | 3.8 |
| 1,1,2,2-Tetrachloroethane | 1.028 | 0.945 | 0.945 | 0.923 | 0.881 | 0.885 | 0.935 | 5.8 |
| 1,2,3-Trichloropropane | 0.949 | 0.898 | 0.799 | 0.789 | 0.759 | 0.784 | 0.830 | 9.1 |
| Bromobenzene | 0.905 | 0.878 | 0.875 | 0.873 | 0.857 | 0.897 | 0.881 | 2 |
| n-propylbenzene | 3.407 | 3.545 | 3.684 | 3.716 | 3.675 | 3.869 | 3.649 | 4.3 |
| 2-Chlorotoluene | 2.143 | 2.132 | 2.205 | 2.216 | 2.179 | 2.283 | 2.193 | 2.5 |
| 1,3,5-Trimethylbenzene | 2.126 | 2.238 | 2.452 | 2.518 | 2.510 | 2.679 | 2.420 | 8.4 |
| 4-Chlorotoluene | 2.155 | 2.160 | 2.205 | 2.179 | 2.164 | 2.273 | 2.189 | 2.1 |
| tert-Butylbenzene | 2.194 | 2.152 | 2.334 | 2.330 | 2.326 | 2.428 | 2.294 | 4.5 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Calibration Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN004664.D RRF005 = VN004665.D RRF020 = VN004666.D
RRF050 = VN004667.D RRF100 = VN004668.D RRF200 = VN004669.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 2.165 | 2.337 | 2.520 | 2.576 | 2.557 | 2.711 | 2.478 | 7.9 |
| sec-Butylbenzene | 3.080 | 3.147 | 3.313 | 3.327 | 3.284 | 3.425 | 3.263 | 3.9 |
| p-Isopropyltoluene | 2.437 | 2.535 | 2.690 | 2.753 | 2.735 | 2.875 | 2.671 | 5.9 |
| 1,3-Dichlorobenzene | 1.688 | 1.649 | 1.643 | 1.619 | 1.598 | 1.656 | 1.642 | 1.9 |
| 1,4-Dichlorobenzene | 1.887 | 1.718 | 1.666 | 1.627 | 1.589 | 1.640 | 1.688 | 6.3 |
| n-Butylbenzene | 2.312 | 2.244 | 2.339 | 2.395 | 2.382 | 2.495 | 2.361 | 3.6 |
| 1,2-Dichlorobenzene | 1.727 | 1.653 | 1.611 | 1.599 | 1.546 | 1.571 | 1.618 | 4 |
| 1,2-Dibromo-3-Chloropropane | 0.171 | 0.168 | 0.180 | 0.184 | 0.174 | 0.176 | 0.176 | 3.3 |
| 1,2,4-Trichlorobenzene | 1.107 | 0.970 | 1.005 | 1.025 | 0.988 | 1.033 | 1.021 | 4.7 |
| Hexachlorobutadiene | 0.572 | 0.501 | 0.514 | 0.513 | 0.475 | 0.460 | 0.506 | 7.7 |
| Naphthalene | 2.229 | 2.338 | 2.648 | 2.777 | 2.726 | 2.889 | 2.601 | 10 |
| 1,2,3-Trichlorobenzene | 1.084 | 0.967 | 1.025 | 1.013 | 0.978 | 1.011 | 1.013 | 4.1 |
| 1,2-Dichloroethane-d4 | 0.600 | 0.555 | 0.572 | 0.539 | 0.510 | 0.518 | 0.549 | 6.2 |
| Dibromofluoromethane | 0.329 | 0.305 | 0.320 | 0.307 | 0.294 | 0.297 | 0.309 | 4.3 |
| Toluene-d8 | 1.237 | 1.167 | 1.186 | 1.136 | 1.105 | 1.126 | 1.160 | 4.1 |
| 4-Bromofluorobenzene | 0.490 | 0.412 | 0.427 | 0.422 | 0.418 | 0.425 | 0.432 | 6.6 |
| N-amyl acetate | 0.772 | 0.814 | 0.910 | 0.963 | 0.975 | 1.031 | 0.911 | 11 |
| Methyl Iodide | 0.293 | 0.484 | 0.603 | 0.664 | 0.667 | 0.704 | 0.569 | 27.4 |
| Allyl chloride | 0.635 | 0.573 | 0.565 | 0.559 | 0.551 | 0.568 | 0.575 | 5.3 |
| trans-1,4-Dichloro-2-butene | 0.256 | 0.263 | 0.289 | 0.306 | 0.313 | 0.336 | 0.294 | 10.4 |
| Methacrylonitrile | 0.171 | 0.174 | 0.179 | 0.184 | 0.179 | 0.188 | 0.179 | 3.5 |
| Ethyl methacrylate | 0.344 | 0.358 | 0.406 | 0.439 | 0.448 | 0.475 | 0.412 | 12.6 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date/Time: 03/29/2013 11:59

Lab File ID: VN004737.D Init. Calib. Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.562 | 0.561 | | -0.18 | 20 |
| Chloromethane | 0.577 | 0.565 | 0.1 | -2.08 | 20 |
| Vinyl Chloride | 0.645 | 0.637 | | -1.24 | 20 |
| Ethyl Acetate | 0.295 | 0.291 | | -1.36 | 20 |
| Isopropyl Acetate | 0.516 | 0.486 | | -5.81 | 20 |
| Bromomethane | 0.286 | 0.312 | | 9.09 | 20 |
| Chloroethane | 0.328 | 0.319 | | -2.74 | 20 |
| Trichlorofluoromethane | 0.793 | 0.763 | | -3.78 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 0.453 | 0.462 | | 1.99 | 20 |
| Tert butyl alcohol | 0.048 | 0.041 | | -14.58 | 20 |
| Diethyl Ether | 0.283 | 0.264 | | -6.71 | 20 |
| 1,1-Dichloroethene | 0.448 | 0.428 | | -4.46 | 20 |
| Acrolein | 0.034 | 0.042 | | 23.53 | 20 |
| Acrylonitrile | 0.184 | 0.182 | | -1.09 | 20 |
| Acetone | 0.158 | 0.157 | | -0.63 | 20 |
| Carbon Disulfide | 1.305 | 1.200 | | -8.05 | 20 |
| Methyl tert-butyl Ether | 1.368 | 1.300 | | -4.97 | 20 |
| Methyl Acetate | 0.587 | 0.537 | | -8.52 | 20 |
| Methylene Chloride | 0.523 | 0.518 | | -0.96 | 20 |
| trans-1,2-Dichloroethene | 0.492 | 0.477 | | -3.05 | 20 |
| Vinyl Acetate | 0.650 | 0.754 | | 16 | 20 |
| 1,1-Dichloroethane | 0.836 | 0.813 | 0.1 | -2.75 | 20 |
| Cyclohexane | 0.876 | 0.731 | | -16.55 | 20 |
| 2-Butanone | 0.213 | 0.207 | | -2.82 | 20 |
| Carbon Tetrachloride | 0.446 | 0.437 | | -2.02 | 20 |
| 2,2-Dichloropropane | 0.707 | 0.694 | | -1.84 | 20 |
| cis-1,2-Dichloroethene | 0.563 | 0.546 | | -3.02 | 20 |
| Bromochloromethane | 0.359 | 0.354 | | -1.39 | 20 |
| Chloroform | 0.903 | 0.874 | | -3.21 | 20 |
| 1,1,1-Trichloroethane | 0.781 | 0.739 | | -5.38 | 20 |
| Methylcyclohexane | 0.512 | 0.548 | | 7.03 | 20 |
| 1,1-Dichloropropene | 0.436 | 0.448 | | 2.75 | 20 |
| Benzene | 1.300 | 1.300 | | 0 | 20 |
| 1,2-Dichloroethane | 0.432 | 0.427 | | -1.16 | 20 |
| Trichloroethene | 0.380 | 0.371 | | -2.37 | 20 |
| 1,2-Dichloropropane | 0.323 | 0.329 | | 1.86 | 20 |
| Dibromomethane | 0.230 | 0.227 | | -1.3 | 20 |
| Bromodichloromethane | 0.438 | 0.442 | | 0.91 | 20 |
| 4-Methyl-2-Pentanone | 0.295 | 0.289 | | -2.03 | 20 |
| Toluene | 0.815 | 0.836 | | 2.58 | 20 |
| t-1,3-Dichloropropene | 0.460 | 0.475 | | 3.26 | 20 |
| cis-1,3-Dichloropropene | 0.510 | 0.521 | | 2.16 | 20 |

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VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date/Time: 03/29/2013 11:59

Lab File ID: VN004737.D Init. Calib. Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0.337 | 0.334 | | -0.89 | 20 |
| 1,3-Dichloropropane | 0.541 | 0.541 | | 0 | 20 |
| 2-Chloroethyl Vinyl ether | 0.204 | 0.213 | | 4.41 | 20 |
| 2-Hexanone | 0.213 | 0.208 | | -2.35 | 20 |
| Dibromochloromethane | 0.370 | 0.372 | | 0.54 | 20 |
| 1,2-Dibromoethane | 0.350 | 0.340 | | -2.86 | 20 |
| Tetrachloroethene | 0.488 | 0.541 | | 10.86 | 20 |
| Chlorobenzene | 1.061 | 1.055 | 0.3 | -0.57 | 20 |
| 1,1,1,2-Tetrachloroethane | 0.370 | 0.374 | | 1.08 | 20 |
| Hexachloroethane | 0.552 | 0.549 | | -0.54 | 20 |
| Ethyl Benzene | 1.648 | 1.715 | | 4.07 | 20 |
| m/p-Xylenes | 0.644 | 0.678 | | 5.28 | 20 |
| o-Xylene | 0.634 | 0.659 | | 3.94 | 20 |
| Styrene | 1.004 | 1.077 | | 7.27 | 20 |
| Bromoform | 0.303 | 0.304 | 0.1 | 0.33 | 20 |
| Isopropylbenzene | 3.219 | 3.304 | | 2.64 | 20 |
| 1,1,2,2-Tetrachloroethane | 0.935 | 0.913 | 0.3 | -2.35 | 20 |
| 1,2,3-Trichloropropane | 0.830 | 0.738 | | -11.08 | 20 |
| Bromobenzene | 0.881 | 0.880 | | -0.11 | 20 |
| n-propylbenzene | 3.649 | 3.860 | | 5.78 | 20 |
| 2-Chlorotoluene | 2.193 | 2.268 | | 3.42 | 20 |
| 1,3,5-Trimethylbenzene | 2.420 | 2.590 | | 7.03 | 20 |
| 4-Chlorotoluene | 2.189 | 2.255 | | 3.02 | 20 |
| tert-Butylbenzene | 2.294 | 2.405 | | 4.84 | 20 |
| 1,2,4-Trimethylbenzene | 2.478 | 2.653 | | 7.06 | 20 |
| sec-Butylbenzene | 3.263 | 3.419 | | 4.78 | 20 |
| p-Isopropyltoluene | 2.671 | 2.850 | | 6.7 | 20 |
| 1,3-Dichlorobenzene | 1.642 | 1.665 | | 1.4 | 20 |
| 1,4-Dichlorobenzene | 1.688 | 1.663 | | -1.48 | 20 |
| n-Butylbenzene | 2.361 | 2.529 | | 7.12 | 20 |
| 1,2-Dichlorobenzene | 1.618 | 1.608 | | -0.62 | 20 |
| 1,2-Dibromo-3-Chloropropane | 0.176 | 0.160 | | -9.09 | 20 |
| 1,2,4-Trichlorobenzene | 1.021 | 1.074 | | 5.19 | 20 |
| Hexachlorobutadiene | 0.506 | 0.543 | | 7.31 | 20 |
| Naphthalene | 2.601 | 2.698 | | 3.73 | 20 |
| 1,2,3-Trichlorobenzene | 1.013 | 1.037 | | 2.37 | 20 |
| 1,2-Dichloroethane-d4 | 0.549 | 0.504 | | -8.2 | 20 |
| Dibromofluoromethane | 0.309 | 0.309 | | 0 | 20 |
| Toluene-d8 | 1.160 | 1.142 | | -1.47 | 20 |
| 4-Bromofluorobenzene | 0.432 | 0.421 | | -2.55 | 20 |
| N-amyl acetate | 0.911 | 0.893 | | -1.98 | 20 |
| Methyl Iodide | 0.569 | 0.614 | | 7.91 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: MSVOA_N Calibration Date/Time: 03/29/2013 11:59

Lab File ID: VN004737.D Init. Calib. Date(s): 03/27/2013 03/27/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 15:14 17:35

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Allyl chloride | 0.575 | 0.545 | | -5.22 | 20 |
| trans-1,4-Dichloro-2-butene | 0.294 | 0.285 | | -3.06 | 20 |
| Methacrylonitrile | 0.179 | 0.177 | | -1.12 | 20 |
| Ethyl methacrylate | 0.412 | 0.424 | | 2.91 | 20 |

All other compounds must meet a minimum RRF of 0.010.

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | E1676 | **OrderDate:** | 3/28/2013 5:31:00 PM |
| **Client:** | Cardno ATC | **Project:** | Avalon- WP9 |
| **Contact:** | John Mascioli | **Location:** | L62 |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **E1676-01** | **MW-2-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-01DL** | **MW-2-Q12013DL** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-02** | **MW-8-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-03** | **MW-11R-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-06** | **MW-12R-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-07** | **MW-14-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-08** | **MW-15-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/02/13 | |
| **E1676-09** | **MW-16-Q12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-10** | **FB-Q-12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |
| **E1676-11** | **DUP-Q-12013** | **Water** | | | **03/28/13** | | | **03/28/13** |
| | | | SVOC- Chemtech Full | 625 | | 03/29/13 | 04/03/13 | |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| **Client ID : DUP-Q-12013** | | | | | | | | | |
| E1676-11 | DUP-Q-12013 | WATER | Naphthalene | 1.700 | J | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | 2-Methylnaphthalene | 6.600 | | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Acenaphthylene | 1.100 | J | 0.16 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Acenaphthene | 22.300 | | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Fluorene | 6.700 | | 0.15 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Phenanthrene | 4.300 | | 0.11 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Anthracene | 1.300 | J | 0.3 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Carbazole | 2.000 | J | 0.47 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Fluoranthene | 2.900 | | 0.85 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Pyrene | 3.500 | | 0.13 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Benzo(a)anthracene | 1.300 | J | 0.12 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Chrysene | 1.300 | J | 0.24 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Benzo(b)fluoranthene | 1.100 | J | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-11 | DUP-Q-12013 | WATER | Benzo(a)pyrene | 1.000 | J | 0.17 | 1.25 | 2.5 | ug/L |
| | | | **Total Svoc :** | | **57.10** | | | | |
| | | | **Total Concentration:** | | **57.10** | | | | |
| **Client ID : MW-12R-Q12013** | | | | | | | | | |
| E1676-06 | MW-12R-Q12013 | WATER | Naphthalene | 3.200 | | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-06 | MW-12R-Q12013 | WATER | Fluoranthene | 1.100 | J | 0.85 | 1.25 | 2.5 | ug/L |
| E1676-06 | MW-12R-Q12013 | WATER | Pyrene | 1.100 | J | 0.13 | 1.25 | 2.5 | ug/L |
| E1676-06 | MW-12R-Q12013 | WATER | Benzo(b)fluoranthene | 1.300 | J | 0.17 | 1.25 | 2.5 | ug/L |
| | | | **Total Svoc :** | | **6.70** | | | | |
| | | | **Total Concentration:** | | **6.70** | | | | |
| **Client ID : MW-14-Q12013** | | | | | | | | | |
| E1676-07 | MW-14-Q12013 | WATER | Naphthalene | 1.700 | J | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | 2-Methylnaphthalene | 7.500 | | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Dimethylphthalate | 1.300 | J | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Acenaphthene | 22.000 | | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Fluorene | 7.000 | | 0.15 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Phenanthrene | 4.100 | | 0.11 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Anthracene | 1.200 | J | 0.3 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Carbazole | 1.900 | J | 0.47 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Fluoranthene | 2.400 | J | 0.85 | 1.25 | 2.5 | ug/L |
| E1676-07 | MW-14-Q12013 | WATER | Pyrene | 2.900 | | 0.13 | 1.25 | 2.5 | ug/L |
| | | | **Total Svoc :** | | **52.00** | | | | |
| | | | **Total Concentration:** | | **52.00** | | | | |
| **Client ID : MW-15-Q12013** | | | | | | | | | |
| E1676-08 | MW-15-Q12013 | WATER | Dimethylphthalate | 2.200 | J | 0.18 | 1.3 | 2.6 | ug/L |

# Hit Summary Sheet
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Total Svoc :** | | **2.20** | | | | |
| | | | **Total Concentration:** | | **2.20** | | | | |
| **Client ID :** | **MW-2-Q12013** | | | | | | | | |
| E1676-01 | MW-2-Q12013 | WATER | Naphthalene | 6.800 | | 0.19 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | 1,1-Biphenyl | 1.800 | J | 0.27 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Dimethylphthalate | 1.500 | J | 0.17 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Acenaphthene | 82.400 | E | 0.17 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Dibenzofuran | 48.200 | | 2.2 | 5.1 | 10.2 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Fluorene | 20.700 | | 0.15 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Pentachlorophenol | 5.000 | J | 2.7 | 5.1 | 10.2 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Phenanthrene | 13.200 | | 0.11 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Carbazole | 38.000 | | 0.48 | 1.3 | 2.6 | ug/L |
| E1676-01 | MW-2-Q12013 | WATER | Bis(2-ethylhexyl)phthalate | 1.200 | J | 0.3 | 1.3 | 2.6 | ug/L |
| | | | **Total Svoc :** | | **218.80** | | | | |
| | | | **Total Concentration:** | | **218.80** | | | | |
| **Client ID :** | **MW-2-Q12013DL** | | | | | | | | |
| E1676-01DL | MW-2-Q12013DL | WATER | Naphthalene | 6.300 | JD | 0.97 | 6.4 | 12.8 | ug/L |
| E1676-01DL | MW-2-Q12013DL | WATER | Acenaphthene | 100.000 | D | 0.87 | 6.4 | 12.8 | ug/L |
| E1676-01DL | MW-2-Q12013DL | WATER | Dibenzofuran | 57.900 | D | 10.8 | 25.5 | 51 | ug/L |
| E1676-01DL | MW-2-Q12013DL | WATER | Fluorene | 21.300 | D | 0.77 | 6.4 | 12.8 | ug/L |
| E1676-01DL | MW-2-Q12013DL | WATER | Phenanthrene | 13.500 | D | 0.56 | 6.4 | 12.8 | ug/L |
| E1676-01DL | MW-2-Q12013DL | WATER | Carbazole | 38.000 | D | 2.4 | 6.4 | 12.8 | ug/L |
| | | | **Total Svoc :** | | **237.00** | | | | |
| | | | **Total Concentration:** | | **237.00** | | | | |
| **Client ID :** | **MW-8-Q12013** | | | | | | | | |
| E1676-02 | MW-8-Q12013 | WATER | 2-Methylphenol | 8.200 | J | 1.8 | 5 | 10 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Acetophenone | 4.000 | | 0.2 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | 3+4-Methylphenols | 8.100 | | 0.58 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | 2,4-Dimethylphenol | 4.800 | | 0.7 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Naphthalene | 1.100 | J | 0.19 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | 1,1-Biphenyl | 1.900 | J | 0.26 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Dimethylphthalate | 2.200 | J | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Acenaphthylene | 1.000 | J | 0.16 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Acenaphthene | 27.600 | | 0.17 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Dibenzofuran | 12.800 | | 2.1 | 5 | 10 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Diethylphthalate | 1.300 | J | 0.1 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Fluorene | 9.000 | | 0.15 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Pentachlorophenol | 3.300 | J | 2.7 | 5 | 10 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Anthracene | 1.100 | J | 0.3 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Carbazole | 14.500 | | 0.47 | 1.25 | 2.5 | ug/L |
| E1676-02 | MW-8-Q12013 | WATER | Di-n-butylphthalate | 1.000 | J | 0.59 | 1.25 | 2.5 | ug/L |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

| Sample ID | Client ID | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|
| | | **Total Svoc :** | | **101.90** | | | | |
| | | **Total Concentration:** | | **101.90** | | | | |

# SAMPLE DATA

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061302.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 110-86-1 | Pyridine | 6 | U | 6 | 12.8 | 25.5 | ug/L |
| 100-52-7 | Benzaldehyde | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.2 | ug/L |
| 108-95-2 | Phenol | 0.47 | U | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.33 | U | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 0.42 | U | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.5 | U | 4.5 | 5.1 | 10.2 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.3 | U | 3.3 | 5.1 | 10.2 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.8 | 25.5 | ug/L |
| 91-20-3 | Naphthalene | 6.8 | | 0.19 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.2 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061302.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.1 | 10.2 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.2 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 1.8 | J | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.2 | ug/L |
| 131-11-3 | Dimethylphthalate | 1.5 | J | 0.17 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2.1 | UQ | 2.1 | 5.1 | 10.2 | ug/L |
| 83-32-9 | Acenaphthene | 82.4 | E | 0.17 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.8 | 25.5 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.2 | ug/L |
| 132-64-9 | Dibenzofuran | 48.2 | | 2.2 | 5.1 | 10.2 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 20.7 | | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.2 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.82 | U | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.43 | U | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 5 | J | 2.7 | 5.1 | 10.2 | ug/L |
| 85-01-8 | Phenanthrene | 13.2 | | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 0.31 | U | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 38 | | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 0.86 | U | 0.86 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | UQ | 8.9 | 12.8 | 25.5 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061302.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.7 | U | 3.7 | 5.1 | 10.2 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1.2 | J | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.32 | U | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.38 | U | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | U | 5.1 | 5.1 | 10.2 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.2 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 30 | | 10 - 160 | | 30% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 17.4 | | 10 - 161 | | 17% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 79 | | 25 - 124 | | 79% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 73.1 | | 20 - 129 | | 73% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 67.2 | | 10 - 140 | | 67% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 65.8 | | 14 - 155 | | 66% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 112768 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 512408 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 250799 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 377536 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 327640 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 276940 | 13.62 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061302.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061310.D | 5 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 13.7 | UD | 13.7 | 25.5 | 51 | ug/L |
| 110-86-1 | Pyridine | 29.9 | UD | 29.9 | 63.8 | 130 | ug/L |
| 100-52-7 | Benzaldehyde | 1.4 | UD | 1.4 | 6.4 | 12.8 | ug/L |
| 62-53-3 | Aniline | 19.7 | UDQ | 19.7 | 25.5 | 51 | ug/L |
| 108-95-2 | Phenol | 2.3 | UD | 2.3 | 6.4 | 12.8 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 1.8 | UD | 1.8 | 6.4 | 12.8 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.97 | UD | 0.97 | 6.4 | 12.8 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 1.3 | UD | 1.3 | 6.4 | 12.8 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.61 | UD | 0.61 | 6.4 | 12.8 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.92 | UD | 0.92 | 6.4 | 12.8 | ug/L |
| 100-51-6 | Benzyl Alcohol | 1.6 | UD | 1.6 | 6.4 | 12.8 | ug/L |
| 95-48-7 | 2-Methylphenol | 9.2 | UD | 9.2 | 25.5 | 51 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 1.8 | UD | 1.8 | 6.4 | 12.8 | ug/L |
| 98-86-2 | Acetophenone | 1 | UD | 1 | 6.4 | 12.8 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 3 | UD | 3 | 6.4 | 12.8 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 1.1 | UD | 1.1 | 6.4 | 12.8 | ug/L |
| 67-72-1 | Hexachloroethane | 1.3 | UD | 1.3 | 6.4 | 12.8 | ug/L |
| 98-95-3 | Nitrobenzene | 3.3 | UD | 3.3 | 6.4 | 12.8 | ug/L |
| 78-59-1 | Isophorone | 2.1 | UD | 2.1 | 6.4 | 12.8 | ug/L |
| 88-75-5 | 2-Nitrophenol | 22.4 | UD | 22.4 | 25.5 | 51 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 3.6 | UD | 3.6 | 6.4 | 12.8 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 5.7 | UD | 5.7 | 6.4 | 12.8 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 16.4 | UD | 16.4 | 25.5 | 51 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.71 | UD | 0.71 | 6.4 | 12.8 | ug/L |
| 65-85-0 | Benzoic acid | 16.5 | UD | 16.5 | 63.8 | 130 | ug/L |
| 91-20-3 | Naphthalene | 6.3 | JD | 0.97 | 6.4 | 12.8 | ug/L |
| 106-47-8 | 4-Chloroaniline | 13.5 | UD | 13.5 | 25.5 | 51 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.87 | UD | 0.87 | 6.4 | 12.8 | ug/L |
| 105-60-2 | Caprolactam | 10.2 | UD | 10.2 | 25.5 | 51 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 8.8 | UD | 8.8 | 25.5 | 51 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.97 | UD | 0.97 | 6.4 | 12.8 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061310.D | 5 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 7.7 | UDQ | 7.7 | 25.5 | 51 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 10.8 | UD | 10.8 | 25.5 | 51 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 11.6 | UD | 11.6 | 25.5 | 51 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 1.3 | UD | 1.3 | 6.4 | 12.8 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.77 | UD | 0.77 | 6.4 | 12.8 | ug/L |
| 88-74-4 | 2-Nitroaniline | 21.6 | UD | 21.6 | 25.5 | 51 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.87 | UD | 0.87 | 6.4 | 12.8 | ug/L |
| 208-96-8 | Acenaphthylene | 0.82 | UD | 0.82 | 6.4 | 12.8 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 1.4 | UD | 1.4 | 6.4 | 12.8 | ug/L |
| 99-09-2 | 3-Nitroaniline | 10.3 | UDQ | 10.3 | 25.5 | 51 | ug/L |
| 83-32-9 | Acenaphthene | 100 | D | 0.87 | 6.4 | 12.8 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 9.6 | UD | 9.6 | 63.8 | 130 | ug/L |
| 100-02-7 | 4-Nitrophenol | 19.7 | UD | 19.7 | 25.5 | 51 | ug/L |
| 132-64-9 | Dibenzofuran | 57.9 | D | 10.8 | 25.5 | 51 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 10.8 | UD | 10.8 | 25.5 | 51 | ug/L |
| 84-66-2 | Diethylphthalate | 0.51 | UD | 0.51 | 6.4 | 12.8 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.4 | UD | 1.4 | 6.4 | 12.8 | ug/L |
| 86-73-7 | Fluorene | 21.3 | D | 0.77 | 6.4 | 12.8 | ug/L |
| 100-01-6 | 4-Nitroaniline | 12.7 | UD | 12.7 | 12.7 | 12.8 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 9.5 | UD | 9.5 | 25.5 | 51 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 4.1 | UD | 4.1 | 6.4 | 12.8 | ug/L |
| 103-33-3 | Azobenzene | 1.1 | UD | 1.1 | 6.4 | 12.8 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 2.1 | UD | 2.1 | 6.4 | 12.8 | ug/L |
| 118-74-1 | Hexachlorobenzene | 1.1 | UD | 1.1 | 6.4 | 12.8 | ug/L |
| 1912-24-9 | Atrazine | 2.9 | UD | 2.9 | 6.4 | 12.8 | ug/L |
| 87-86-5 | Pentachlorophenol | 13.7 | UD | 13.7 | 25.5 | 51 | ug/L |
| 85-01-8 | Phenanthrene | 13.5 | D | 0.56 | 6.4 | 12.8 | ug/L |
| 120-12-7 | Anthracene | 1.5 | UD | 1.5 | 6.4 | 12.8 | ug/L |
| 86-74-8 | Carbazole | 38 | D | 2.4 | 6.4 | 12.8 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 3 | UD | 3 | 6.4 | 12.8 | ug/L |
| 206-44-0 | Fluoranthene | 4.3 | UD | 4.3 | 6.4 | 12.8 | ug/L |
| 92-87-5 | Benzidine | 44.3 | UDQ | 44.3 | 63.8 | 130 | ug/L |
| 129-00-0 | Pyrene | 0.66 | UD | 0.66 | 6.4 | 12.8 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013DL | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061310.D | 5 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 1.1 | UD | 1.1 | 6.4 | 12.8 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 18.3 | UD | 18.3 | 25.5 | 51 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.61 | UD | 0.61 | 6.4 | 12.8 | ug/L |
| 218-01-9 | Chrysene | 1.2 | UD | 1.2 | 6.4 | 12.8 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1.5 | UD | 1.5 | 6.4 | 12.8 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 1.6 | UD | 1.6 | 6.4 | 12.8 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.87 | UD | 0.87 | 6.4 | 12.8 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 1.4 | UD | 1.4 | 6.4 | 12.8 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.87 | UD | 0.87 | 6.4 | 12.8 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 3.4 | UD | 3.4 | 6.4 | 12.8 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 1.4 | UD | 1.4 | 6.4 | 12.8 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.66 | UD | 0.66 | 6.4 | 12.8 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1.9 | UD | 1.9 | 6.4 | 12.8 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 25.5 | UD | 25.5 | 25.5 | 51 | ug/L |
| 123-91-1 | 1,4-Dioxane | 25.5 | UDQ | 25.5 | 25.5 | 51 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 26.6 | | 10 - 160 | | 27% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 14.2 | | 10 - 161 | | 14% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 71.6 | | 25 - 124 | | 72% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 89.7 | | 20 - 129 | | 90% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 87 | | 10 - 140 | | 87% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 71.9 | | 14 - 155 | | 72% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 71770 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 317874 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 148268 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 248169 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 227968 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 205314 | 13.62 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-2-Q12013DL | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-01DL | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061310.D | 5 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061309.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 8.2 | J | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 4 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 8.1 | | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 4.8 | | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 1.1 | J | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061309.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 1.9 | J | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 2.2 | J | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 1 | J | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 27.6 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 12.8 | | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 1.3 | J | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 9 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 3.3 | J | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 1.1 | J | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 14.5 | | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 1 | J | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | UQ | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061309.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | U | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 28.3 | | 10 - 160 | | 28% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 17.6 | | 10 - 161 | | 18% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 79.8 | | 25 - 124 | | 80% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 73 | | 20 - 129 | | 73% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 74.9 | | 10 - 140 | | 75% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 60.3 | | 14 - 155 | | 60% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 115169 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 506451 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 253140 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 385692 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 330938 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 290550 | 13.62 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-8-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061309.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061303.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061303.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | U | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | UQ | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061303.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | U | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 46.1 | | 10 - 160 | | 46% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 19.3 | | 10 - 161 | | 19% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 83.4 | | 25 - 124 | | 83% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 90.5 | | 20 - 129 | | 90% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 96.9 | | 10 - 140 | | 97% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 77.5 | | 14 - 155 | | 77% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 76482 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 346170 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 167558 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 272560 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 230365 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 211972 | 13.62 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061303.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061306.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 3.2 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061306.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | U | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 1.1 | J | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | UQ | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 1.1 | J | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061306.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 1.3 | J | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | U | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 34.5 | | 10 - 160 | | 34% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 20.6 | | 10 - 161 | | 21% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 87.2 | | 25 - 124 | | 87% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 79.5 | | 20 - 129 | | 79% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 74.3 | | 10 - 140 | | 74% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 69.8 | | 14 - 155 | | 70% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 119881 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 522915 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 249236 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 387355 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 330355 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 274722 | 13.63 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-12R-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-06 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061306.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061307.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 1.7 | J | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 7.5 | | 0.19 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061307.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 1.3 | J | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 22 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 7 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 4.1 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 1.2 | J | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 1.9 | J | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 2.4 | J | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | UQ | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 2.9 | | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061307.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | U | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 34.3 | | 10 - 160 | | 34% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 19.9 | | 10 - 161 | | 20% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 89.6 | | 25 - 124 | | 90% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 84.8 | | 20 - 129 | | 85% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 80.8 | | 10 - 140 | | 81% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 70.7 | | 14 - 155 | | 71% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 114215 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 472965 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 225125 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 349769 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 311111 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 272626 | 13.63 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-14-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-07 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061307.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 970 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061299.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.8 | U | 2.8 | 5.2 | 10.3 | ug/L |
| 110-86-1 | Pyridine | 6.1 | U | 6.1 | 12.9 | 25.8 | ug/L |
| 100-52-7 | Benzaldehyde | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 4 | UQ | 4 | 5.2 | 10.3 | ug/L |
| 108-95-2 | Phenol | 0.47 | U | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.33 | U | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.9 | U | 1.9 | 5.2 | 10.3 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 0.21 | U | 0.21 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.6 | U | 0.6 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 0.67 | U | 0.67 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 0.42 | U | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.5 | U | 4.5 | 5.2 | 10.3 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.72 | U | 0.72 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.3 | U | 3.3 | 5.2 | 10.3 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.9 | 25.8 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.2 | 10.3 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 2.1 | U | 2.1 | 5.2 | 10.3 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.8 | U | 1.8 | 5.2 | 10.3 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 970 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061299.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.2 | 10.3 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.2 | 10.3 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.27 | U | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.4 | U | 4.4 | 5.2 | 10.3 | ug/L |
| 131-11-3 | Dimethylphthalate | 2.2 | J | 0.18 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2.1 | UQ | 2.1 | 5.2 | 10.3 | ug/L |
| 83-32-9 | Acenaphthene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.9 | 25.8 | ug/L |
| 100-02-7 | 4-Nitrophenol | 4 | U | 4 | 5.2 | 10.3 | ug/L |
| 132-64-9 | Dibenzofuran | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.6 | U | 2.6 | 2.6 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.2 | 10.3 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.82 | U | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.43 | U | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 0.58 | U | 0.58 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.8 | U | 2.8 | 5.2 | 10.3 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 0.31 | U | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 0.48 | U | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.61 | U | 0.61 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 0.87 | U | 0.87 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | UQ | 8.9 | 12.9 | 25.8 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 970 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061299.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.7 | U | 3.7 | 5.2 | 10.3 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 0.25 | U | 0.25 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.3 | U | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.32 | U | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.68 | U | 0.68 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.38 | U | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.2 | U | 5.2 | 5.2 | 10.3 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.2 | UQ | 5.2 | 5.2 | 10.3 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 50.3 | | 10 - 160 | | 50% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 31.2 | | 10 - 161 | | 31% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 80.8 | | 25 - 124 | | 81% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 86.7 | | 20 - 129 | | 87% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 94.6 | | 10 - 140 | | 95% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 72.1 | | 14 - 155 | | 72% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 80038 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 355927 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 172071 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 275976 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 245493 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 214877 | 13.62 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-15-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-08 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 970 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061299.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061300.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061300.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | U | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | UQ | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061300.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | U | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 33.1 | | 10 - 160 | | 33% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 20 | | 10 - 161 | | 20% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 86.2 | | 25 - 124 | | 86% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 82 | | 20 - 129 | | 82% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 76.3 | | 10 - 140 | | 76% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 59.1 | | 14 - 155 | | 59% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 120122 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 525399 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 250139 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 385537 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 325979 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 266299 | 13.63 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-16-Q12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-09 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061300.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061301.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 110-86-1 | Pyridine | 6 | U | 6 | 12.8 | 25.5 | ug/L |
| 100-52-7 | Benzaldehyde | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.2 | ug/L |
| 108-95-2 | Phenol | 0.47 | U | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.33 | U | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 0.42 | U | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.5 | U | 4.5 | 5.1 | 10.2 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.3 | U | 3.3 | 5.1 | 10.2 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.8 | 25.5 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.2 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061301.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.1 | 10.2 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.2 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.27 | U | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.2 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2.1 | UQ | 2.1 | 5.1 | 10.2 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.8 | 25.5 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.2 | ug/L |
| 132-64-9 | Dibenzofuran | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.2 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.82 | U | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.43 | U | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 0.31 | U | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 0.48 | U | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 0.86 | U | 0.86 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | UQ | 8.9 | 12.8 | 25.5 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061301.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.7 | U | 3.7 | 5.1 | 10.2 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.3 | U | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.32 | U | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.38 | U | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | U | 5.1 | 5.1 | 10.2 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.2 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 29.7 | | 10 - 160 | | 30% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 17.5 | | 10 - 161 | | 17% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 85.4 | | 25 - 124 | | 85% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 80 | | 20 - 129 | | 80% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 75.9 | | 10 - 140 | | 76% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 81 | | 14 - 155 | | 81% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 116962 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 512416 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 247809 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 391465 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 326178 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 273709 | 13.62 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | FB-Q-12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-10 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061301.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061308.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 1.7 | J | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 6.6 | | 0.19 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061308.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | UQ | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 1.1 | J | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | UQ | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 22.3 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 6.7 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 4.3 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 1.3 | J | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 2 | J | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 2.9 | | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | UQ | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 3.5 | | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061308.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 1.3 | J | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 1.3 | J | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 1.1 | J | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 1 | J | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | U | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 43.3 | | 10 - 160 | | 43% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 26.3 | | 10 - 161 | | 26% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 84.3 | | 25 - 124 | | 84% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 89.7 | | 20 - 129 | | 90% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 100 | | 10 - 140 | | 101% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 73.1 | | 14 - 155 | | 73% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 76061 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 328004 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 155390 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 252201 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 231951 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 201163 | 13.62 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | DUP-Q-12013 | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-11 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061308.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# QC SUMMARY

## Surrogate Summary

**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Lab Sample ID | Client ID | Parameter | Spike (PPM) | Result (PPM) | Recovery (%) | Qual | Limits (%) Low | High |
|---|---|---|---|---|---|---|---|---|
| E1676-01 | MW-2-Q12013 | 2-Fluorophenol | 100 | 29.97 | 30 | | 10 | 160 |
| | | Phenol-d6 | 100 | 17.43 | 17 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 79.01 | 79 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 73.10 | 73 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 67.23 | 67 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 65.78 | 66 | | 14 | 155 |
| E1676-01DL | MW-2-Q12013DL | 2-Fluorophenol | 100 | 26.60 | 27 | | 10 | 160 |
| | | Phenol-d6 | 100 | 14.15 | 14 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 71.55 | 72 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 89.70 | 90 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 86.95 | 87 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 71.90 | 72 | | 14 | 155 |
| E1676-02 | MW-8-Q12013 | 2-Fluorophenol | 100 | 28.25 | 28 | | 10 | 160 |
| | | Phenol-d6 | 100 | 17.57 | 18 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 79.77 | 80 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 72.97 | 73 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 74.85 | 75 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 60.34 | 60 | | 14 | 155 |
| E1676-03 | MW-11R-Q12013 | 2-Fluorophenol | 100 | 46.08 | 46 | | 10 | 160 |
| | | Phenol-d6 | 100 | 19.25 | 19 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 83.36 | 83 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 90.45 | 90 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 96.93 | 97 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 77.47 | 77 | | 14 | 155 |
| E1676-04MS | MW-11R-Q12013MS | 2-Fluorophenol | 100 | 35.83 | 36 | | 10 | 160 |
| | | Phenol-d6 | 100 | 22.10 | 22 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 92.53 | 93 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 84.82 | 85 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 81.33 | 81 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 75.32 | 75 | | 14 | 155 |
| E1676-05MSD | MW-11R-Q12013MSD | 2-Fluorophenol | 100 | 37.12 | 37 | | 10 | 160 |
| | | Phenol-d6 | 100 | 22.57 | 23 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 90.25 | 90 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 82.90 | 83 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 79.83 | 80 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 77.12 | 77 | | 14 | 155 |
| E1676-06 | MW-12R-Q12013 | 2-Fluorophenol | 100 | 34.48 | 34 | | 10 | 160 |
| | | Phenol-d6 | 100 | 20.62 | 21 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 87.22 | 87 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 79.48 | 79 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 74.27 | 74 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 69.83 | 70 | | 14 | 155 |
| E1676-07 | MW-14-Q12013 | 2-Fluorophenol | 100 | 34.28 | 34 | | 10 | 160 |
| | | Phenol-d6 | 100 | 19.86 | 20 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 89.58 | 90 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 84.78 | 85 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 80.82 | 81 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 70.70 | 71 | | 14 | 155 |
| E1676-08 | MW-15-Q12013 | 2-Fluorophenol | 100 | 50.28 | 50 | | 10 | 160 |
| | | Phenol-d6 | 100 | 31.17 | 31 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 80.84 | 81 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 86.73 | 87 | | 20 | 129 |

## Surrogate Summary

**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Lab Sample ID | Client ID | Parameter | Spike (PPM) | Result (PPM) | Recovery (%) | Qual | Limits (%) Low | Limits (%) High |
|---|---|---|---|---|---|---|---|---|
| E1676-08 | MW-15-Q12013 | 2,4,6-Tribromophenol | 100 | 94.57 | 95 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 72.05 | 72 | | 14 | 155 |
| E1676-09 | MW-16-Q12013 | 2-Fluorophenol | 100 | 33.09 | 33 | | 10 | 160 |
| | | Phenol-d6 | 100 | 19.97 | 20 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 86.16 | 86 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 81.95 | 82 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 76.25 | 76 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 59.12 | 59 | | 14 | 155 |
| E1676-10 | FB-Q-12013 | 2-Fluorophenol | 100 | 29.66 | 30 | | 10 | 160 |
| | | Phenol-d6 | 100 | 17.48 | 17 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 85.40 | 85 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 80.03 | 80 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 75.87 | 76 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 81.01 | 81 | | 14 | 155 |
| E1676-11 | DUP-Q-12013 | 2-Fluorophenol | 100 | 43.28 | 43 | | 10 | 160 |
| | | Phenol-d6 | 100 | 26.30 | 26 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 84.29 | 84 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 89.72 | 90 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 101.49 | 101 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 73.08 | 73 | | 14 | 155 |
| PB68924BL | PB68924BL | 2-Fluorophenol | 100 | 79.18 | 79 | | 10 | 160 |
| | | Phenol-d6 | 100 | 79.64 | 80 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 89.72 | 90 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 83.80 | 84 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 78.19 | 78 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 84.06 | 84 | | 14 | 155 |
| PB68924BS | PB68924BS | 2-Fluorophenol | 100 | 78.00 | 78 | | 10 | 160 |
| | | Phenol-d6 | 100 | 78.11 | 78 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 85.43 | 85 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 114.82 | 115 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 96.19 | 96 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 81.79 | 82 | | 14 | 155 |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID: E1676-04MS** | **Client Sample ID: MW-11R-Q12013MS** | | | | | | **DataFile: BF061304.D** | | | | |
| n-Nitrosodimethylamine | 50.5 | 0 | 21.8 | ug/L | 43 | | | | 10 | 160 | |
| Pyridine | 50.5 | 0 | 16.6 | ug/L | 33 | | | | 10 | 145 | |
| Benzaldehyde | 50.5 | 0 | 11.9 | ug/L | 24 | | | | 10 | 160 | |
| Aniline | 50.5 | 0 | 5.5 | ug/L | 11 | * | | | 50 | 150 | |
| Phenol | 50.5 | 0 | 12.1 | ug/L | 24 | | | | 5 | 112 | |
| bis(2-Chloroethyl)ether | 50.5 | 0 | 43 | ug/L | 85 | | | | 12 | 158 | |
| 2-Chlorophenol | 50.5 | 0 | 34.1 | ug/L | 68 | | | | 23 | 134 | |
| 1,2-Dichlorobenzene | 50.5 | 0 | 40.1 | ug/L | 79 | | | | 32 | 129 | |
| 1,3-Dichlorobenzene | 50.5 | 0 | 41 | ug/L | 81 | | | | 1 | 172 | |
| 1,4-Dichlorobenzene | 50.5 | 0 | 40.9 | ug/L | 81 | | | | 20 | 124 | |
| Benzyl Alcohol | 50.5 | 0 | 27.9 | ug/L | 55 | | | | 10 | 145 | |
| 2-Methylphenol | 50.5 | 0 | 27.1 | ug/L | 54 | | | | 10 | 152 | |
| 2,2-oxybis(1-Chloropropane) | 50.5 | 0 | 41.7 | ug/L | 83 | | | | 36 | 166 | |
| Acetophenone | 50.5 | 0 | 45.9 | ug/L | 91 | | | | 50 | 135 | |
| 3+4-Methylphenols | 50.5 | 0 | 24.1 | ug/L | 48 | | | | 10 | 152 | |
| N-Nitroso-di-n-propylamine | 50.5 | 0 | 44.8 | ug/L | 89 | | | | 1 | 230 | |
| Hexachloroethane | 50.5 | 0 | 39.9 | ug/L | 79 | | | | 40 | 113 | |
| Nitrobenzene | 50.5 | 0 | 40.4 | ug/L | 80 | | | | 35 | 180 | |
| Isophorone | 50.5 | 0 | 40.8 | ug/L | 81 | | | | 21 | 196 | |
| 2-Nitrophenol | 50.5 | 0 | 45.5 | ug/L | 90 | | | | 29 | 182 | |
| 2,4-Dimethylphenol | 50.5 | 0 | 36.5 | ug/L | 72 | | | | 32 | 119 | |
| bis(2-Chloroethoxy)methane | 50.5 | 0 | 45 | ug/L | 89 | | | | 33 | 184 | |
| 2,4-Dichlorophenol | 50.5 | 0 | 41.5 | ug/L | 82 | | | | 39 | 135 | |
| 1,2,4-Trichlorobenzene | 50.5 | 0 | 43.3 | ug/L | 86 | | | | 44 | 142 | |
| Benzoic acid | 50.5 | 0 | 13.4 | ug/L | 27 | | | | 10 | 145 | |
| Naphthalene | 50.5 | 0 | 42.4 | ug/L | 84 | | | | 21 | 133 | |
| 4-Chloroaniline | 50.5 | 0 | 7.1 | ug/L | 14 | | | | 10 | 157 | |
| Hexachlorobutadiene | 50.5 | 0 | 40.5 | ug/L | 80 | | | | 24 | 116 | |
| Caprolactam | 50.5 | 0 | 7.2 | ug/L | 14 | | | | 10 | 161 | |
| 4-Chloro-3-methylphenol | 50.5 | 0 | 38.7 | ug/L | 77 | | | | 22 | 147 | |
| 2-Methylnaphthalene | 50.5 | 0 | 47.4 | ug/L | 94 | | | | 41 | 130 | |
| Hexachlorocyclopentadiene | 100 | 0 | 130 | ug/L | 130 | | | | 10 | 218 | |
| 2,4,6-Trichlorophenol | 50.5 | 0 | 41.7 | ug/L | 83 | | | | 37 | 144 | |
| 2,4,5-Trichlorophenol | 50.5 | 0 | 41 | ug/L | 81 | | | | 10 | 136 | |
| 1,1-Biphenyl | 50.5 | 0 | 43.7 | ug/L | 87 | | | | 51 | 126 | |
| 2-Chloronaphthalene | 50.5 | 0 | 43.8 | ug/L | 87 | | | | 60 | 118 | |
| 2-Nitroaniline | 50.5 | 0 | 47.1 | ug/L | 93 | | | | 46 | 154 | |
| Dimethylphthalate | 50.5 | 0 | 42.6 | ug/L | 84 | | | | 1 | 112 | |
| Acenaphthylene | 50.5 | 0 | 43.6 | ug/L | 86 | | | | 33 | 145 | |
| 2,6-Dinitrotoluene | 50.5 | 0 | 41.1 | ug/L | 81 | | | | 50 | 158 | |
| 3-Nitroaniline | 50.5 | 0 | 7.7 | ug/L | 15 | | | | 10 | 152 | |
| Acenaphthene | 50.5 | 0 | 44 | ug/L | 87 | | | | 47 | 145 | |
| 2,4-Dinitrophenol | 100 | 0 | 160 | ug/L | 160 | | | | 1 | 191 | |
| 4-Nitrophenol | 100 | 0 | 35 | ug/L | 35 | | | | 1 | 132 | |
| Dibenzofuran | 50.5 | 0 | 42.9 | ug/L | 85 | | | | 44 | 140 | |
| 2,4-Dinitrotoluene | 50.5 | 0 | 41.2 | ug/L | 82 | | | | 39 | 139 | |
| Diethylphthalate | 50.5 | 0 | 42.2 | ug/L | 84 | | | | 1 | 114 | |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-Chlorophenyl-phenylether | 50.5 | 0 | 41.5 | ug/L | 82 | | | | 25 | 158 | |
| Fluorene | 50.5 | 0 | 41.7 | ug/L | 83 | | | | 59 | 121 | |
| 4-Nitroaniline | 50.5 | 0 | 34.7 | ug/L | 69 | | | | 45 | 160 | |
| 4,6-Dinitro-2-methylphenol | 50.5 | 0 | 54 | ug/L | 107 | | | | 1 | 181 | |
| N-Nitrosodiphenylamine | 50.5 | 0 | 40.6 | ug/L | 80 | | | | 59 | 137 | |
| Azobenzene | 50.5 | 0 | 47.1 | ug/L | 93 | | | | 70 | 124 | |
| 4-Bromophenyl-phenylether | 50.5 | 0 | 40.4 | ug/L | 80 | | | | 53 | 127 | |
| Hexachlorobenzene | 50.5 | 0 | 40.6 | ug/L | 80 | | | | 1 | 152 | |
| Atrazine | 50.5 | 0 | 39.5 | ug/L | 78 | | | | 59 | 152 | |
| Pentachlorophenol | 100 | 0 | 88.8 | ug/L | 89 | | | | 14 | 176 | |
| Phenanthrene | 50.5 | 0 | 42.8 | ug/L | 85 | | | | 54 | 120 | |
| Anthracene | 50.5 | 0 | 43.9 | ug/L | 87 | | | | 27 | 133 | |
| Carbazole | 50.5 | 0 | 43.6 | ug/L | 86 | | | | 51 | 160 | |
| Di-n-butylphthalate | 50.5 | 0 | 42.6 | ug/L | 84 | | | | 1 | 118 | |
| Fluoranthene | 50.5 | 0 | 42.5 | ug/L | 84 | | | | 26 | 137 | |
| Benzidine | 100 | 0 | 0 | ug/L | 0 | * | | | 10 | 159 | |
| Pyrene | 50.5 | 0 | 43.3 | ug/L | 86 | | | | 52 | 115 | |
| Butylbenzylphthalate | 50.5 | 0 | 49.1 | ug/L | 97 | | | | 1 | 152 | |
| 3,3-Dichlorobenzidine | 50.5 | 0 | 11.2 | ug/L | 22 | | | | 1 | 262 | |
| Benzo(a)anthracene | 50.5 | 0 | 46.2 | ug/L | 91 | | | | 33 | 143 | |
| Chrysene | 50.5 | 0 | 46.6 | ug/L | 92 | | | | 17 | 168 | |
| bis(2-Ethylhexyl)phthalate | 50.5 | 0 | 47.2 | ug/L | 93 | | | | 8 | 158 | |
| Di-n-octyl phthalate | 50.5 | 0 | 50.9 | ug/L | 101 | | | | 4 | 146 | |
| Benzo(b)fluoranthene | 50.5 | 0 | 47.1 | ug/L | 93 | | | | 24 | 159 | |
| Benzo(k)fluoranthene | 50.5 | 0 | 47.1 | ug/L | 93 | | | | 11 | 162 | |
| Benzo(a)pyrene | 50.5 | 0 | 49 | ug/L | 97 | | | | 17 | 163 | |
| Indeno(1,2,3-cd)pyrene | 50.5 | 0 | 45.3 | ug/L | 90 | | | | 1 | 171 | |
| Dibenz(a,h)anthracene | 50.5 | 0 | 43 | ug/L | 85 | | | | 1 | 227 | |
| Benzo(g,h,i)perylene | 50.5 | 0 | 46.4 | ug/L | 92 | | | | 1 | 219 | |
| 1,2,4,5-Tetrachlorobenzene | 50.5 | 0 | 39.3 | ug/L | 78 | | | | 70 | 130 | |
| 2,3,4,6-Tetrachlorophenol | 50.5 | 0 | 41.3 | ug/L | 82 | | | | 70 | 130 | |
| 1,4-Dioxane | 50.5 | 0 | 16.1 | ug/L | 32 | * | | | 70 | 130 | |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID: E1676-05MSD** | **Client Sample ID: MW-11R-Q12013MSD** | | | | | | **DataFile: BF061305.D** | | | | |
| n-Nitrosodimethylamine | 51 | 0 | 22.8 | ug/L | 45 | | 5 | | 10 | 160 | 20 |
| Pyridine | 51 | 0 | 17 | ug/L | 33 | | 0 | | 10 | 145 | 20 |
| Benzaldehyde | 51 | 0 | 7.7 | ug/L | 15 | | 46 | * | 10 | 160 | 20 |
| Aniline | 51 | 0 | 5.6 | ug/L | 11 | * | 0 | | 50 | 150 | 20 |
| Phenol | 51 | 0 | 13.2 | ug/L | 26 | | 8 | | 5 | 112 | 20 |
| bis(2-Chloroethyl)ether | 51 | 0 | 45 | ug/L | 88 | | 3 | | 12 | 158 | 20 |
| 2-Chlorophenol | 51 | 0 | 34.3 | ug/L | 67 | | 1 | | 23 | 134 | 20 |
| 1,2-Dichlorobenzene | 51 | 0 | 40.2 | ug/L | 79 | | 0 | | 32 | 129 | 20 |
| 1,3-Dichlorobenzene | 51 | 0 | 40.2 | ug/L | 79 | | 3 | | 1 | 172 | 20 |
| 1,4-Dichlorobenzene | 51 | 0 | 40.9 | ug/L | 80 | | 1 | | 20 | 124 | 20 |
| Benzyl Alcohol | 51 | 0 | 30.2 | ug/L | 59 | | 7 | | 10 | 145 | 20 |
| 2-Methylphenol | 51 | 0 | 28.9 | ug/L | 57 | | 5 | | 10 | 152 | 20 |
| 2,2-oxybis(1-Chloropropane) | 51 | 0 | 42.2 | ug/L | 83 | | 0 | | 36 | 166 | 20 |
| Acetophenone | 51 | 0 | 47.3 | ug/L | 93 | | 2 | | 50 | 135 | 20 |
| 3+4-Methylphenols | 51 | 0 | 26.2 | ug/L | 51 | | 6 | | 10 | 152 | 20 |
| N-Nitroso-di-n-propylamine | 51 | 0 | 45.9 | ug/L | 90 | | 1 | | 1 | 230 | 20 |
| Hexachloroethane | 51 | 0 | 40.8 | ug/L | 80 | | 1 | | 40 | 113 | 20 |
| Nitrobenzene | 51 | 0 | 41.3 | ug/L | 81 | | 1 | | 35 | 180 | 20 |
| Isophorone | 51 | 0 | 41.7 | ug/L | 82 | | 1 | | 21 | 196 | 20 |
| 2-Nitrophenol | 51 | 0 | 46.1 | ug/L | 90 | | 0 | | 29 | 182 | 20 |
| 2,4-Dimethylphenol | 51 | 0 | 35.8 | ug/L | 70 | | 3 | | 32 | 119 | 20 |
| bis(2-Chloroethoxy)methane | 51 | 0 | 46.1 | ug/L | 90 | | 1 | | 33 | 184 | 20 |
| 2,4-Dichlorophenol | 51 | 0 | 42.4 | ug/L | 83 | | 1 | | 39 | 135 | 20 |
| 1,2,4-Trichlorobenzene | 51 | 0 | 44.9 | ug/L | 88 | | 2 | | 44 | 142 | 20 |
| Benzoic acid | 51 | 0 | 14.2 | ug/L | 28 | | 4 | | 10 | 145 | 20 |
| Naphthalene | 51 | 0 | 43.2 | ug/L | 85 | | 1 | | 21 | 133 | 20 |
| 4-Chloroaniline | 51 | 0 | 7.6 | ug/L | 15 | | 7 | | 10 | 157 | 20 |
| Hexachlorobutadiene | 51 | 0 | 42.1 | ug/L | 83 | | 4 | | 24 | 116 | 20 |
| Caprolactam | 51 | 0 | 7.3 | ug/L | 14 | | 0 | | 10 | 161 | 20 |
| 4-Chloro-3-methylphenol | 51 | 0 | 39.1 | ug/L | 77 | | 0 | | 22 | 147 | 20 |
| 2-Methylnaphthalene | 51 | 0 | 47 | ug/L | 92 | | 2 | | 41 | 130 | 20 |
| Hexachlorocyclopentadiene | 100 | 0 | 130 | ug/L | 130 | | 0 | | 10 | 218 | 20 |
| 2,4,6-Trichlorophenol | 51 | 0 | 43 | ug/L | 84 | | 1 | | 37 | 144 | 20 |
| 2,4,5-Trichlorophenol | 51 | 0 | 41.1 | ug/L | 81 | | 0 | | 10 | 136 | 20 |
| 1,1-Biphenyl | 51 | 0 | 44.9 | ug/L | 88 | | 1 | | 51 | 126 | 20 |
| 2-Chloronaphthalene | 51 | 0 | 44.9 | ug/L | 88 | | 1 | | 60 | 118 | 20 |
| 2-Nitroaniline | 51 | 0 | 48.7 | ug/L | 95 | | 2 | | 46 | 154 | 20 |
| Dimethylphthalate | 51 | 0 | 43.8 | ug/L | 86 | | 2 | | 1 | 112 | 20 |
| Acenaphthylene | 51 | 0 | 44.1 | ug/L | 86 | | 0 | | 33 | 145 | 20 |
| 2,6-Dinitrotoluene | 51 | 0 | 41.9 | ug/L | 82 | | 1 | | 50 | 158 | 20 |
| 3-Nitroaniline | 51 | 0 | 10.1 | ug/L | 20 | | 29 | * | 10 | 152 | 20 |
| Acenaphthene | 51 | 0 | 45.8 | ug/L | 90 | | 3 | | 47 | 145 | 20 |
| 2,4-Dinitrophenol | 100 | 0 | 170 | ug/L | 170 | | 6 | | 1 | 191 | 20 |
| 4-Nitrophenol | 100 | 0 | 36.8 | ug/L | 37 | | 6 | | 1 | 132 | 20 |
| Dibenzofuran | 51 | 0 | 44.7 | ug/L | 88 | | 3 | | 44 | 140 | 20 |
| 2,4-Dinitrotoluene | 51 | 0 | 44 | ug/L | 86 | | 5 | | 39 | 139 | 20 |
| Diethylphthalate | 51 | 0 | 43.2 | ug/L | 85 | | 1 | | 1 | 114 | 20 |

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**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-Chlorophenyl-phenylether | 51 | 0 | 42.2 | ug/L | 83 | | 1 | | 25 | 158 | 20 |
| Fluorene | 51 | 0 | 43.5 | ug/L | 85 | | 2 | | 59 | 121 | 20 |
| 4-Nitroaniline | 51 | 0 | 36.7 | ug/L | 72 | | 4 | | 45 | 160 | 20 |
| 4,6-Dinitro-2-methylphenol | 51 | 0 | 54.7 | ug/L | 107 | | 0 | | 1 | 181 | 20 |
| N-Nitrosodiphenylamine | 51 | 0 | 38.9 | ug/L | 76 | | 5 | | 59 | 137 | 20 |
| Azobenzene | 51 | 0 | 48.1 | ug/L | 94 | | 1 | | 70 | 124 | 20 |
| 4-Bromophenyl-phenylether | 51 | 0 | 40.5 | ug/L | 79 | | 1 | | 53 | 127 | 20 |
| Hexachlorobenzene | 51 | 0 | 40.9 | ug/L | 80 | | 0 | | 1 | 152 | 20 |
| Atrazine | 51 | 0 | 37.1 | ug/L | 73 | | 7 | | 59 | 152 | 20 |
| Pentachlorophenol | 100 | 0 | 90.9 | ug/L | 91 | | 2 | | 14 | 176 | 20 |
| Phenanthrene | 51 | 0 | 42.6 | ug/L | 84 | | 1 | | 54 | 120 | 20 |
| Anthracene | 51 | 0 | 44.2 | ug/L | 87 | | 0 | | 27 | 133 | 20 |
| Carbazole | 51 | 0 | 43.9 | ug/L | 86 | | 0 | | 51 | 160 | 20 |
| Di-n-butylphthalate | 51 | 0 | 42 | ug/L | 82 | | 2 | | 1 | 118 | 20 |
| Fluoranthene | 51 | 0 | 43.4 | ug/L | 85 | | 1 | | 26 | 137 | 20 |
| Benzidine | 100 | 0 | 0 | ug/L | 0 | * | 0 | | 10 | 159 | 20 |
| Pyrene | 51 | 0 | 43.1 | ug/L | 85 | | 1 | | 52 | 115 | 20 |
| Butylbenzylphthalate | 51 | 0 | 49.3 | ug/L | 97 | | 0 | | 1 | 152 | 20 |
| 3,3-Dichlorobenzidine | 51 | 0 | 10.6 | ug/L | 21 | | 5 | | 1 | 262 | 20 |
| Benzo(a)anthracene | 51 | 0 | 45.5 | ug/L | 89 | | 2 | | 33 | 143 | 20 |
| Chrysene | 51 | 0 | 46.1 | ug/L | 90 | | 2 | | 17 | 168 | 20 |
| bis(2-Ethylhexyl)phthalate | 51 | 0 | 46.7 | ug/L | 92 | | 1 | | 8 | 158 | 20 |
| Di-n-octyl phthalate | 51 | 0 | 50.6 | ug/L | 99 | | 2 | | 4 | 146 | 20 |
| Benzo(b)fluoranthene | 51 | 0 | 47.2 | ug/L | 93 | | 0 | | 24 | 159 | 20 |
| Benzo(k)fluoranthene | 51 | 0 | 47.4 | ug/L | 93 | | 0 | | 11 | 162 | 20 |
| Benzo(a)pyrene | 51 | 0 | 49.8 | ug/L | 98 | | 1 | | 17 | 163 | 20 |
| Indeno(1,2,3-cd)pyrene | 51 | 0 | 45.3 | ug/L | 89 | | 1 | | 1 | 171 | 20 |
| Dibenz(a,h)anthracene | 51 | 0 | 43.8 | ug/L | 86 | | 1 | | 1 | 227 | 20 |
| Benzo(g,h,i)perylene | 51 | 0 | 46.9 | ug/L | 92 | | 0 | | 1 | 219 | 20 |
| 1,2,4,5-Tetrachlorobenzene | 51 | 0 | 41.2 | ug/L | 81 | | 4 | | 70 | 130 | 20 |
| 2,3,4,6-Tetrachlorophenol | 51 | 0 | 41.2 | ug/L | 81 | | 1 | | 70 | 130 | 20 |
| 1,4-Dioxane | 51 | 0 | 16.9 | ug/L | 33 | * | 3 | | 70 | 130 | 20 |

# Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625 **DataFile:** BF061297.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | RPD Qual | Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PB68924BS | n-Nitrosodimethylamine | 50 | 46.5 | ug/L | 93 | | | | 10 | 156 | |
| | Pyridine | 50 | 39 | ug/L | 78 | | | | 55 | 145 | |
| | Benzaldehyde | 50 | 17.5 | ug/L | 35 | | | | 10 | 161 | |
| | Aniline | 50 | 6.5 | ug/L | 13 | | | * | 50 | 150 | |
| | Phenol | 50 | 42.1 | ug/L | 84 | | | | 5 | 112 | |
| | bis(2-Chloroethyl)ether | 50 | 40.5 | ug/L | 81 | | | | 12 | 158 | |
| | 2-Chlorophenol | 50 | 38.1 | ug/L | 76 | | | | 23 | 134 | |
| | 1,2-Dichlorobenzene | 50 | 37.6 | ug/L | 75 | | | | 32 | 129 | |
| | 1,3-Dichlorobenzene | 50 | 38.9 | ug/L | 78 | | | | 1 | 172 | |
| | 1,4-Dichlorobenzene | 50 | 38.8 | ug/L | 78 | | | | 20 | 124 | |
| | Benzyl Alcohol | 50 | 42.2 | ug/L | 84 | | | | 10 | 156 | |
| | 2-Methylphenol | 50 | 40.3 | ug/L | 81 | | | | 15 | 153 | |
| | 2,2-oxybis(1-Chloropropane) | 50 | 37.8 | ug/L | 76 | | | | 36 | 166 | |
| | Acetophenone | 50 | 43.1 | ug/L | 86 | | | | 21 | 128 | |
| | 3+4-Methylphenols | 50 | 41 | ug/L | 82 | | | | 10 | 156 | |
| | N-Nitroso-di-n-propylamine | 50 | 39.9 | ug/L | 80 | | | | 1 | 230 | |
| | Hexachloroethane | 50 | 38.6 | ug/L | 77 | | | | 40 | 113 | |
| | Nitrobenzene | 50 | 36.7 | ug/L | 73 | | | | 35 | 180 | |
| | Isophorone | 50 | 37.2 | ug/L | 74 | | | | 21 | 196 | |
| | 2-Nitrophenol | 50 | 42.6 | ug/L | 85 | | | | 29 | 182 | |
| | 2,4-Dimethylphenol | 50 | 41.2 | ug/L | 82 | | | | 32 | 119 | |
| | bis(2-Chloroethoxy)methane | 50 | 40.8 | ug/L | 82 | | | | 33 | 184 | |
| | 2,4-Dichlorophenol | 50 | 40.9 | ug/L | 82 | | | | 39 | 135 | |
| | 1,2,4-Trichlorobenzene | 50 | 42.2 | ug/L | 84 | | | | 44 | 142 | |
| | Benzoic acid | 50 | 39 | ug/L | 78 | | | | 10 | 159 | |
| | Naphthalene | 50 | 39.4 | ug/L | 79 | | | | 21 | 133 | |
| | 4-Chloroaniline | 50 | 7.2 | ug/L | 14 | | | | 10 | 156 | |
| | Hexachlorobutadiene | 50 | 38.1 | ug/L | 76 | | | | 24 | 116 | |
| | Caprolactam | 50 | 42 | ug/L | 84 | | | | 10 | 160 | |
| | 4-Chloro-3-methylphenol | 50 | 40.9 | ug/L | 82 | | | | 22 | 147 | |
| | 2-Methylnaphthalene | 50 | 43.1 | ug/L | 86 | | | | 25 | 124 | |
| | Hexachlorocyclopentadiene | 100 | 180 | ug/L | 180 | | | * | 10 | 143 | |
| | 2,4,6-Trichlorophenol | 50 | 57.4 | ug/L | 115 | | | | 37 | 144 | |
| | 2,4,5-Trichlorophenol | 50 | 56.3 | ug/L | 113 | | | | 41 | 120 | |
| | 1,1-Biphenyl | 50 | 41.8 | ug/L | 84 | | | | 20 | 125 | |
| | 2-Chloronaphthalene | 50 | 41.5 | ug/L | 83 | | | | 60 | 118 | |
| | 2-Nitroaniline | 50 | 37.4 | ug/L | 75 | | | | 38 | 131 | |
| | Dimethylphthalate | 50 | 38.7 | ug/L | 77 | | | | 1 | 112 | |
| | Acenaphthylene | 50 | 40.9 | ug/L | 82 | | | | 33 | 145 | |
| | 2,6-Dinitrotoluene | 50 | 37.6 | ug/L | 75 | | | | 50 | 158 | |
| | 3-Nitroaniline | 50 | 8.4 | ug/L | 17 | | | * | 24 | 126 | |
| | Acenaphthene | 50 | 40.9 | ug/L | 82 | | | | 47 | 145 | |
| | 2,4-Dinitrophenol | 100 | 160 | ug/L | 160 | | | | 1 | 191 | |
| | 4-Nitrophenol | 100 | 94.8 | ug/L | 95 | | | | 1 | 132 | |
| | Dibenzofuran | 50 | 41.2 | ug/L | 82 | | | | 29 | 125 | |
| | 2,4-Dinitrotoluene | 50 | 38.5 | ug/L | 77 | | | | 39 | 139 | |

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# Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

**SDG No.:** E1676

**Client:** Cardno ATC

**Analytical Method:** 625 **DataFile:** BF061297.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | RPD Qual | Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PB68924BS | Diethylphthalate | 50 | 39.4 | ug/L | 79 | | | | 1 | 114 | |
| | 4-Chlorophenyl-phenylether | 50 | 41.2 | ug/L | 82 | | | | 25 | 158 | |
| | Fluorene | 50 | 40.3 | ug/L | 81 | | | | 59 | 121 | |
| | 4-Nitroaniline | 50 | 32.7 | ug/L | 65 | | | | 50 | 137 | |
| | 4,6-Dinitro-2-methylphenol | 50 | 48.7 | ug/L | 97 | | | | 1 | 181 | |
| | N-Nitrosodiphenylamine | 50 | 41.3 | ug/L | 83 | | | | 37 | 139 | |
| | Azobenzene | 50 | 39.3 | ug/L | 79 | | | | 45 | 134 | |
| | 4-Bromophenyl-phenylether | 50 | 39 | ug/L | 78 | | | | 53 | 127 | |
| | Hexachlorobenzene | 50 | 41.3 | ug/L | 83 | | | | 1 | 152 | |
| | Atrazine | 50 | 40.1 | ug/L | 80 | | | | 51 | 130 | |
| | Pentachlorophenol | 100 | 88.5 | ug/L | 89 | | | | 14 | 176 | |
| | Phenanthrene | 50 | 38.7 | ug/L | 77 | | | | 54 | 120 | |
| | Anthracene | 50 | 40.1 | ug/L | 80 | | | | 27 | 133 | |
| | Carbazole | 50 | 39.4 | ug/L | 79 | | | | 60 | 125 | |
| | Di-n-butylphthalate | 50 | 37.4 | ug/L | 75 | | | | 1 | 118 | |
| | Fluoranthene | 50 | 39.7 | ug/L | 79 | | | | 26 | 137 | |
| | Benzidine | 100 | 9.4 | ug/L | 9 | | | * | 10 | 158 | |
| | Pyrene | 50 | 37.3 | ug/L | 75 | | | | 52 | 115 | |
| | Butylbenzylphthalate | 50 | 39.1 | ug/L | 78 | | | | 1 | 152 | |
| | 3,3-Dichlorobenzidine | 50 | 5 | ug/L | 10 | | | | 1 | 262 | |
| | Benzo(a)anthracene | 50 | 40.9 | ug/L | 82 | | | | 33 | 143 | |
| | Chrysene | 50 | 41.3 | ug/L | 83 | | | | 17 | 168 | |
| | bis(2-Ethylhexyl)phthalate | 50 | 38.5 | ug/L | 77 | | | | 8 | 158 | |
| | Di-n-octyl phthalate | 50 | 40.4 | ug/L | 81 | | | | 4 | 146 | |
| | Benzo(b)fluoranthene | 50 | 43.4 | ug/L | 87 | | | | 24 | 159 | |
| | Benzo(k)fluoranthene | 50 | 42.8 | ug/L | 86 | | | | 11 | 162 | |
| | Benzo(a)pyrene | 50 | 44.9 | ug/L | 90 | | | | 17 | 163 | |
| | Indeno(1,2,3-cd)pyrene | 50 | 41.6 | ug/L | 83 | | | | 1 | 171 | |
| | Dibenz(a,h)anthracene | 50 | 40.6 | ug/L | 81 | | | | 1 | 227 | |
| | Benzo(g,h,i)perylene | 50 | 43.2 | ug/L | 86 | | | | 1 | 219 | |
| | 1,2,4,5-Tetrachlorobenzene | 50 | 53.7 | ug/L | 107 | | | | 70 | 130 | |
| | 2,3,4,6-Tetrachlorophenol | 50 | 42.5 | ug/L | 85 | | | | 70 | 130 | |
| | 1,4-Dioxane | 50 | 32.3 | ug/L | 65 | | | * | 70 | 130 | |

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB68924BL

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

Lab File ID: BF061298.D Lab Sample ID: PB68924BL

Instrument ID: BNA_F Date Extracted: 03/29/2013

Matrix: (soil/water) Water Date Analyzed: 04/02/2013

Level: (low/med) LOW Time Analyzed: 23:31

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| MW-15-Q12013 | E1676-08 | BF061299.D | 04/02/2013 |
| MW-16-Q12013 | E1676-09 | BF061300.D | 04/03/2013 |
| FB-Q-12013 | E1676-10 | BF061301.D | 04/03/2013 |
| MW-14-Q12013 | E1676-07 | BF061307.D | 04/03/2013 |
| DUP-Q-12013 | E1676-11 | BF061308.D | 04/03/2013 |
| MW-2-Q12013 | E1676-01 | BF061302.D | 04/03/2013 |
| MW-8-Q12013 | E1676-02 | BF061309.D | 04/03/2013 |
| MW-11R-Q12013 | E1676-03 | BF061303.D | 04/03/2013 |
| MW-11R-Q12013MS | E1676-04MS | BF061304.D | 04/03/2013 |
| MW-11R-Q12013MSD | E1676-05MSD | BF061305.D | 04/03/2013 |
| MW-12R-Q12013 | E1676-06 | BF061306.D | 04/03/2013 |
| PB68924BS | PB68924BS | BF061297.D | 04/02/2013 |

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM SAS No.: E1676 SDG NO.: E1676

Lab File ID: BF061281.D DFTPP Injection Date: 04/02/2013

Instrument ID: BNA_F DFTPP Injection Time: 16:19

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 10.0 - 80.0% of mass 198 | 53.8 |
| 68 | Less than 2.0% of mass 69 | 0.9 ( 2 ) 1 |
| 69 | Mass 69 relative abundance | 45 |
| 70 | Less than 2.0% of mass 69 | 0.2 ( 0.5 ) 1 |
| 127 | 10.0 - 80.0% of mass 198 | 60 |
| 197 | Less than 2.0% of mass 198 | 0.4 |
| 198 | Base Peak, 100% relative abundance | 100 |
| 199 | 5.0 to 9.0% of mass 198 | 7 |
| 275 | 10.0 - 60.0% of mass 198 | 23.5 |
| 365 | Greater than 1% of mass 198 | 3.1 |
| 441 | Present, but less than mass 443 | 13.5 |
| 442 | Greater than 50% of mass 198 | 85.5 |
| 443 | 15.0 - 24.0% of mass 442 | 16.1 (18.8) 2 |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| SSTDICC010 | SSTDICC010 | BF061290.D | 04/02/2013 | 20:10 |
| SSTDICCC025 | SSTDICCC025 | BF061291.D | 04/02/2013 | 20:36 |
| SSTDICC040 | SSTDICC040 | BF061292.D | 04/02/2013 | 21:01 |
| SSTDICC060 | SSTDICC060 | BF061293.D | 04/02/2013 | 21:26 |
| SSTDICC2.5 | SSTDICC2.5 | BF061294.D | 04/02/2013 | 21:51 |
| PB68924BS | PB68924BS | BF061297.D | 04/02/2013 | 23:06 |
| PB68924BL | PB68924BL | BF061298.D | 04/02/2013 | 23:31 |
| MW-15-Q12013 | E1676-08 | BF061299.D | 04/02/2013 | 23:56 |
| MW-16-Q12013 | E1676-09 | BF061300.D | 04/03/2013 | 00:22 |
| FB-Q-12013 | E1676-10 | BF061301.D | 04/03/2013 | 00:47 |
| MW-2-Q12013 | E1676-01 | BF061302.D | 04/03/2013 | 01:12 |
| MW-11R-Q12013 | E1676-03 | BF061303.D | 04/03/2013 | 01:37 |
| MW-11R-Q12013MS | E1676-04MS | BF061304.D | 04/03/2013 | 02:01 |
| MW-11R-Q12013MSD | E1676-05MSD | BF061305.D | 04/03/2013 | 02:26 |
| MW-12R-Q12013 | E1676-06 | BF061306.D | 04/03/2013 | 02:51 |
| MW-14-Q12013 | E1676-07 | BF061307.D | 04/03/2013 | 03:17 |
| DUP-Q-12013 | E1676-11 | BF061308.D | 04/03/2013 | 03:42 |
| MW-8-Q12013 | E1676-02 | BF061309.D | 04/03/2013 | 04:06 |
| MW-2-Q12013DL | E1676-01DL | BF061310.D | 04/03/2013 | 09:08 |

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG NO.: E1676

EPA Sample No.: SSTDICCC025 Date Analyzed: 04/02/2013

Lab File ID: BF061291.D Time Analyzed: 20:36

Instrument ID: BNA_F GC Column: RTX-5 ID: 0.18 (mm)

| | | IS1 (DCB) AREA # | RT # | IS2 (NPT) AREA # | RT # | IS3 (ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 97368 | 3.99 | 435564 | 5.11 | 161179 | 6.81 |
| | UPPER LIMIT | 194736 | 4.49 | 871128 | 5.61 | 322358 | 7.31 |
| | LOWER LIMIT | 48684 | 3.49 | 217782 | 4.61 | 80589.5 | 6.31 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | MW-11R-Q12013 | 76482 | 3.99 | 346170 | 5.10 | 167558 | 6.80 |
| 02 | MW-11R-Q12013MS | 114170 | 3.99 | 495714 | 5.10 | 238172 | 6.81 |
| 03 | MW-11R-Q12013MSD | 122380 | 3.99 | 526447 | 5.10 | 247548 | 6.80 |
| 04 | MW-12R-Q12013 | 119881 | 3.99 | 522915 | 5.10 | 249236 | 6.80 |
| 05 | MW-14-Q12013 | 114215 | 3.99 | 472965 | 5.10 | 225125 | 6.80 |
| 06 | MW-15-Q12013 | 80038 | 3.99 | 355927 | 5.10 | 172071 | 6.80 |
| 07 | MW-16-Q12013 | 120122 | 3.99 | 525399 | 5.10 | 250139 | 6.80 |
| 08 | FB-Q-12013 | 116962 | 3.99 | 512416 | 5.10 | 247809 | 6.80 |
| 09 | DUP-Q-12013 | 76061 | 3.99 | 328004 | 5.10 | 155390 | 6.80 |
| 10 | PB68924BL | 115363 | 3.99 | 507663 | 5.10 | 243036 | 6.80 |
| 11 | PB68924BS | 112014 | 3.99 | 480580 | 5.10 | 156880 | 6.80 |
| 12 | MW-2-Q12013 | 112768 | 3.99 | 512408 | 5.10 | 250799 | 6.80 |
| 13 | MW-8-Q12013 | 115169 | 3.99 | 506451 | 5.10 | 253140 | 6.80 |
| 14 | MW-2-Q12013DL | 71770 | 3.99 | 317874 | 5.10 | 148268 | 6.80 |

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

# QC SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB68924BL | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061298.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB68924BL | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061298.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | U | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB68924BL | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061298.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | U | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | U | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 79.2 | | 10 - 160 | | 79% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 79.6 | | 10 - 161 | | 80% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 89.7 | | 25 - 124 | | 90% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 83.8 | | 20 - 129 | | 84% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 78.2 | | 10 - 140 | | 78% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 84.1 | | 14 - 155 | | 84% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 115363 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 507663 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 243036 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 376043 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 315827 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 267925 | 13.62 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB68924BL | | | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BL | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061298.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB68924BS | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061297.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 46.5 | | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 39 | | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 17.5 | | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 6.5 | J | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 42.1 | | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 40.5 | | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 38.1 | | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 37.6 | | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 38.9 | | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 38.8 | | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 42.2 | | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 40.3 | | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 37.8 | | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 43.1 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 41 | | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 39.9 | | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 38.6 | | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 36.7 | | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 37.2 | | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 42.6 | | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 41.2 | | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 40.8 | | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 40.9 | | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 42.2 | | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 39 | | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 39.4 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 7.2 | J | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 38.1 | | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 42 | | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 40.9 | | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 43.1 | | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB68924BS | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061297.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 180 | E | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 57.4 | | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 56.3 | | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 41.8 | | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 41.5 | | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 37.4 | | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 38.7 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 40.9 | | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 37.6 | | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 8.4 | J | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 40.9 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 160 | E | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 94.8 | E | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 41.2 | | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 38.5 | | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 39.4 | | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 41.2 | | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 40.3 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 32.7 | | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 48.7 | | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 41.3 | | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 39.3 | | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 39 | | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 41.3 | | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 40.1 | | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 88.5 | E | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 38.7 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 40.1 | | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 39.4 | | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 37.4 | | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 39.7 | | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 9.4 | J | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 37.3 | | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB68924BS | | | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BS | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061297.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 39.1 | | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 5 | J | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 40.9 | | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 41.3 | | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 38.5 | | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 40.4 | | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 43.4 | | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 42.8 | | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 44.9 | | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 41.6 | | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 40.6 | | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 43.2 | | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 53.7 | | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 42.5 | | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 32.3 | | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 78 | | 10 - 160 | | 78% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 78.1 | | 10 - 161 | | 78% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 85.4 | | 25 - 124 | | 85% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 110 | | 20 - 129 | | 115% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 96.2 | | 10 - 140 | | 96% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 81.8 | | 14 - 155 | | 82% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 112014 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 480580 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 156880 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 257039 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 232022 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 199992 | 13.63 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB68924BS | | | SDG No.: | E1676 |
| Lab Sample ID: | PB68924BS | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061297.D | 1 | 03/29/13 | 04/02/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061304.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 21.8 | | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 16.6 | J | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 11.9 | | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 5.5 | J | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 12.1 | | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 43 | | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 34.1 | | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 40.1 | | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 41 | | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 40.9 | | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 27.9 | | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 27.1 | | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 41.7 | | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 45.9 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 24.1 | | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 44.8 | | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 39.9 | | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 40.4 | | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 40.8 | | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 45.5 | | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 36.5 | | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 45 | | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 41.5 | | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 43.3 | | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 13.4 | J | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 42.4 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 7.1 | J | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 40.5 | | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 7.2 | J | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 38.7 | | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 47.4 | | 0.19 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061304.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 130 | E | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 41.7 | | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 41 | | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 43.7 | | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 43.8 | | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 47.1 | | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 42.6 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 43.6 | | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 41.1 | | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 7.7 | J | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 44 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 160 | E | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 35 | | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 42.9 | | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 41.2 | | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 42.2 | | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 41.5 | | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 41.7 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 34.7 | | 2.5 | 2.5 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 54 | | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 40.6 | | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 47.1 | | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 40.4 | | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 40.6 | | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 39.5 | | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 88.8 | E | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 42.8 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 43.9 | | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 43.6 | | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 42.6 | | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 42.5 | | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | U | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 43.3 | | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061304.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 49.1 | | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 11.2 | | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 46.2 | | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 46.6 | | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 47.2 | | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 50.9 | | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 47.1 | | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 47.1 | | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 49 | | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 45.3 | | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 43 | | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 46.4 | | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 39.3 | | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 41.3 | | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 16.1 | | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 35.8 | | 10 - 160 | | 36% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 22.1 | | 10 - 161 | | 22% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 92.5 | | 25 - 124 | | 93% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 84.8 | | 20 - 129 | | 85% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 81.3 | | 10 - 140 | | 81% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 75.3 | | 14 - 155 | | 75% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 114170 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 495714 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 238172 | 6.81 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 373013 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 306255 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 266124 | 13.63 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | | | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MS | | | SDG No.: | E1676 |
| Lab Sample ID: | E1676-04MS | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061304.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061305.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 22.8 | | 2.7 | 5.1 | 10.2 | ug/L |
| 110-86-1 | Pyridine | 17 | J | 6 | 12.8 | 25.5 | ug/L |
| 100-52-7 | Benzaldehyde | 7.7 | | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 5.6 | J | 3.9 | 5.1 | 10.2 | ug/L |
| 108-95-2 | Phenol | 13.2 | | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 45 | | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 34.3 | | 0.19 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 40.2 | | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 40.2 | | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 40.9 | | 0.18 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 30.2 | | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 28.9 | | 1.8 | 5.1 | 10.2 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 42.2 | | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 47.3 | | 0.2 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 26.2 | | 0.59 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 45.9 | | 0.22 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 40.8 | | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 41.3 | | 0.66 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 41.7 | | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 46.1 | | 4.5 | 5.1 | 10.2 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 35.8 | | 0.71 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 46.1 | | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 42.4 | | 3.3 | 5.1 | 10.2 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 44.9 | | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 14.2 | J | 3.3 | 12.8 | 25.5 | ug/L |
| 91-20-3 | Naphthalene | 43.2 | | 0.19 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 7.6 | J | 2.7 | 5.1 | 10.2 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 42.1 | | 0.17 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 7.3 | J | 2 | 5.1 | 10.2 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 39.1 | | 1.8 | 5.1 | 10.2 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 47 | | 0.19 | 1.3 | 2.6 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061305.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 130 | E | 1.5 | 5.1 | 10.2 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 43 | | 2.2 | 5.1 | 10.2 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 41.1 | | 2.3 | 5.1 | 10.2 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 44.9 | | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 44.9 | | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 48.7 | | 4.3 | 5.1 | 10.2 | ug/L |
| 131-11-3 | Dimethylphthalate | 43.8 | | 0.17 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 44.1 | | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 41.9 | | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 10.1 | J | 2.1 | 5.1 | 10.2 | ug/L |
| 83-32-9 | Acenaphthene | 45.8 | | 0.17 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 170 | E | 1.9 | 12.8 | 25.5 | ug/L |
| 100-02-7 | 4-Nitrophenol | 36.8 | | 3.9 | 5.1 | 10.2 | ug/L |
| 132-64-9 | Dibenzofuran | 44.7 | | 2.2 | 5.1 | 10.2 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 44 | | 2.2 | 5.1 | 10.2 | ug/L |
| 84-66-2 | Diethylphthalate | 43.2 | | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 42.2 | | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 43.5 | | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 36.7 | | 2.5 | 2.5 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 54.7 | | 1.9 | 5.1 | 10.2 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 38.9 | | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 48.1 | | 0.22 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 40.5 | | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 40.9 | | 0.22 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 37.1 | | 0.57 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 90.9 | E | 2.7 | 5.1 | 10.2 | ug/L |
| 85-01-8 | Phenanthrene | 42.6 | | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 44.2 | | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 43.9 | | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 42 | | 0.6 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 43.4 | | 0.86 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | U | 8.9 | 12.8 | 25.5 | ug/L |
| 129-00-0 | Pyrene | 43.1 | | 0.13 | 1.3 | 2.6 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061305.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 49.3 | | 0.22 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 10.6 | | 3.7 | 5.1 | 10.2 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 45.5 | | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 46.1 | | 0.24 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 46.7 | | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 50.6 | | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 47.2 | | 0.17 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 47.4 | | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 49.8 | | 0.17 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 45.3 | | 0.67 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 43.8 | | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 46.9 | | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 41.2 | | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 41.2 | | 5.1 | 5.1 | 10.2 | ug/L |
| 123-91-1 | 1,4-Dioxane | 16.9 | | 5.1 | 5.1 | 10.2 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 37.1 | | 10 - 160 | | 37% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 22.6 | | 10 - 161 | | 23% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 90.3 | | 25 - 124 | | 90% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 82.9 | | 20 - 129 | | 83% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 79.8 | | 10 - 140 | | 80% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 77.1 | | 14 - 155 | | 77% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 122380 | 3.99 | | | | |
| 1146-65-2 | Naphthalene-d8 | 526447 | 5.1 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 247548 | 6.8 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 390534 | 8.47 | | | | |
| 1719-03-5 | Chrysene-d12 | 328746 | 11.66 | | | | |
| 1520-96-3 | Perylene-d12 | 279788 | 13.63 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 03/28/13 |
| Project: | Avalon- WP9 | Date Received: | 03/28/13 |
| Client Sample ID: | MW-11R-Q12013MSD | SDG No.: | E1676 |
| Lab Sample ID: | E1676-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BF061305.D | 1 | 03/29/13 | 04/03/13 | PB68924 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: BNA_F Calibration Date(s): 04/02/2013 04/02/2013

Calibration Time(s): 20:10 21:51

LAB FILE ID: RRF010 = BF061290.D RRF025 = BF061291.D RRF040 = BF061292.D
RRF060 = BF061293.D RRF2.5 = BF061294.D RRF =

| COMPOUND | RRF010 | RRF025 | RRF040 | RRF060 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| n-Nitrosodimethylamine | 0.897 | 0.899 | 0.875 | 0.902 | 0.788 | | 0.872 | 5.5 |
| Pyridine | 2.209 | 2.492 | 2.209 | 2.196 | 2.013 | | 2.224 | 7.7 |
| 2-Fluorophenol | 1.893 | 1.778 | 1.831 | 1.788 | 1.924 | | 1.843 | 3.5 |
| Benzaldehyde | 1.372 | 1.276 | 1.297 | 1.101 | 1.285 | | 1.266 | 7.9 |
| Aniline | 2.972 | 2.715 | 2.868 | 2.713 | 2.942 | | 2.842 | 4.3 |
| Phenol-d6 | 2.405 | 2.261 | 2.264 | 2.146 | 2.335 | | 2.282 | 4.2 |
| Phenol | 2.328 | 2.210 | 2.295 | 2.216 | 2.328 | | 2.276 | 2.6 |
| bis(2-Chloroethyl)ether | 1.990 | 1.871 | 1.968 | 1.839 | 2.120 | | 1.958 | 5.7 |
| 2-Chlorophenol | 1.942 | 1.800 | 1.804 | 1.743 | 1.826 | | 1.823 | 4.0 |
| 1,2-Dichlorobenzene | 1.879 | 1.651 | 1.622 | 1.571 | 1.840 | | 1.712 | 8.1 |
| 1,3-Dichlorobenzene | 1.923 | 1.821 | 1.779 | 1.755 | 1.898 | | 1.835 | 4.0 |
| 1,4-Dichlorobenzene | 1.927 | 1.748 | 1.771 | 1.794 | 2.053 | | 1.859 | 6.9 |
| Benzyl Alcohol | 1.390 | 1.387 | 1.500 | 1.445 | 1.307 | | 1.406 | 5.1 |
| 2-Methylphenol | 1.501 | 1.442 | 1.431 | 1.376 | 1.395 | | 1.429 | 3.4 |
| 2,2-oxybis(1-Chloropropane) | 3.736 | 3.548 | 3.625 | 3.320 | 4.046 | | 3.655 | 7.3 |
| Acetophenone | 0.567 | 0.529 | 0.513 | 0.497 | 0.506 | | 0.523 | 5.2 |
| 3+4-Methylphenols | 1.989 | 1.873 | 1.872 | 1.756 | 1.645 | | 1.827 | 7.2 |
| n-Nitroso-di-n-propylamine | 1.382 | 1.242 | 1.235 | 1.147 | 1.448 | | 1.291 | 9.4 |
| Nitrobenzene-d5 | 0.420 | 0.389 | 0.388 | 0.380 | 0.414 | | 0.398 | 4.4 |
| Hexachloroethane | 0.740 | 0.692 | 0.705 | 0.695 | 0.828 | | 0.732 | 7.8 |
| Nitrobenzene | 0.502 | 0.461 | 0.475 | 0.463 | 0.498 | | 0.480 | 4.0 |
| Isophorone | 0.939 | 0.833 | 0.853 | 0.808 | 0.956 | | 0.878 | 7.5 |
| 2-Nitrophenol | 0.207 | 0.205 | 0.201 | 0.214 | 0.167 | | 0.199 | 9.2 |
| 2,4-Dimethylphenol | 0.364 | 0.336 | 0.334 | 0.339 | 0.339 | | 0.342 | 3.5 |
| bis(2-Chloroethoxy)methane | 0.525 | 0.483 | 0.490 | 0.483 | 0.483 | | 0.493 | 3.7 |
| 2,4-Dichlorophenol | 0.283 | 0.254 | 0.257 | 0.261 | 0.257 | | 0.263 | 4.5 |
| 1,2,4-Trichlorobenzene | 0.308 | 0.279 | 0.272 | 0.280 | 0.299 | | 0.287 | 5.3 |
| Benzoic acid | 0.176 | 0.225 | 0.249 | 0.265 | 0.149 | | 0.213 | 23.1 |
| Naphthalene | 1.203 | 1.111 | 1.035 | 1.006 | 1.213 | | 1.114 | 8.5 |
| 4-Chloroaniline | 0.480 | 0.452 | 0.458 | 0.443 | 0.437 | | 0.454 | 3.7 |
| Hexachlorobutadiene | 0.141 | 0.139 | 0.130 | 0.138 | 0.169 | | 0.143 | 10.4 |
| Caprolactam | 0.113 | 0.122 | 0.118 | 0.127 | 0.120 | | 0.120 | 4.4 |
| 4-Chloro-3-methylphenol | 0.272 | 0.357 | 0.345 | 0.348 | 0.342 | | 0.333 | 10.4 |
| 2-Methylnaphthalene | 0.576 | 0.698 | 0.654 | 0.665 | 0.746 | | 0.668 | 9.4 |
| Hexachlorocyclopentadiene | 0.158 | 0.215 | 0.171 | 0.175 | 0.125 | | 0.169 | 19.2 |
| 2,4,6-Trichlorophenol | 0.369 | 0.385 | 0.352 | 0.346 | 0.360 | | 0.363 | 4.2 |

All other compounds must meet a minimum RRF of 0.010.

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: BNA_F Calibration Date(s): 04/02/2013 04/02/2013

Calibration Time(s): 20:10 21:51

LAB FILE ID: RRF010 = BF061290.D RRF025 = BF061291.D RRF040 = BF061292.D
RRF060 = BF061293.D RRF2.5 = BF061294.D RRF =

| COMPOUND | RRF010 | RRF025 | RRF040 | RRF060 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| 2-Fluorobiphenyl | 1.369 | 1.298 | 1.131 | 1.085 | 1.407 | | 1.258 | 11.4 |
| 2,4,5-Trichlorophenol | 0.392 | 0.405 | 0.381 | 0.377 | 0.328 | | 0.377 | 7.7 |
| 1,1-Biphenyl | 1.688 | 1.687 | 1.560 | 1.484 | 1.711 | | 1.626 | 6.1 |
| 2-Chloronaphthalene | 1.278 | 1.245 | 1.145 | 1.121 | 1.294 | | 1.217 | 6.5 |
| 2-Nitroaniline | 0.437 | 0.447 | 0.489 | 0.458 | 0.438 | | 0.454 | 4.7 |
| Dimethylphthalate | 1.493 | 1.424 | 1.324 | 1.306 | 1.480 | | 1.405 | 6.2 |
| Acenaphthylene | 2.204 | 2.091 | 1.950 | 1.895 | 2.092 | | 2.047 | 6.0 |
| 2,6-Dinitrotoluene | 0.354 | 0.354 | 0.350 | 0.354 | 0.291 | | 0.341 | 8.2 |
| 3-Nitroaniline | 0.378 | 0.393 | 0.426 | 0.423 | 0.279 | | 0.380 | 15.7 |
| Acenaphthene | 1.314 | 1.251 | 1.192 | 1.154 | 1.255 | | 1.233 | 5.0 |
| 2,4-Dinitrophenol | 0.056 | 0.085 | 0.101 | 0.108 | | | 0.088 | 26.4 |
| 4-Nitrophenol | 0.237 | 0.294 | 0.310 | 0.298 | 0.162 | | 0.260 | 23.6 |
| Dibenzofuran | 1.747 | 1.656 | 1.566 | 1.537 | 1.751 | | 1.652 | 6.0 |
| 2,4-Dinitrotoluene | 0.445 | 0.469 | 0.460 | 0.462 | 0.318 | | 0.431 | 14.8 |
| Diethylphthalate | 1.534 | 1.466 | 1.394 | 1.390 | 1.596 | | 1.476 | 6.1 |
| 4-Chlorophenyl-phenylether | 0.663 | 0.641 | 0.557 | 0.549 | 0.586 | | 0.599 | 8.5 |
| Fluorene | 1.498 | 1.387 | 1.283 | 1.231 | 1.401 | | 1.360 | 7.7 |
| 4-Nitroaniline | 0.323 | 0.385 | 0.417 | 0.422 | 0.280 | | 0.365 | 16.9 |
| 4,6-Dinitro-2-methylphenol | 0.097 | 0.114 | 0.131 | 0.136 | 0.058 | | 0.107 | 29.6 |
| n-Nitrosodiphenylamine | 0.707 | 0.691 | 0.681 | 0.661 | 0.727 | | 0.693 | 3.6 |
| Azobenzene | 1.569 | 1.555 | 1.661 | 1.575 | 1.737 | | 1.620 | 4.8 |
| 2,4,6-Tribromophenol | 0.161 | 0.166 | 0.133 | 0.147 | 0.110 | | 0.143 | 15.8 |
| 4-Bromophenyl-phenylether | 0.215 | 0.206 | 0.194 | 0.198 | 0.218 | | 0.206 | 5.1 |
| Hexachlorobenzene | 0.230 | 0.228 | 0.196 | 0.210 | 0.213 | | 0.215 | 6.4 |
| Atrazine | 0.218 | 0.209 | 0.212 | 0.204 | 0.190 | | 0.207 | 5.2 |
| Pentachlorophenol | 0.127 | 0.128 | 0.124 | 0.131 | 0.101 | | 0.122 | 9.9 |
| Phenanthrene | 1.496 | 1.199 | 1.138 | 1.117 | 1.333 | | 1.257 | 12.6 |
| Anthracene | 1.547 | 1.184 | 1.127 | 1.127 | 1.184 | | 1.234 | 14.4 |
| Carbazole | 1.413 | 1.094 | 1.085 | 1.060 | 1.096 | | 1.150 | 12.9 |
| Di-n-butylphthalate | 1.915 | 1.481 | 1.482 | 1.437 | 1.558 | | 1.575 | 12.4 |
| Fluoranthene | 1.475 | 1.156 | 1.108 | 1.079 | 1.072 | | 1.178 | 14.4 |
| Benzidine | 0.891 | 0.670 | 0.697 | 0.875 | 0.796 | | 0.786 | 12.8 |
| Pyrene | 1.660 | 1.288 | 1.317 | 1.559 | 1.399 | | 1.445 | 11.1 |
| Terphenyl-d14 | 1.019 | 0.862 | 0.814 | 0.805 | 0.902 | | 0.881 | 9.9 |
| Butylbenzylphthalate | 0.694 | 0.708 | 0.757 | 0.702 | 0.734 | | 0.719 | 3.6 |
| 3,3-Dichlorobenzidine | 0.437 | 0.430 | 0.432 | 0.430 | 0.388 | | 0.423 | 4.8 |

All other compounds must meet a minimum RRF of 0.010.

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E1676 SAS No.: E1676 SDG No.: E1676

Instrument ID: BNA_F Calibration Date(s): 04/02/2013 04/02/2013

Calibration Time(s): 20:10 21:51

LAB FILE ID: RRF010 = BF061290.D RRF025 = BF061291.D RRF040 = BF061292.D
RRF060 = BF061293.D RRF2.5 = BF061294.D RRF =

| COMPOUND | RRF010 | RRF025 | RRF040 | RRF060 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)anthracene | 1.189 | 1.172 | 1.133 | 1.153 | 1.187 | | 1.167 | 2.0 |
| Chrysene | 1.122 | 1.079 | 1.027 | 1.003 | 1.086 | | 1.063 | 4.5 |
| Bis(2-ethylhexyl)phthalate | 0.942 | 0.947 | 0.972 | 0.887 | 1.008 | | 0.951 | 4.7 |
| Di-n-octyl phthalate | 1.576 | 1.594 | 1.745 | 1.601 | 1.594 | | 1.622 | 4.3 |
| Benzo(b)fluoranthene | 1.203 | 1.228 | 1.172 | 1.182 | 1.105 | | 1.178 | 3.9 |
| Benzo(k)fluoranthene | 1.247 | 1.232 | 1.200 | 1.260 | 1.235 | | 1.235 | 1.8 |
| Benzo(a)pyrene | 1.121 | 1.122 | 1.071 | 1.140 | 1.092 | | 1.109 | 2.5 |
| Indeno(1,2,3-cd)pyrene | 1.293 | 1.096 | 1.083 | 1.136 | 1.006 | | 1.123 | 9.5 |
| Dibenzo(a,h)anthracene | 1.310 | 1.108 | 1.083 | 1.140 | 0.941 | | 1.116 | 11.9 |
| Benzo(g,h,i)perylene | 1.213 | 1.040 | 0.989 | 1.051 | 0.990 | | 1.057 | 8.7 |
| 1,2,4,5-Tetrachlorobenzene | 0.525 | 0.594 | 0.437 | 0.438 | 0.500 | | 0.499 | 13.1 |
| 2,3,4,6-Tetrachlorophenol | 0.291 | 0.304 | 0.263 | 0.284 | 0.267 | | 0.282 | 6.0 |
| 1,4-Dioxane | 0.955 | 0.826 | 0.798 | 0.778 | 0.997 | | 0.871 | 11.3 |

All other compounds must meet a minimum RRF of 0.010.

# SHIPPING DOCUMENTS

# CHEMTECH
## CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

CHEMTECH PROJECT NO. E1676
QUOTE NO.
COC Number 022929

7 7.1

### CLIENT INFORMATION
REPORT TO BE SENT TO:
COMPANY: CARDNO ATC
ADDRESS: 104 EAST 25 St.
CITY: New York STATE: NY ZIP: 10010
ATTENTION: JOHN MASCIOLI
PHONE: 212 432 8592 FAX: 212 979 8447

### CLIENT PROJECT INFORMATION
PROJECT NAME: Avalon Bay WP9
PROJECT NO.: 15,754,20001.6 LOCATION: LIC
PROJECT MANAGER: J. MASCIOLI
e-mail: John.masciolli@cardno.com
PHONE: FAX:

### CLIENT BILLING INFORMATION
BILL TO: Cardno ATC PO#:
ADDRESS:
CITY: STATE: ZIP:
ATTENTION: PHONE:

### DATA TURNAROUND INFORMATION
FAX: 10 or 15 DAYS *
HARD COPY: DAYS *
EDD: DAYS *
PREAPPROVED TAT: ☒ YES ☐ NO
* STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

### DATA DELIVERABLE INFORMATION
☐ LEVEL 1: Results only ☐ Others
☐ LEVEL 2: Results + QC
☐ LEVEL 3: Results (plus results raw data) + QC
☐ LEVEL 4: Results + QC (all raw data)
☐ EDD Format: NYSDEC CAT. B

### ANALYSIS
VOCs Low Level
SVOCs " "
1 2 3 4 5 6 7 8 9

| CHEMTECH SAMPLE ID | PROJECT SAMPLE IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE COMP | SAMPLE TYPE GRAB | SAMPLE COLLECTION DATE | SAMPLE COLLECTION TIME | # OF BOTTLES | PRESERVATIVES A/E 1 | PRESERVATIVES E 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | MW-2 Q1 2013 | GW | | X | 3.28.13 | 1410 | 3 | α | α | | | | | | | | |
| 2. | MW-8 Q1 2013 | | | X | | 1335 | 3 | α | α | | | | | | | | |
| 3,4,5 | MW-11R Q1 2013 | | | X | | 1000 | 9 | α | α | | | | | | | | MS/MSD |
| 4.6 | MW-12R Q1 2013 | | | X | | 915 | 3 | α | α | | | | | | | | |
| 5.7 | MW-14 Q1 2013 | | | X | | 1045 | 3 | α | α | | | | | | | | |
| 6.8 | MW-15 Q1 2013 | | | X | | 1230 | 3 | α | α | | | | | | | | |
| 7.9 | MW-16 Q1 2013 | | | X | | 1135 | 3 | α | α | | | | | | | | |
| 8.10 | FB Q1 2013 | | | X | | 1405 | 3 | α | α | | | | | | | | |
| 9.11 | DUP Q1 2013 | | | X | | 1405 | 3 | α | α | | | | | | | | |
| 10.12 | TB Q1 2013 | | | | | — | 2 | α | | | | | | | | | |

3/28/13

### SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY: |
|---|---|---|
| 1. | 3/28/13 1415 | 1. |
| RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: |
| 2. | | 2. |
| RELINQUISHED BY: | DATE/TIME: 1640 | RECEIVED FOR LAB BY: |
| 3. | 3-28-13 | 3. Palak Shah |

Conditions of bottles or coolers at receipt: ☐ Compliant ☐ Non Compliant
MeOH extraction requires an additional 4 oz jar for percent solid.
Comments:
Cooler Temp. 5°
Ice in Cooler?: yes

Page 1 of 1

SHIPPED VIA: CLIENT: ☐ HAND DELIVERED ☐ OVERNIGHT
CHEMTECH: ☒ PICKED UP ☐ OVERNIGHT
Shipment Complete: ☐ YES ☐ NO

Revision 8/2007

WHITE - CHEMTECH COPY FOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

| State | License No. |
|---|---|
| | |
| New Jersey | 20012 |
| | |
| New York | 11376 |
| | |
| Connecticut | PH-0649 |
| | |
| Florida | E87935 |
| | |
| Maryland | 296 |
| | |
| Massachusetts | M-NJ503 |
| | |
| Oklahoma | 9705 |
| | |
| Pennsylvania | 68-548 |
| | |
| Rhode Island | LAO00259 |
| | |
| Virginia | 460220 |
| | |
| Texas | T10470448-10-1 |

Other:

| | |
|---|---|
| DOD ELAP | L2219 |
| | |
| Soil Permit | P330-11-00012 |
| | |
| CLP Inorganic Contract | EPW09038 |
| | |
| CLP Organic Contract | EPW11030 |

QA Control Code: A2070148

# LOGIN REPORT/SAMPLE TRANSFER

| | | | | | |
|---|---|---|---|---|---|
| **Order ID:** | E1676 ATCE02 | **Order Date:** | 3/28/2013 | **Project Mgr:** | JohnD |
| **Client Name:** | Cardno ATC | **Project Name:** | Avalon- WP9 | **Report Type:** | NYS ASP B |
| **Client Contact:** | John Mascioli | **Rec DateTime** | 3/28/2013 4:40:00 PM | **EDD:** | Equis_EQNYDEC/Excel |
| **Invoice Name:** | Cardno ATC | **Purchase Order:** | | **Hard Copy Date:** | |
| **Invoice Contact** | John Mascioli | **Login Tech:** | Nikul | **Date Signoff:** | 3/28/2013 5:54:27 PM |

| LAB ID | CLIENT ID | MATRIX | SAMPLE DATE | SAMPLE TIME | QTY | TEST | TEST GROUP | METHOD | COMMENT | FAX DATE | Due Dates |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E1676-01 | MW-2-Q12013 | Water | 3/28/2013 | 14:10 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-02 | MW-8-Q12013 | Water | 3/28/2013 | 13:35 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-03 | MW-11R-Q12013 | Water | 3/28/2013 | 10:00 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-04 | E1676-03MS | Water | 3/28/2013 | 10:00 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-05 | E1676-03MSD | Water | 3/28/2013 | 10:00 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-06 | MW-12R-Q12013 | Water | 3/28/2013 | 9:15 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-07 | MW-14-Q12013 | Water | 3/28/2013 | 10:45 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-08 | MW-15-Q12013 | Water | 3/28/2013 | 12:30 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-09 | MW-16-Q12013 | Water | 3/28/2013 | 11:35 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-10 | FB-Q-12013 | Water | 3/28/2013 | 14:00 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |
| E1676-11 | DUP-Q-12013 | Water | 3/28/2013 | 0:00 | 4 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |

# LOGIN REPORT/SAMPLE TRANSFER

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Order ID:** | E1676 | ATCE02 | **Order Date:** | 3/28/2013 | **Project Mgr:** | JohnD |
| **Client Name:** | Cardno ATC | | **Project Name:** | Avalon- WP9 | **Report Type:** | NYS ASP B |
| **Client Contact:** | John Mascioli | | **Rec DateTime** | 3/28/2013 4:40:00 PM | **EDD:** | Equis_EQNYDEC/Excel |
| **Invoice Name:** | Cardno ATC | | **Purchase Order:** | | **Hard Copy Date:** | |
| **Invoice Contact** | John Mascioli | | **Login Tech:** | Nikul | **Date Signoff:** | 3/28/2013 5:54:27 PM |

| LAB ID | CLIENT ID | MATRIX | SAMPLE DATE | SAMPLE TIME | QTY | TEST | TEST GROUP | METHOD | COMMENT | FAX DATE | Due Dates |
|---|---|---|---|---|---|---|---|---|---|---|---|
| E1676-12 | TB-Q-12013 | Water | 3/28/2013 | 0:00 | 3 | VOC- Chemtech Full | | 8260-Low | | 10 Bus. 4/11/2013 | 4/11/20 |

## SAMPLE CONDITION RECORD

| | |
|---|---|
| Are samples submitted with a chain of custody? | Yes |
| Are the number of samples the same as stated on the chain of custody? | Yes |
| Are bottle caps tight and securely in place? | Yes |
| Were all containers intact when received? | Yes |
| Were samples submitted in an ice chest? | Yes |
| Were samples received cold? | Yes |
| Were samples within the holding time for the requested test(s)? | Yes |
| Is the volume of sample submitted sufficient for the requested test(s)? | Yes |
| Are all samples for volatile organic analyses free of headspace? | Yes |

## ORDER COMMENT

**Relinquished By:** [signature]

**Date / Time:** 3/28/13 1805

**Received By:** [signature]

**Date / Time:** 3/28/13 18:05

**Storage Area:** VOA Refridgerator Room

CHEMTECH 284 Sheffield Street, Mountainside NJ 07092 (908)-789-8900 Fax : 908 789 8922

# ANALYTICAL SUMMARY

VOLATILE ORGANICS
SEMI-VOLATILE ORGANICS

**PROJECT NAME : AVALON- WP9**

**CARDNO ATC**

**104 East 25th Street**

**New York, NY - 10010**

**Phone No: 212-353-8280**

**ORDER ID : E3854**

**ATTENTION : John Mascioli**

DoD ELAP

Table Of Contents for E3854


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5) SVOC- Chemtech Full Data 139

6) Shipping Document 233

6.1) CHAIN OF CUSTODY 234

6.2) ROC 235

6.3) Lab Certificate 236

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# Cover Page

**Order ID :** E3854

**Project ID :** Avalon- WP9

**Client :** Cardno ATC

| Lab Sample Number | Client Sample Number |
|---|---|
| E3854-01 | MW-2-Q3-2013 |
| E3854-02 | MW-8-Q3-2013 |
| E3854-03 | MW-11R-Q3-2013 |
| E3854-04 | E3854-03MS |
| E3854-05 | E3854-03MSD |
| E3854-06 | MW-12R-Q3-2013 |
| E3854-07 | MW-14-Q3-2013 |
| E3854-08 | MW-15-Q3-2013 |
| E3854-09 | MW-16-Q3-2013 |
| E3854-10 | FBQ3-2013 |
| E3854-11 | DUPQ3-2013 |
| E3854-12 | TBQ3-2013 |

I certify that the data package is in compliance with the terms and conditions of the contract,both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the laboratory manager or his designee, as verified by the following signature.

Signature : _____ Date: 10/4/2013

NYDOH CERTIFICATION NO - 11376

NJDEP CERTIFICATION NO - 20012

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FORM S-I

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

| NYSDEC Sample ID/Code | Laboratory Sampl ID/Code | VOA GC/MS (Method #) | BNA GC/MS (Method #) | VOA GC (Method #) | Pest PCBs (Method #) | Metals (Method #) | Other (Method #) |
|---|---|---|---|---|---|---|---|
| MW-2-Q3-2013 | E3854-01 | 8260-Low | 625 | | | | |
| MW-8-Q3-2013 | E3854-02 | 8260-Low | 625 | | | | |
| MW-11R-Q3-2013 | E3854-03 | 8260-Low | 625 | | | | |
| MW-12R-Q3-2013 | E3854-06 | 8260-Low | 625 | | | | |
| MW-14-Q3-2013 | E3854-07 | 8260-Low | 625 | | | | |
| MW-15-Q3-2013 | E3854-08 | 8260-Low | 625 | | | | |
| MW-16-Q3-2013 | E3854-09 | 8260-Low | 625 | | | | |
| FBQ3-2013 | E3854-10 | 8260-Low | 625 | | | | |
| DUPQ3-2013 | E3854-11 | 8260-Low | 625 | | | | |
| TBQ3-2013 | E3854-12 | 8260-Low | 625 | | | | |

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-IIa

SAMPLE PREPARATION AND ANALYSIS SUMMARY SEMIVOLATILE (BNA) ANALYSES

| Laboratory Sample ID | Matrix | Date Collected | Date Rec'd at Lab | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|
| E3854-01 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-02 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-03 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-06 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-07 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-08 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/27/13 |
| E3854-09 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/28/13 |
| E3854-10 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/28/13 |
| E3854-11 | Water | 09/24/13 | 09/25/13 | 09/26/13 | 09/28/13 |

*** Details For Test :** SVOC- Chemtech Full

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-IIb

SAMPLE PREPARATION AND ANALYSIS SUMMARY VOLATILE (VOA) ANALYSES

| Laboratory Sample ID | Matrix | Date Collected | Date Rec'd at Lab | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|
| E3854-01 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-02 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-03 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-06 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-07 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-08 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-09 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-10 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-11 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |
| E3854-12 | Water | 09/24/13 | 09/25/13 | | 09/27/13 |

*** Details For Test :** VOC- Chemtech Full

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-III

SAMPLE PREPARATION AND ANALYSIS SUMMARY MISCELLANEOUS ORGANIC ANALYSES

| Laboratory Sample ID | Matrix | Analytical Protocol | Extraction Method | Auxiliary Cleanup | Dil/Conc Factor |
|---|---|---|---|---|---|
| E3854-01 | Water | 8260-Low | NA | | |
| E3854-02 | Water | 8260-Low | NA | | |
| E3854-03 | Water | 8260-Low | NA | | |
| E3854-04 | Water | 8260-Low | NA | | |
| E3854-05 | Water | 8260-Low | NA | | |
| E3854-06 | Water | 8260-Low | NA | | |
| E3854-07 | Water | 8260-Low | NA | | |
| E3854-08 | Water | 8260-Low | NA | | |
| E3854-09 | Water | 8260-Low | NA | | |
| E3854-10 | Water | 8260-Low | NA | | |
| E3854-11 | Water | 8260-Low | NA | | |
| E3854-12 | Water | 8260-Low | NA | | |

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

FORM S-III

SAMPLE PREPARATION AND ANALYSIS SUMMARY MISCELLANEOUS ORGANIC ANALYSES

| Laboratory Sample ID | Matrix | Analytical Protocol | Extraction Method | Auxiliary Cleanup | Dil/Conc Factor |
|---|---|---|---|---|---|
| E3854-01 | Water | 625 | 3510C | | |
| E3854-02 | Water | 625 | 3510C | | |
| E3854-03 | Water | 625 | 3510C | | |
| E3854-04 | Water | 625 | 3510C | | |
| E3854-05 | Water | 625 | 3510C | | |
| E3854-06 | Water | 625 | 3510C | | |
| E3854-07 | Water | 625 | 3510C | | |
| E3854-08 | Water | 625 | 3510C | | |
| E3854-09 | Water | 625 | 3510C | | |
| E3854-10 | Water | 625 | 3510C | | |
| E3854-11 | Water | 625 | 3510C | | |

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# CASE NARRATIVE

**Cardno ATC**
**Project Name: Avalon- WP9**
**Project # N/A**
**Chemtech Project # E3854**
**Test Name: VOC- Chemtech Full**

**A. Number of Samples and Date of Receipt:**
12 Water samples were received on 09/25/2013.

**B. Parameters**
According to the Chain of Custody document, the following analyses were requested: SVOC- Chemtech Full and VOC- Chemtech Full. This data package contains results for VOC- Chemtech Full.

**C. Analytical Techniques:**
The analysis performed on instrument MSVOA_N were done using GC column RXI-624SIL MS 30m 0.25mm 1.4 um. Cat#13868.The analysis of VOC- Chemtech Full was based on method 8260-Low.

**D. QA/ QC Samples:**
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {E3854-04MS} with File ID: VN009202.D recoveries met the requirements for all compounds except for 2-Chloroethyl vinyl ether[0%], Bromomethane[42%] and Methyl iodide [44%] .
The MSD {E3854-05MSD} with File ID: VN009203.D recoveries met the acceptable requirements except for 2-Chloroethyl vinyl ether[0%], Methyl iodide [67%] .
The RPD for {E3854-05MSD} with File ID: VN009203.D recoveries met criteria except for Bromomethane[29%], Methyl iodide [41%] .
The Blank Spike met requirements for all samples .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The %RSD is greater than 15% in the Initial Calibration (Method-82N092313W.M) Tert butyl alcohol, Cyclohexane, 2-Chloroethyl Vinyl ether, Methyl Iodide, these compounds are passing on Linear regression .
The Continuous Calibration File ID VN009226.D & VN009249.D met the requirements except for 1,2-Dichloroethane-d4 .
The Tuning criteria met requirements.
Samples MW-2-Q3-2013, MW-8-Q3-2013 were diluted due to high concentrations.

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**E. Additional Comments:**
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

**F. Manual Integration Comments:**
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

---

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his design, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

CHEMTECH
284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# CASE NARRATIVE

**Cardno ATC**
**Project Name: Avalon- WP9**
**Project # N/A**
**Chemtech Project # E3854**
**Test Name: SVOC- Chemtech Full**

**A. Number of Samples and Date of Receipt:**
12 Water samples were received on 09/25/2013.

**B. Parameters**
According to the Chain of Custody document, the following analyses were requested: SVOC- Chemtech Full and VOC- Chemtech Full. This data package contains results for SVOC- Chemtech Full.

**C. Analytical Techniques:**
The samples were analyzed on instrument BNA_A using GC Column RTX-5 SILMS which is 30 meters, 0.32 mm ID, 0.5 um df, Catalog # 12739-125.The analysis of SVOC-Chemtech Full was based on method 625 and extraction was done based on method 3510.

**D. QA/ QC Samples:**
The Holding Times were met for all analysis.
The Surrogate recoveries met the acceptable criteria.
The Internal Standards Areas met the acceptable requirements.
The Retention Times were acceptable for all samples.
The MS {E3854-04MS} with File ID: BA050746.D recoveries met the requirements for all compounds except for 1,2,4,5-Tetrachlorobenzene[46%], 1,4-Dioxane[36%], Aniline[37%] and Benzidine[0%] .
The MSD {E3854-05MSD} with File ID: BA050747.D recoveries met the acceptable requirements except for 1,4-Dioxane[37%], Aniline[40%] and Benzidine[0%] .
The RPD for {E3854-05MSD} with File ID: BA050747.D recoveries met criteria except for 1,2,4,5-Tetrachlorobenzene[67%], 2,3,4,6-Tetrachlorophenol[33%], Benzo(k)fluoranthene[21%] and Benzoic acid[32%] .
The Blank Spike for {PB72483BS} with File ID: BA050765.D met requirements for all samples except for 1,2,4,5-Tetrachlorobenzene[58%], 1,4-Dioxane[43%], 2,3,4,6-Tetrachlorophenol[60%], 2-Chloronaphthalene[57%], 4-Nitroaniline[49%], Aniline[34%], Carbazole[54%], Fluorene[56%] and Pyridine[54%] .
The Blank analysis did not indicate the presence of lab contamination.
The Initial Calibration met the requirements .
The Tuning criteria met requirements.
Samples MW-2-Q3-2013, MW-8-Q3-2013 and MW-8-Q3-2013DL were diluted due to high concentrations.

CHEMTECH
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**E. Additional Comments:**
Please use %D calculated based on Avg RF and CCRF for all compounds using Average Response Factor when the %RSD value for a compound is <15% for the Initial Calibration curve and use %D calculated based on Amount added and Calculated amount for all compounds using Linear Regression when the %RSD value for a compound is > 15% for the Initial Calibration curve for SW-846 analysis.

**F. Manual Integration Comments:**
Please refer to the Manual integration Report included with the Run Logs for information on the manual integrations performed.

---

I certify that the data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. The laboratory manager or his design, as verified by the following signature has authorized release of the data contained in this hard copy data package.

Signature_____

## DATA REPORTING QUALIFIERS- ORGANIC

For reporting results, the following " Results Qualifiers" are used:

| | |
|---|---|
| Value | If the result is a value greater than or equal to the detection limit, report the value |
| **U** | Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, i.e. "10 U". This is not necessarily the instrument detection limit attainable for this particular sample based on any concentration or dilution that may have been required. |
| **ND** | Indicates the analyte was analyzed for, but not detected |
| **J** | Indicates an estimated value**.** This flag is used:<br>(1) When estimating a concentration for a tentatively identified compound (library search hits, where a 1:1 response is assumed.)<br>(2) When the mass spectral data indicated the identification, however the result was less than the specified detection limit greater than zero. If the detection limit was 10ug/L and a concentration of 3 ug/L was calculated report as 3 J. This is flag is used when similar situation arise on any organic parameter i.e. Pest, PCB and others. |
| **B** | Indicates the analyte was found in the blank as well as the sample report as "12 B". |
| **E** | Indicates the analyte 's concentration exceeds the calibrated range of the instrument for that specific analysis. |
| **D** | This flag identifies all compounds identified in an analysis at a secondary dilution factor. |
| **P** | This flag is used for Pesticide/PCB target analyte when there is >25% difference for detected concentrations between the two GC columns. The lower of the two values is reported on Form 1 and flagged with a "P". |
| **N** | This flag indicates presumptive evidence of a compound. This is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It applies to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the flag is not used. |
| **A** | This flag indicates that a Tentatively Identified Compound is a suspected aldol-condensation product. |
| **Q** | Indicates the LCS did not meet the control limits requirements |

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | E3854 | **OrderDate:** | 9/25/2013 5:28:00 PM |
| **Client:** | Cardno ATC | **Project:** | Avalon- WP9 |
| **Contact:** | John Mascioli | **Location:** | Extraction Lab |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **E3854-01** | **MW-2-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-01DL** | **MW-2-Q3-2013DL** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/30/13 | |
| **E3854-02** | **MW-8-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-02DL** | **MW-8-Q3-2013DL** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 10/01/13 | |
| **E3854-03** | **MW-11R-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-06** | **MW-12R-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-07** | **MW-14-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-08** | **MW-15-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-09** | **MW-16-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-10** | **FBQ3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-11** | **DUPQ3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |
| **E3854-12** | **TBQ3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | VOC- Chemtech Full | 8260-Low | | | 09/27/13 | |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| **Client ID:** | **DUPQ3-2013** | | | | | | | | |
| E3854-11 | DUPQ3-2013 | Water | Acetone | 2.30 | J | 0.5 | 1 | 5 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Cyclohexane | 1.50 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Methylcyclohexane | 0.54 | J | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Benzene | 55.20 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Toluene | 1.30 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Ethyl Benzene | 2.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | m/p-Xylenes | 1.20 | J | 0.4 | 0.4 | 2 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Isopropylbenzene | 2.70 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | n-propylbenzene | 0.98 | J | 0.2 | 0.2 | 1 | ug/L |
| E3854-11 | DUPQ3-2013 | Water | Naphthalene | 0.91 | J | 0.2 | 0.2 | 1 | ug/L |
| | | | **Total Voc :** | 69.43 | | | | | |
| | | | **Total Concentration:** | 69.43 | | | | | |
| **Client ID:** | **MW-14-Q3-2013** | | | | | | | | |
| E3854-07 | MW-14-Q3-2013 | Water | Cyclohexane | 1.70 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | Methylcyclohexane | 3.40 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | Benzene | 1.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | Ethyl Benzene | 0.55 | J | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | m/p-Xylenes | 0.45 | J | 0.4 | 0.4 | 2 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | o-Xylene | 1.10 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | Isopropylbenzene | 44.60 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | n-propylbenzene | 52.30 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | tert-Butylbenzene | 2.90 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | sec-Butylbenzene | 7.20 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-07 | MW-14-Q3-2013 | Water | n-Butylbenzene | 3.50 | | 0.2 | 0.2 | 1 | ug/L |
| | | | **Total Voc :** | 119.5 | | | | | |
| | | | **Total Concentration:** | 119.5 | | | | | |
| **Client ID:** | **MW-15-Q3-2013** | | | | | | | | |
| E3854-08 | MW-15-Q3-2013 | Water | Acetone | 3.60 | J | 0.5 | 1 | 5 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Cyclohexane | 1.50 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Methylcyclohexane | 0.52 | J | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Benzene | 49.70 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Toluene | 1.20 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Ethyl Benzene | 2.60 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | m/p-Xylenes | 1.20 | J | 0.4 | 0.4 | 2 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | Isopropylbenzene | 2.50 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-08 | MW-15-Q3-2013 | Water | n-propylbenzene | 1.10 | | 0.2 | 0.2 | 1 | ug/L |
| | | | **Total Voc :** | 63.92 | | | | | |

# Hit Summary Sheet
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| | | | **Total Concentration:** | 63.92 | | | | | |
| **Client ID:** | **MW-2-Q3-2013** | | | | | | | | |
| E3854-01 | MW-2-Q3-2013 | Water | Methyl tert-butyl Ether | 7.50 | | 0.35 | 0.5 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | Benzene | 210.00 | E | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | Toluene | 4.10 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | Ethyl Benzene | 160.00 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | m/p-Xylenes | 3.80 | | 0.4 | 0.4 | 2 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | o-Xylene | 7.90 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | Isopropylbenzene | 18.90 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | n-propylbenzene | 5.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | 1,2,4-Trimethylbenzene | 1.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-01 | MW-2-Q3-2013 | Water | Naphthalene | 16.50 | | 0.2 | 0.2 | 1 | ug/L |
| | | | **Total Voc :** | 436.3 | | | | | |
| | | | **Total Concentration:** | 436.3 | | | | | |
| **Client ID:** | **MW-2-Q3-2013DL** | | | | | | | | |
| E3854-01DL | MW-2-Q3-2013DL | Water | Methyl tert-butyl Ether | 6.80 | D | 1.8 | 2.5 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | Benzene | 200.00 | D | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | Toluene | 3.90 | JD | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | Ethyl Benzene | 130.00 | D | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | o-Xylene | 6.60 | D | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | Isopropylbenzene | 17.00 | D | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | n-propylbenzene | 5.50 | D | 1 | 1 | 5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | Water | Naphthalene | 14.00 | D | 1 | 1 | 5 | ug/L |
| | | | **Total Voc :** | 383.8 | | | | | |
| | | | **Total Concentration:** | 383.8 | | | | | |
| **Client ID:** | **MW-8-Q3-2013** | | | | | | | | |
| E3854-02 | MW-8-Q3-2013 | Water | Carbon Disulfide | 2.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Methylcyclohexane | 4.30 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Benzene | 9.10 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Toluene | 1.30 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Ethyl Benzene | 84.60 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | m/p-Xylenes | 32.90 | | 0.4 | 0.4 | 2 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | o-Xylene | 70.20 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Isopropylbenzene | 67.50 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | n-propylbenzene | 24.20 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | 1,3,5-Trimethylbenzene | 6.80 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | 1,2,4-Trimethylbenzene | 320.00 | E | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | sec-Butylbenzene | 0.93 | J | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | p-Isopropyltoluene | 9.80 | | 0.2 | 0.2 | 1 | ug/L |

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# Hit Summary Sheet
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | Matrix | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| E3854-02 | MW-8-Q3-2013 | Water | n-Butylbenzene | 1.50 | | 0.2 | 0.2 | 1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | Water | Naphthalene | 1,300.00 | E | 0.2 | 0.2 | 1 | ug/L |
| | | | **Total Voc :** | 1935.93 | | | | | |
| | | | **Total Concentration:** | 1935.93 | | | | | |
| **Client ID:** | **MW-8-Q3-2013DL** | | | | | | | | |
| E3854-02DL | MW-8-Q3-2013DL | Water | Ethyl Benzene | 75.00 | D | 10 | 10 | 50 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | m/p-Xylenes | 34.50 | JD | 20 | 20 | 100 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | o-Xylene | 57.50 | D | 10 | 10 | 50 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | Isopropylbenzene | 49.00 | JD | 10 | 10 | 50 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | n-propylbenzene | 22.00 | JD | 10 | 10 | 50 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | 1,2,4-Trimethylbenzene | 270.00 | D | 10 | 10 | 50 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | Water | Naphthalene | 2,000.00 | D | 10 | 10 | 50 | ug/L |
| | | | **Total Voc :** | 2508 | | | | | |
| | | | **Total Concentration:** | 2508 | | | | | |

# SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009194.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 7.5 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009194.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 210 | E | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 4.1 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 160 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 3.8 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 7.9 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 18.9 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 5.8 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009194.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1.8 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 16.5 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 44.6 | | 61 - 141 | | 89% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.7 | | 65 - 126 | | 105% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.1 | | 58 - 135 | | 98% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 616134 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 967113 | 8.783 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 835680 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 415994 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009194.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009240.D | 5 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 74-87-3 | Chloromethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 75-01-4 | Vinyl Chloride | 1 | UD | 1 | 1 | 5 | ug/L |
| 141-78-6 | Ethyl Acetate | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 108-21-4 | Isopropyl Acetate | 1 | UD | 1 | 1 | 5 | ug/L |
| 74-83-9 | Bromomethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 75-00-3 | Chloroethane | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 75-65-0 | Tert butyl alcohol | 2.5 | UD | 2.5 | 18.8 | 25 | ug/L |
| 60-29-7 | Diethyl Ether | 1.4 | UD | 1.4 | 2.5 | 5 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 1 | UD | 1 | 1 | 5 | ug/L |
| 107-02-8 | Acrolein | 2.5 | UD | 2.5 | 18.8 | 25 | ug/L |
| 107-13-1 | Acrylonitrile | 5 | UD | 5 | 5 | 25 | ug/L |
| 67-64-1 | Acetone | 2.5 | UD | 2.5 | 5 | 25 | ug/L |
| 75-15-0 | Carbon Disulfide | 1 | UD | 1 | 1 | 5 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 6.8 | D | 1.8 | 2.5 | 5 | ug/L |
| 79-20-9 | Methyl Acetate | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 75-09-2 | Methylene Chloride | 1 | UD | 1 | 1 | 5 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 1 | UD | 1 | 1 | 5 | ug/L |
| 108-05-4 | Vinyl Acetate | 5.3 | UD | 5.3 | 12.5 | 25 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 110-82-7 | Cyclohexane | 1 | UD | 1 | 1 | 5 | ug/L |
| 78-93-3 | 2-Butanone | 6.6 | UD | 6.6 | 12.5 | 25 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 1 | UD | 1 | 1 | 5 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 1 | UD | 1 | 1 | 5 | ug/L |
| 74-97-5 | Bromochloromethane | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 67-66-3 | Chloroform | 1 | UD | 1 | 1 | 5 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 108-87-2 | Methylcyclohexane | 1 | UD | 1 | 1 | 5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009240.D | 5 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 2 | UD | 2 | 2.5 | 5 | ug/L |
| 71-43-2 | Benzene | 200 | D | 1 | 1 | 5 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 79-01-6 | Trichloroethene | 1 | UD | 1 | 1 | 5 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 1 | UD | 1 | 1 | 5 | ug/L |
| 74-95-3 | Dibromomethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 75-27-4 | Bromodichloromethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 5 | UD | 5 | 5 | 25 | ug/L |
| 108-88-3 | Toluene | 3.9 | JD | 1 | 1 | 5 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 1 | UD | 1 | 1 | 5 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 1 | UD | 1 | 1 | 5 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 1 | UD | 1 | 1 | 5 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 5 | UD | 5 | 5 | 25 | ug/L |
| 591-78-6 | 2-Hexanone | 9.7 | UD | 9.7 | 12.5 | 25 | ug/L |
| 124-48-1 | Dibromochloromethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 127-18-4 | Tetrachloroethene | 1 | UD | 1 | 1 | 5 | ug/L |
| 108-90-7 | Chlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 67-72-1 | Hexachloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 100-41-4 | Ethyl Benzene | 130 | D | 1 | 1 | 5 | ug/L |
| 179601-23-1 | m/p-Xylenes | 2 | UD | 2 | 2 | 10 | ug/L |
| 95-47-6 | o-Xylene | 6.6 | D | 1 | 1 | 5 | ug/L |
| 100-42-5 | Styrene | 1 | UD | 1 | 1 | 5 | ug/L |
| 75-25-2 | Bromoform | 1 | UD | 1 | 1 | 5 | ug/L |
| 98-82-8 | Isopropylbenzene | 17 | D | 1 | 1 | 5 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1 | UD | 1 | 1 | 5 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 1 | UD | 1 | 1 | 5 | ug/L |
| 108-86-1 | Bromobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 103-65-1 | n-propylbenzene | 5.5 | D | 1 | 1 | 5 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 1 | UD | 1 | 1 | 5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009240.D | 5 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 1 | UD | 1 | 1 | 5 | ug/L |
| 98-06-6 | tert-Butylbenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 135-98-8 | sec-Butylbenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 1 | UD | 1 | 1 | 5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 104-51-8 | n-Butylbenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 1 | UD | 1 | 1 | 5 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 1 | UD | 1 | 1 | 5 | ug/L |
| 91-20-3 | Naphthalene | 14 | D | 1 | 1 | 5 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 1 | UD | 1 | 1 | 5 | ug/L |
| 628-63-7 | N-amyl acetate | 1 | UD | 1 | 3.8 | 5 | ug/L |
| 74-88-4 | Methyl Iodide | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 107-05-1 | Allyl chloride | 1 | UD | 1 | 2.5 | 5 | ug/L |
| 126-98-7 | Methacrylonitrile | 1 | UD | 1 | 3.8 | 5 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1 | UD | 1 | 3.8 | 5 | ug/L |
| 97-63-2 | Ethyl methacrylate | 1 | UD | 1 | 2.5 | 5 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46.7 | | 61 - 141 | | 93% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.7 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.6 | | 65 - 126 | | 105% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.2 | | 58 - 135 | | 98% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 558492 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 861020 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 770129 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 363383 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009240.D | 5 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009195.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 2.8 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 4.3 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009195.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 9.1 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 1.3 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 84.6 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 32.9 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 70.2 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 67.5 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 24.2 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009195.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 6.8 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 320 | E | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.93 | J | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 9.8 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 1.5 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 1300 | E | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 44.4 | | 61 - 141 | | 89% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.4 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.2 | | 65 - 126 | | 106% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.6 | | 58 - 135 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 644422 | 7.864 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 1012820 | 8.783 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 879711 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 407212 | 13.558 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009195.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009258.D | 50 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 74-87-3 | Chloromethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 75-01-4 | Vinyl Chloride | 10 | UD | 10 | 10 | 50 | ug/L |
| 141-78-6 | Ethyl Acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 108-21-4 | Isopropyl Acetate | 10 | UD | 10 | 10 | 50 | ug/L |
| 74-83-9 | Bromomethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 75-00-3 | Chloroethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 75-65-0 | Tert butyl alcohol | 25 | UD | 25 | 190 | 250 | ug/L |
| 60-29-7 | Diethyl Ether | 13.5 | UD | 13.5 | 25 | 50 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 10 | UD | 10 | 10 | 50 | ug/L |
| 107-02-8 | Acrolein | 25 | UD | 25 | 190 | 250 | ug/L |
| 107-13-1 | Acrylonitrile | 50 | UD | 50 | 50 | 250 | ug/L |
| 67-64-1 | Acetone | 25 | UD | 25 | 50 | 250 | ug/L |
| 75-15-0 | Carbon Disulfide | 10 | UD | 10 | 10 | 50 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 17.5 | UD | 17.5 | 25 | 50 | ug/L |
| 79-20-9 | Methyl Acetate | 10 | UD | 10 | 25 | 50 | ug/L |
| 75-09-2 | Methylene Chloride | 10 | UD | 10 | 10 | 50 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 10 | UD | 10 | 10 | 50 | ug/L |
| 108-05-4 | Vinyl Acetate | 52.5 | UD | 52.5 | 130 | 250 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 110-82-7 | Cyclohexane | 10 | UD | 10 | 10 | 50 | ug/L |
| 78-93-3 | 2-Butanone | 66 | UD | 66 | 130 | 250 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 10 | UD | 10 | 10 | 50 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 10 | UD | 10 | 25 | 50 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 10 | UD | 10 | 10 | 50 | ug/L |
| 74-97-5 | Bromochloromethane | 10 | UD | 10 | 25 | 50 | ug/L |
| 67-66-3 | Chloroform | 10 | UD | 10 | 10 | 50 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 108-87-2 | Methylcyclohexane | 10 | UD | 10 | 10 | 50 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009258.D | 50 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 19.5 | UD | 19.5 | 25 | 50 | ug/L |
| 71-43-2 | Benzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 79-01-6 | Trichloroethene | 10 | UD | 10 | 10 | 50 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 10 | UD | 10 | 10 | 50 | ug/L |
| 74-95-3 | Dibromomethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 75-27-4 | Bromodichloromethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 50 | UD | 50 | 50 | 250 | ug/L |
| 108-88-3 | Toluene | 10 | UD | 10 | 10 | 50 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 10 | UD | 10 | 10 | 50 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 10 | UD | 10 | 10 | 50 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 10 | UD | 10 | 10 | 50 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 50 | UD | 50 | 50 | 250 | ug/L |
| 591-78-6 | 2-Hexanone | 97 | UD | 97 | 130 | 250 | ug/L |
| 124-48-1 | Dibromochloromethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 127-18-4 | Tetrachloroethene | 10 | UD | 10 | 10 | 50 | ug/L |
| 108-90-7 | Chlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 67-72-1 | Hexachloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 100-41-4 | Ethyl Benzene | 75 | D | 10 | 10 | 50 | ug/L |
| 179601-23-1 | m/p-Xylenes | 34.5 | JD | 20 | 20 | 100 | ug/L |
| 95-47-6 | o-Xylene | 57.5 | D | 10 | 10 | 50 | ug/L |
| 100-42-5 | Styrene | 10 | UD | 10 | 10 | 50 | ug/L |
| 75-25-2 | Bromoform | 10 | UD | 10 | 10 | 50 | ug/L |
| 98-82-8 | Isopropylbenzene | 49 | JD | 10 | 10 | 50 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 10 | UD | 10 | 10 | 50 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 10 | UD | 10 | 10 | 50 | ug/L |
| 108-86-1 | Bromobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 103-65-1 | n-propylbenzene | 22 | JD | 10 | 10 | 50 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 10 | UD | 10 | 10 | 50 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009258.D | 50 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 10 | UD | 10 | 10 | 50 | ug/L |
| 98-06-6 | tert-Butylbenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 270 | D | 10 | 10 | 50 | ug/L |
| 135-98-8 | sec-Butylbenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 10 | UD | 10 | 10 | 50 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 104-51-8 | n-Butylbenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 10 | UD | 10 | 10 | 50 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 10 | UD | 10 | 10 | 50 | ug/L |
| 91-20-3 | Naphthalene | 2000 | D | 10 | 10 | 50 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 10 | UD | 10 | 10 | 50 | ug/L |
| 628-63-7 | N-amyl acetate | 10 | UD | 10 | 37.5 | 50 | ug/L |
| 74-88-4 | Methyl Iodide | 10 | UD | 10 | 25 | 50 | ug/L |
| 107-05-1 | Allyl chloride | 10 | UD | 10 | 25 | 50 | ug/L |
| 126-98-7 | Methacrylonitrile | 10 | UD | 10 | 37.5 | 50 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 10 | UD | 10 | 37.5 | 50 | ug/L |
| 97-63-2 | Ethyl methacrylate | 10 | UD | 10 | 25 | 50 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45 | | 61 - 141 | | 90% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.3 | | 69 - 133 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.5 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.8 | | 58 - 135 | | 98% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 600342 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 890358 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 796380 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 373709 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009258.D | 50 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009201.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009201.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009201.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.7 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49 | | 69 - 133 | | 98% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.5 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.5 | | 58 - 135 | | 99% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 579955 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 888034 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 797853 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 376997 | 13.561 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009201.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009196.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009196.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009196.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.3 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.7 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.9 | | 65 - 126 | | 106% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 51.1 | | 58 - 135 | | 102% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 575174 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 880742 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 792676 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 415079 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009196.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009197.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 1.7 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 3.4 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009197.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 1.8 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.55 | J | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.45 | J | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 1.1 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 44.6 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 52.3 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009197.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 2.9 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 7.2 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 3.5 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.1 | | 61 - 141 | | 90% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.2 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.5 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 51.7 | | 58 - 135 | | 103% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 591803 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 904244 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 819419 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 403257 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009197.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009198.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 3.6 | J | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 1.5 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.52 | J | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009198.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 49.7 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 1.2 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 2.6 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 1.2 | J | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 2.5 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 1.1 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009198.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.3 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.4 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.3 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.9 | | 58 - 135 | | 100% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 591138 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 904165 | 8.786 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 805396 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 408571 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009198.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009199.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009199.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009199.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.5 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.3 | | 69 - 133 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.4 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.5 | | 58 - 135 | | 97% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 580741 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 886591 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 792379 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 374112 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009199.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009189.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009189.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009189.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46.3 | | 61 - 141 | | 93% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.7 | | 69 - 133 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.3 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.2 | | 58 - 135 | | 96% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 568376 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 880448 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 785140 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 353170 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009189.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009200.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 2.3 | J | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 1.5 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.54 | J | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009200.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 55.2 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 1.3 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 2.8 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 1.2 | J | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 2.7 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.98 | J | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009200.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.91 | J | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.6 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.7 | | 69 - 133 | | 95% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53 | | 65 - 126 | | 106% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 50.6 | | 58 - 135 | | 101% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 612707 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 946709 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 843888 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 412200 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009200.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | TBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-12 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009188.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | TBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-12 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009188.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | TBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-12 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009188.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.6 | | 61 - 141 | | 91% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.4 | | 69 - 133 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.4 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.4 | | 58 - 135 | | 97% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 573817 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 873916 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 775219 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 357761 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | TBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-12 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009188.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# QC SUMMARY

## Surrogate Summary

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

| Lab Sample ID | Client ID | Parameter | Spike | Result | Recovery | Qual | Limits Low | Limits High |
|---|---|---|---|---|---|---|---|---|
| E3854-01 | MW-2-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 44.6 | 89 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.96 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 52.65 | 105 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 49.11 | 98 | | 58 | 135 |
| E3854-01DL | MW-2-Q3-2013DL | 1,2-Dichloroethane-d4 | 50 | 46.67 | 93 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.72 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 52.58 | 105 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 49.21 | 98 | | 58 | 135 |
| E3854-02 | MW-8-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 44.39 | 89 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.41 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.19 | 106 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 47.59 | 95 | | 58 | 135 |
| E3854-02DL | MW-8-Q3-2013DL | 1,2-Dichloroethane-d4 | 50 | 44.97 | 90 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 49.3 | 99 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.47 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 48.75 | 98 | | 58 | 135 |
| E3854-03 | MW-11R-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.67 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 49.03 | 98 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.45 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 49.53 | 99 | | 58 | 135 |
| E3854-04MS | MW-11R-Q3-2013MS | 1,2-Dichloroethane-d4 | 50 | 43.79 | 88 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.93 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 45.02 | 90 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 49.26 | 99 | | 58 | 135 |
| E3854-05MSD | MW-11R-Q3-2013MSD | 1,2-Dichloroethane-d4 | 50 | 42.7 | 85 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.05 | 94 | | 69 | 133 |
| | | Toluene-d8 | 50 | 44.6 | 89 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 48.55 | 97 | | 58 | 135 |
| E3854-06 | MW-12R-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.29 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.68 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 52.91 | 106 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 51.13 | 102 | | 58 | 135 |
| E3854-07 | MW-14-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.06 | 90 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.21 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.5 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 51.68 | 103 | | 58 | 135 |
| E3854-08 | MW-15-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.34 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.43 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.34 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 49.91 | 100 | | 58 | 135 |
| E3854-09 | MW-16-Q3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.5 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 49.25 | 99 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.35 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 48.49 | 97 | | 58 | 135 |
| E3854-10 | FBQ3-2013 | 1,2-Dichloroethane-d4 | 50 | 46.3 | 93 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.66 | 97 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.25 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 48.19 | 96 | | 58 | 135 |
| E3854-11 | DUPQ3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.57 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.71 | 95 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.03 | 106 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 50.61 | 101 | | 58 | 135 |

## Surrogate Summary

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

| Lab Sample ID | Client ID | Parameter | Spike | Result | Recovery | Qual | Limits Low | Limits High |
|---|---|---|---|---|---|---|---|---|
| E3854-12 | TBQ3-2013 | 1,2-Dichloroethane-d4 | 50 | 45.57 | 91 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 49.35 | 99 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.44 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 48.38 | 97 | | 58 | 135 |
| VN0927WBL01 | VN0927WBL01 | 1,2-Dichloroethane-d4 | 50 | 46.86 | 94 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 48.1 | 96 | | 69 | 133 |
| | | Toluene-d8 | 50 | 53.33 | 107 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 47.86 | 96 | | 58 | 135 |
| VN0927WBS01 | VN0927WBS01 | 1,2-Dichloroethane-d4 | 50 | 42.98 | 86 | | 61 | 141 |
| | | Dibromofluoromethane | 50 | 47.44 | 95 | | 69 | 133 |
| | | Toluene-d8 | 50 | 44.88 | 90 | | 65 | 126 |
| | | 4-Bromofluorobenzene | 50 | 47.34 | 95 | | 58 | 135 |
| VN0930WBL01 | VN0930WBL01 | 1,2-Dichloroethane-d4 | 50 | 44.97 | 90 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 49.4 | 99 | | 85 | 115 |
| | | Toluene-d8 | 50 | 52.68 | 105 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 47.42 | 95 | | 75 | 120 |
| VN0930WBS01 | VN0930WBS01 | 1,2-Dichloroethane-d4 | 50 | 44.13 | 88 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 49.99 | 100 | | 85 | 115 |
| | | Toluene-d8 | 50 | 46.33 | 93 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 49.64 | 99 | | 75 | 120 |
| VN1001WBL01 | VN1001WBL01 | 1,2-Dichloroethane-d4 | 50 | 45.25 | 90 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 48.35 | 97 | | 85 | 115 |
| | | Toluene-d8 | 50 | 53.72 | 107 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 48.15 | 96 | | 75 | 120 |
| VN1001WBS01 | VN1001WBS01 | 1,2-Dichloroethane-d4 | 50 | 42.97 | 86 | | 70 | 120 |
| | | Dibromofluoromethane | 50 | 48.1 | 96 | | 85 | 115 |
| | | Toluene-d8 | 50 | 44.9 | 90 | | 85 | 120 |
| | | 4-Bromofluorobenzene | 50 | 47.68 | 95 | | 75 | 120 |

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## Matrix Spike/Matrix Spike Duplicate Summary
## SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

**Lab Sample ID :** E3854-04MS **Client Sample ID :** MW-11R-Q3-2013MS **Datafile :** VN009202.D

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 50 | 0 | 41.9 | ug/L | 84 | | | | 47 | 161 | |
| Chloromethane | 50 | 0 | 41.1 | ug/L | 82 | | | | 53 | 157 | |
| Vinyl chloride | 50 | 0 | 44.5 | ug/L | 89 | | | | 57 | 149 | |
| Ethyl Acetate | 50 | 0 | 46.1 | ug/L | 92 | | | | 60 | 147 | |
| Isopropylacetate | 50 | 0 | 49 | ug/L | 98 | | | | 33 | 141 | |
| Bromomethane | 50 | 0 | 21.2 | ug/L | 42 | * | | | 45 | 165 | |
| Chloroethane | 50 | 0 | 44.4 | ug/L | 89 | | | | 47 | 166 | |
| Trichlorofluoromethane | 50 | 0 | 44.8 | ug/L | 90 | | | | 51 | 165 | |
| 1,1,2-Trichlorotrifluoroethane | 50 | 0 | 43.2 | ug/L | 86 | | | | 61 | 145 | |
| Tert butyl alcohol | 250 | 0 | 300 | ug/L | 120 | | | | 29 | 188 | |
| Diethyl Ether | 50 | 0 | 47.4 | ug/L | 95 | | | | 63 | 131 | |
| 1,1-Dichloroethene | 50 | 0 | 45 | ug/L | 90 | | | | 55 | 148 | |
| Acrolein | 250 | 0 | 230 | ug/L | 92 | | | | 32 | 157 | |
| Acrylonitrile | 250 | 0 | 260 | ug/L | 104 | | | | 60 | 146 | |
| Acetone | 250 | 0 | 210 | ug/L | 84 | | | | 11 | 159 | |
| Carbon disulfide | 50 | 0 | 42.5 | ug/L | 85 | | | | 13 | 149 | |
| Methyl tert-butyl Ether | 50 | 0 | 48.6 | ug/L | 97 | | | | 60 | 145 | |
| Methyl Acetate | 50 | 0 | 46.2 | ug/L | 92 | | | | 27 | 167 | |
| Methylene Chloride | 50 | 0 | 45.7 | ug/L | 91 | | | | 56 | 146 | |
| trans-1,2-Dichloroethene | 50 | 0 | 45.2 | ug/L | 90 | | | | 60 | 141 | |
| Vinyl Acetate | 250 | 0 | 230 | ug/L | 92 | | | | 50 | 176 | |
| 1,1-Dichloroethane | 50 | 0 | 45.5 | ug/L | 91 | | | | 61 | 144 | |
| Cyclohexane | 50 | 0 | 45.4 | ug/L | 91 | | | | 57 | 142 | |
| 2-Butanone | 250 | 0 | 250 | ug/L | 100 | | | | 42 | 145 | |
| Carbon Tetrachloride | 50 | 0 | 48.1 | ug/L | 96 | | | | 60 | 140 | |
| 2,2-Dichloropropane | 50 | 0 | 39.5 | ug/L | 79 | | | | 39 | 146 | |
| cis-1,2-Dichloroethene | 50 | 0 | 46.9 | ug/L | 94 | | | | 48 | 156 | |
| Bromochloromethane | 50 | 0 | 47.3 | ug/L | 95 | | | | 59 | 146 | |
| Chloroform | 50 | 0 | 45.7 | ug/L | 91 | | | | 63 | 140 | |
| 1,1,1-Trichloroethane | 50 | 0 | 45.6 | ug/L | 91 | | | | 65 | 140 | |
| Methylcyclohexane | 50 | 0 | 44.8 | ug/L | 90 | | | | 62 | 128 | |
| 1,1-Dichloropropene | 50 | 0 | 46.6 | ug/L | 93 | | | | 64 | 132 | |
| Benzene | 50 | 0 | 46.9 | ug/L | 94 | | | | 62 | 134 | |
| 1,2-Dichloroethane | 50 | 0 | 45.4 | ug/L | 91 | | | | 67 | 136 | |
| Trichloroethene | 50 | 0 | 47 | ug/L | 94 | | | | 64 | 131 | |
| 1,2-Dichloropropane | 50 | 0 | 47 | ug/L | 94 | | | | 69 | 130 | |
| Dibromomethane | 50 | 0 | 48.1 | ug/L | 96 | | | | 71 | 132 | |
| Bromodichloromethane | 50 | 0 | 47.2 | ug/L | 94 | | | | 66 | 132 | |
| 4-Methyl-2-Pentanone | 250 | 0 | 270 | ug/L | 108 | | | | 57 | 148 | |
| Toluene | 50 | 0 | 48.4 | ug/L | 97 | | | | 68 | 129 | |
| t-1,3-Dichloropropene | 50 | 0 | 48.2 | ug/L | 96 | | | | 54 | 136 | |
| cis-1,3-Dichloropropene | 50 | 0 | 47 | ug/L | 94 | | | | 56 | 133 | |
| 1,1,2-Trichloroethane | 50 | 0 | 49.2 | ug/L | 98 | | | | 68 | 134 | |
| 1,3-Dichloropropane | 50 | 0 | 48.1 | ug/L | 96 | | | | 71 | 132 | |
| 2-Chloroethyl vinyl ether | 250 | 0 | 0 | ug/L | 0 | * | | | 70 | 128 | |
| 2-Hexanone | 250 | 0 | 290 | ug/L | 116 | | | | 46 | 158 | |
| Dibromochloromethane | 50 | 0 | 50.8 | ug/L | 102 | | | | 59 | 136 | |

CHEMTECH

## Matrix Spike/Matrix Spike Duplicate Summary
## SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | 50 | 0 | 50.1 | ug/L | 100 | | | | 65 | 138 | |
| Tetrachloroethene | 50 | 0 | 43.1 | ug/L | 86 | | | | 29 | 137 | |
| Chlorobenzene | 50 | 0 | 48.4 | ug/L | 97 | | | | 68 | 126 | |
| 1,1,1,2-Tetrachloroethane | 50 | 0 | 50.3 | ug/L | 101 | | | | 69 | 129 | |
| Hexachloroethane | 50 | 0 | 46.3 | ug/L | 93 | | | | 50 | 117 | |
| Ethyl Benzene | 50 | 0 | 48.6 | ug/L | 97 | | | | 61 | 131 | |
| m/p-Xylenes | 100 | 0 | 99 | ug/L | 99 | | | | 64 | 125 | |
| o-Xylene | 50 | 0 | 50.8 | ug/L | 102 | | | | 65 | 126 | |
| Styrene | 50 | 0 | 50.8 | ug/L | 102 | | | | 40 | 140 | |
| Bromoform | 50 | 0 | 55.2 | ug/L | 110 | | | | 42 | 134 | |
| Isopropylbenzene | 50 | 0 | 47.1 | ug/L | 94 | | | | 58 | 132 | |
| 1,1,2,2-Tetrachloroethane | 50 | 0 | 48.6 | ug/L | 97 | | | | 61 | 136 | |
| 1,2,3-Trichloropropane | 50 | 0 | 45.3 | ug/L | 91 | | | | 68 | 128 | |
| Bromobenzene | 50 | 0 | 48.1 | ug/L | 96 | | | | 65 | 126 | |
| N-propylbenzene | 50 | 0 | 46.4 | ug/L | 93 | | | | 64 | 126 | |
| 2-Chlorotoluene | 50 | 0 | 46.4 | ug/L | 93 | | | | 63 | 125 | |
| 1,3,5-Trimethylbenzene | 50 | 0 | 48.2 | ug/L | 96 | | | | 59 | 127 | |
| 4-Chlorotoluene | 50 | 0 | 46.9 | ug/L | 94 | | | | 63 | 126 | |
| tert-Butylbenzene | 50 | 0 | 49.6 | ug/L | 99 | | | | 65 | 138 | |
| 1,2,4-Trimethylbenzene | 50 | 0 | 48.2 | ug/L | 96 | | | | 54 | 133 | |
| Sec-butylbenzene | 50 | 0 | 48.6 | ug/L | 97 | | | | 65 | 125 | |
| p-Isopropyltoluene | 50 | 0 | 48.7 | ug/L | 97 | | | | 64 | 124 | |
| 1,3-Dichlorobenzene | 50 | 0 | 47.7 | ug/L | 95 | | | | 63 | 125 | |
| 1,4-Dichlorobenzene | 50 | 0 | 46.9 | ug/L | 94 | | | | 64 | 124 | |
| n-Butylbenzene | 50 | 0 | 46 | ug/L | 92 | | | | 62 | 127 | |
| 1,2-Dichlorobenzene | 50 | 0 | 47.8 | ug/L | 96 | | | | 64 | 126 | |
| 1,2-Dibromo-3-Chloropropane | 50 | 0 | 54.8 | ug/L | 110 | | | | 57 | 139 | |
| 1,2,4-Trichlorobenzene | 50 | 0 | 53.2 | ug/L | 106 | | | | 57 | 130 | |
| Hexachlorobutadiene | 50 | 0 | 47.2 | ug/L | 94 | | | | 53 | 127 | |
| Naphthalene | 50 | 0 | 60 | ug/L | 120 | | | | 56 | 136 | |
| 1,2,3-Trichlorobenzene | 50 | 0 | 54.4 | ug/L | 109 | | | | 57 | 131 | |
| N-amyl acetate | 50 | 0 | 53.5 | ug/L | 107 | | | | 80 | 118 | |
| Methyl iodide | 50 | 0 | 22.2 | ug/L | 44 | * | | | 77 | 120 | |
| Allyl chloride | 50 | 0 | 44.9 | ug/L | 90 | | | | 71 | 120 | |
| Methacrylonitrile | 50 | 0 | 50.4 | ug/L | 101 | | | | 47 | 150 | |
| trans-1,4-Dichloro-2-butene | 50 | 0 | 43.4 | ug/L | 87 | | | | 24 | 124 | |
| Ethyl methacrylate | 50 | 0 | 55.1 | ug/L | 110 | | | | 79 | 119 | |

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## Matrix Spike/Matrix Spike Duplicate Summary
## SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID : E3854-05MSD** | **Client Sample ID :** | | **MW-11R-Q3-2013MSD** | | | | **Datafile :** | VN009203.D | | | |
| Dichlorodifluoromethane | 50 | 0 | 45.1 | ug/L | 90 | | 7 | | 47 | 161 | 20 |
| Chloromethane | 50 | 0 | 42.3 | ug/L | 85 | | 3 | | 53 | 157 | 20 |
| Vinyl chloride | 50 | 0 | 45.7 | ug/L | 91 | | 3 | | 57 | 149 | 20 |
| Ethyl Acetate | 50 | 0 | 46 | ug/L | 92 | | 0 | | 60 | 147 | 20 |
| Isopropylacetate | 50 | 0 | 50.9 | ug/L | 102 | | 4 | | 33 | 141 | 20 |
| Bromomethane | 50 | 0 | 28.3 | ug/L | 57 | | 29 | * | 45 | 165 | 20 |
| Chloroethane | 50 | 0 | 44.8 | ug/L | 90 | | 1 | | 47 | 166 | 20 |
| Trichlorofluoromethane | 50 | 0 | 45.9 | ug/L | 92 | | 2 | | 51 | 165 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 50 | 0 | 44.7 | ug/L | 89 | | 3 | | 61 | 145 | 20 |
| Tert butyl alcohol | 250 | 0 | 290 | ug/L | 116 | | 3 | | 29 | 188 | 20 |
| Diethyl Ether | 50 | 0 | 48.1 | ug/L | 96 | | 1 | | 63 | 131 | 20 |
| 1,1-Dichloroethene | 50 | 0 | 45.7 | ug/L | 91 | | 2 | | 55 | 148 | 20 |
| Acrolein | 250 | 0 | 220 | ug/L | 88 | | 4 | | 32 | 157 | 20 |
| Acrylonitrile | 250 | 0 | 260 | ug/L | 104 | | 0 | | 60 | 146 | 20 |
| Acetone | 250 | 0 | 210 | ug/L | 84 | | 0 | | 11 | 159 | 20 |
| Carbon disulfide | 50 | 0 | 43.8 | ug/L | 88 | | 3 | | 13 | 149 | 20 |
| Methyl tert-butyl Ether | 50 | 0 | 50 | ug/L | 100 | | 3 | | 60 | 145 | 20 |
| Methyl Acetate | 50 | 0 | 46.1 | ug/L | 92 | | 0 | | 27 | 167 | 20 |
| Methylene Chloride | 50 | 0 | 46.3 | ug/L | 93 | | 1 | | 56 | 146 | 20 |
| trans-1,2-Dichloroethene | 50 | 0 | 46 | ug/L | 92 | | 2 | | 60 | 141 | 20 |
| Vinyl Acetate | 250 | 0 | 240 | ug/L | 96 | | 4 | | 50 | 176 | 20 |
| 1,1-Dichloroethane | 50 | 0 | 46.5 | ug/L | 93 | | 2 | | 61 | 144 | 20 |
| Cyclohexane | 50 | 0 | 47.5 | ug/L | 95 | | 5 | | 57 | 142 | 20 |
| 2-Butanone | 250 | 0 | 260 | ug/L | 104 | | 4 | | 42 | 145 | 20 |
| Carbon Tetrachloride | 50 | 0 | 49.9 | ug/L | 100 | | 4 | | 60 | 140 | 20 |
| 2,2-Dichloropropane | 50 | 0 | 39.2 | ug/L | 78 | | 1 | | 39 | 146 | 20 |
| cis-1,2-Dichloroethene | 50 | 0 | 47.5 | ug/L | 95 | | 1 | | 48 | 156 | 20 |
| Bromochloromethane | 50 | 0 | 47.2 | ug/L | 94 | | 0 | | 59 | 146 | 20 |
| Chloroform | 50 | 0 | 46.3 | ug/L | 93 | | 1 | | 63 | 140 | 20 |
| 1,1,1-Trichloroethane | 50 | 0 | 46 | ug/L | 92 | | 1 | | 65 | 140 | 20 |
| Methylcyclohexane | 50 | 0 | 47.5 | ug/L | 95 | | 6 | | 62 | 128 | 20 |
| 1,1-Dichloropropene | 50 | 0 | 48.5 | ug/L | 97 | | 4 | | 64 | 132 | 20 |
| Benzene | 50 | 0 | 48 | ug/L | 96 | | 2 | | 62 | 134 | 20 |
| 1,2-Dichloroethane | 50 | 0 | 46.9 | ug/L | 94 | | 3 | | 67 | 136 | 20 |
| Trichloroethene | 50 | 0 | 48.8 | ug/L | 98 | | 4 | | 64 | 131 | 20 |
| 1,2-Dichloropropane | 50 | 0 | 48.9 | ug/L | 98 | | 4 | | 69 | 130 | 20 |
| Dibromomethane | 50 | 0 | 50.1 | ug/L | 100 | | 4 | | 71 | 132 | 20 |
| Bromodichloromethane | 50 | 0 | 48.8 | ug/L | 98 | | 3 | | 66 | 132 | 20 |
| 4-Methyl-2-Pentanone | 250 | 0 | 280 | ug/L | 112 | | 4 | | 57 | 148 | 20 |
| Toluene | 50 | 0 | 50 | ug/L | 100 | | 3 | | 68 | 129 | 20 |
| t-1,3-Dichloropropene | 50 | 0 | 49.9 | ug/L | 100 | | 3 | | 54 | 136 | 20 |
| cis-1,3-Dichloropropene | 50 | 0 | 48 | ug/L | 96 | | 2 | | 56 | 133 | 20 |
| 1,1,2-Trichloroethane | 50 | 0 | 51 | ug/L | 102 | | 4 | | 68 | 134 | 20 |
| 1,3-Dichloropropane | 50 | 0 | 49.2 | ug/L | 98 | | 2 | | 71 | 132 | 20 |
| 2-Chloroethyl vinyl ether | 250 | 0 | 0 | ug/L | 0 | * | 0 | | 70 | 128 | 20 |
| 2-Hexanone | 250 | 0 | 300 | ug/L | 120 | | 3 | | 46 | 158 | 20 |
| Dibromochloromethane | 50 | 0 | 52.4 | ug/L | 105 | | 3 | | 59 | 136 | 20 |

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## Matrix Spike/Matrix Spike Duplicate Summary
## SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane | 50 | 0 | 50.8 | ug/L | 102 | | 1 | | 65 | 138 | 20 |
| Tetrachloroethene | 50 | 0 | 44.7 | ug/L | 89 | | 4 | | 29 | 137 | 20 |
| Chlorobenzene | 50 | 0 | 49.4 | ug/L | 99 | | 2 | | 68 | 126 | 20 |
| 1,1,1,2-Tetrachloroethane | 50 | 0 | 51.4 | ug/L | 103 | | 2 | | 69 | 129 | 20 |
| Hexachloroethane | 50 | 0 | 48.5 | ug/L | 97 | | 5 | | 50 | 117 | 20 |
| Ethyl Benzene | 50 | 0 | 50.3 | ug/L | 101 | | 3 | | 61 | 131 | 20 |
| m/p-Xylenes | 100 | 0 | 100 | ug/L | 100 | | 1 | | 64 | 125 | 20 |
| o-Xylene | 50 | 0 | 52.4 | ug/L | 105 | | 3 | | 65 | 126 | 20 |
| Styrene | 50 | 0 | 52.5 | ug/L | 105 | | 3 | | 40 | 140 | 20 |
| Bromoform | 50 | 0 | 57.3 | ug/L | 115 | | 4 | | 42 | 134 | 20 |
| Isopropylbenzene | 50 | 0 | 48.4 | ug/L | 97 | | 3 | | 58 | 132 | 20 |
| 1,1,2,2-Tetrachloroethane | 50 | 0 | 49.4 | ug/L | 99 | | 2 | | 61 | 136 | 20 |
| 1,2,3-Trichloropropane | 50 | 0 | 46.4 | ug/L | 93 | | 2 | | 68 | 128 | 20 |
| Bromobenzene | 50 | 0 | 50.1 | ug/L | 100 | | 4 | | 65 | 126 | 20 |
| N-propylbenzene | 50 | 0 | 48.2 | ug/L | 96 | | 4 | | 64 | 126 | 20 |
| 2-Chlorotoluene | 50 | 0 | 47.6 | ug/L | 95 | | 3 | | 63 | 125 | 20 |
| 1,3,5-Trimethylbenzene | 50 | 0 | 49.7 | ug/L | 99 | | 3 | | 59 | 127 | 20 |
| 4-Chlorotoluene | 50 | 0 | 48 | ug/L | 96 | | 2 | | 63 | 126 | 20 |
| tert-Butylbenzene | 50 | 0 | 50.7 | ug/L | 101 | | 2 | | 65 | 138 | 20 |
| 1,2,4-Trimethylbenzene | 50 | 0 | 49.2 | ug/L | 98 | | 2 | | 54 | 133 | 20 |
| Sec-butylbenzene | 50 | 0 | 50 | ug/L | 100 | | 3 | | 65 | 125 | 20 |
| p-Isopropyltoluene | 50 | 0 | 50.2 | ug/L | 100 | | 3 | | 64 | 124 | 20 |
| 1,3-Dichlorobenzene | 50 | 0 | 48.9 | ug/L | 98 | | 2 | | 63 | 125 | 20 |
| 1,4-Dichlorobenzene | 50 | 0 | 48.4 | ug/L | 97 | | 3 | | 64 | 124 | 20 |
| n-Butylbenzene | 50 | 0 | 47.5 | ug/L | 95 | | 3 | | 62 | 127 | 20 |
| 1,2-Dichlorobenzene | 50 | 0 | 49.6 | ug/L | 99 | | 4 | | 64 | 126 | 20 |
| 1,2-Dibromo-3-Chloropropane | 50 | 0 | 55.9 | ug/L | 112 | | 2 | | 57 | 139 | 20 |
| 1,2,4-Trichlorobenzene | 50 | 0 | 55.3 | ug/L | 111 | | 4 | | 57 | 130 | 20 |
| Hexachlorobutadiene | 50 | 0 | 48.4 | ug/L | 97 | | 3 | | 53 | 127 | 20 |
| Naphthalene | 50 | 0 | 62.9 | ug/L | 126 | | 5 | | 56 | 136 | 20 |
| 1,2,3-Trichlorobenzene | 50 | 0 | 56.2 | ug/L | 112 | | 3 | | 57 | 131 | 20 |
| N-amyl acetate | 50 | 0 | 54.3 | ug/L | 109 | | 1 | | 80 | 118 | 20 |
| Methyl iodide | 50 | 0 | 33.7 | ug/L | 67 | * | 41 | * | 77 | 120 | 20 |
| Allyl chloride | 50 | 0 | 45.4 | ug/L | 91 | | 1 | | 71 | 120 | 20 |
| Methacrylonitrile | 50 | 0 | 53.4 | ug/L | 107 | | 6 | | 47 | 150 | 20 |
| trans-1,4-Dichloro-2-butene | 50 | 0 | 45.3 | ug/L | 91 | | 4 | | 24 | 124 | 20 |
| Ethyl methacrylate | 50 | 0 | 57.1 | ug/L | 114 | | 4 | | 79 | 119 | 20 |

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**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low **Datafile :** VN009184.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN0927WBS01 | Dichlorodifluoromethane | 20 | 18.9 | ug/L | 95 | | | 46 | 139 | |
| | Chloromethane | 20 | 19.1 | ug/L | 96 | | | 58 | 139 | |
| | Vinyl chloride | 20 | 19.3 | ug/L | 97 | | | 65 | 137 | |
| | Ethyl Acetate | 20 | 19.7 | ug/L | 99 | | | 67 | 131 | |
| | Isopropylacetate | 20 | 20.2 | ug/L | 101 | | | 72 | 128 | |
| | Bromomethane | 20 | 18.3 | ug/L | 92 | | | 50 | 162 | |
| | Chloroethane | 20 | 18.2 | ug/L | 91 | | | 54 | 160 | |
| | Trichlorofluoromethane | 20 | 19.1 | ug/L | 96 | | | 67 | 143 | |
| | 1,1,2-Trichlorotrifluoroethane | 20 | 19.4 | ug/L | 97 | | | 71 | 136 | |
| | Tert butyl alcohol | 100 | 110 | ug/L | 110 | | | 36 | 175 | |
| | Diethyl Ether | 20 | 19.5 | ug/L | 98 | | | 70 | 133 | |
| | 1,1-Dichloroethene | 20 | 18.8 | ug/L | 94 | | | 69 | 134 | |
| | Acrolein | 100 | 100 | ug/L | 100 | | | 20 | 159 | |
| | Acrylonitrile | 100 | 99.4 | ug/L | 99 | | | 63 | 146 | |
| | Acetone | 100 | 100 | ug/L | 100 | | | 41 | 181 | |
| | Carbon disulfide | 20 | 17.6 | ug/L | 88 | | | 63 | 138 | |
| | Methyl tert-butyl Ether | 20 | 20 | ug/L | 100 | | | 72 | 136 | |
| | Methyl Acetate | 20 | 21.3 | ug/L | 106 | | | 51 | 158 | |
| | Methylene Chloride | 20 | 19.2 | ug/L | 96 | | | 67 | 138 | |
| | trans-1,2-Dichloroethene | 20 | 19 | ug/L | 95 | | | 72 | 132 | |
| | Vinyl Acetate | 100 | 99.1 | ug/L | 99 | | | 32 | 168 | |
| | 1,1-Dichloroethane | 20 | 19 | ug/L | 95 | | | 74 | 135 | |
| | Cyclohexane | 20 | 19.1 | ug/L | 96 | | | 67 | 132 | |
| | 2-Butanone | 100 | 110 | ug/L | 110 | | | 64 | 146 | |
| | Carbon Tetrachloride | 20 | 19.5 | ug/L | 98 | | | 71 | 134 | |
| | 2,2-Dichloropropane | 20 | 19.8 | ug/L | 99 | | | 64 | 137 | |
| | cis-1,2-Dichloroethene | 20 | 19.6 | ug/L | 98 | | | 74 | 130 | |
| | Bromochloromethane | 20 | 24.3 | ug/L | 121 | | | 71 | 136 | |
| | Chloroform | 20 | 19.2 | ug/L | 96 | | | 74 | 134 | |
| | 1,1,1-Trichloroethane | 20 | 19.2 | ug/L | 96 | | | 74 | 133 | |
| | Methylcyclohexane | 20 | 19.2 | ug/L | 96 | | | 71 | 125 | |
| | 1,1-Dichloropropene | 20 | 19.4 | ug/L | 97 | | | 74 | 127 | |
| | Benzene | 20 | 19.6 | ug/L | 98 | | | 75 | 125 | |
| | 1,2-Dichloroethane | 20 | 19.6 | ug/L | 98 | | | 76 | 130 | |
| | Trichloroethene | 20 | 19.9 | ug/L | 100 | | | 73 | 127 | |
| | 1,2-Dichloropropane | 20 | 19.8 | ug/L | 99 | | | 76 | 125 | |
| | Dibromomethane | 20 | 20.2 | ug/L | 101 | | | 79 | 124 | |
| | Bromodichloromethane | 20 | 19.7 | ug/L | 99 | | | 78 | 127 | |
| | 4-Methyl-2-Pentanone | 100 | 110 | ug/L | 110 | | | 71 | 140 | |
| | Toluene | 20 | 20.2 | ug/L | 101 | | | 74 | 125 | |
| | t-1,3-Dichloropropene | 20 | 20.2 | ug/L | 101 | | | 74 | 131 | |
| | cis-1,3-Dichloropropene | 20 | 20.1 | ug/L | 101 | | | 74 | 128 | |
| | 1,1,2-Trichloroethane | 20 | 20.6 | ug/L | 103 | | | 75 | 129 | |
| | 1,3-Dichloropropane | 20 | 20 | ug/L | 100 | | | 74 | 129 | |
| | 2-Chloroethyl vinyl ether | 100 | 95.1 | ug/L | 95 | | | 31 | 161 | |
| | 2-Hexanone | 100 | 110 | ug/L | 110 | | | 62 | 153 | |
| | Dibromochloromethane | 20 | 20.4 | ug/L | 102 | | | 74 | 131 | |
| | 1,2-Dibromoethane | 20 | 20.2 | ug/L | 101 | | | 74 | 129 | |
| | Tetrachloroethene | 20 | 20 | ug/L | 100 | | | 46 | 157 | |

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**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** E3854
**Client:** Cardno ATC
**Analytical Method:** SW8260-Low **Datafile :** VN009184.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN0927WBS01 | Chlorobenzene | 20 | 20.2 | ug/L | 101 | | | 76 | 123 | |
| | 1,1,1,2-Tetrachloroethane | 20 | 20.8 | ug/L | 104 | | | 75 | 126 | |
| | Hexachloroethane | 20 | 19.4 | ug/L | 97 | | | 67 | 127 | |
| | Ethyl Benzene | 20 | 19.8 | ug/L | 99 | | | 75 | 126 | |
| | m/p-Xylenes | 40 | 39.8 | ug/L | 100 | | | 74 | 126 | |
| | o-Xylene | 20 | 20.3 | ug/L | 102 | | | 73 | 127 | |
| | Styrene | 20 | 20.2 | ug/L | 101 | | | 75 | 126 | |
| | Bromoform | 20 | 21.2 | ug/L | 106 | | | 66 | 130 | |
| | Isopropylbenzene | 20 | 19.8 | ug/L | 99 | | | 70 | 127 | |
| | 1,1,2,2-Tetrachloroethane | 20 | 20 | ug/L | 100 | | | 66 | 131 | |
| | 1,2,3-Trichloropropane | 20 | 23 | ug/L | 115 | | | 71 | 127 | |
| | Bromobenzene | 20 | 20.1 | ug/L | 101 | | | 71 | 123 | |
| | N-propylbenzene | 20 | 19.5 | ug/L | 98 | | | 71 | 126 | |
| | 2-Chlorotoluene | 20 | 19.4 | ug/L | 97 | | | 73 | 124 | |
| | 1,3,5-Trimethylbenzene | 20 | 20.3 | ug/L | 102 | | | 71 | 127 | |
| | 4-Chlorotoluene | 20 | 19.5 | ug/L | 98 | | | 73 | 124 | |
| | tert-Butylbenzene | 20 | 20.4 | ug/L | 102 | | | 66 | 129 | |
| | 1,2,4-Trimethylbenzene | 20 | 20.5 | ug/L | 103 | | | 69 | 130 | |
| | Sec-butylbenzene | 20 | 20.2 | ug/L | 101 | | | 72 | 126 | |
| | p-Isopropyltoluene | 20 | 20.2 | ug/L | 101 | | | 71 | 125 | |
| | 1,3-Dichlorobenzene | 20 | 20 | ug/L | 100 | | | 70 | 125 | |
| | 1,4-Dichlorobenzene | 20 | 19.7 | ug/L | 99 | | | 71 | 124 | |
| | n-Butylbenzene | 20 | 19.6 | ug/L | 98 | | | 68 | 128 | |
| | 1,2-Dichlorobenzene | 20 | 20.1 | ug/L | 101 | | | 71 | 126 | |
| | 1,2-Dibromo-3-Chloropropane | 20 | 23.1 | ug/L | 116 | | | 62 | 134 | |
| | 1,2,4-Trichlorobenzene | 20 | 22.1 | ug/L | 111 | | | 62 | 129 | |
| | Hexachlorobutadiene | 20 | 20 | ug/L | 100 | | | 56 | 132 | |
| | Naphthalene | 20 | 23.5 | ug/L | 117 | | | 62 | 130 | |
| | 1,2,3-Trichlorobenzene | 20 | 22.1 | ug/L | 111 | | | 58 | 130 | |
| | N-amyl acetate | 20 | 20.2 | ug/L | 101 | | | 80 | 121 | |
| | Methyl iodide | 20 | 15.6 | ug/L | 78 | | | 70 | 130 | |
| | Allyl chloride | 20 | 18.5 | ug/L | 93 | | | 75 | 121 | |
| | Methacrylonitrile | 20 | 20.4 | ug/L | 102 | | | 67 | 132 | |
| | trans-1,4-Dichloro-2-butene | 20 | 19.7 | ug/L | 99 | | | 52 | 149 | |
| | Ethyl methacrylate | 20 | 21.4 | ug/L | 107 | | | 84 | 121 | |

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**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low **Datafile :** VN009228.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN0930WBS01 | Dichlorodifluoromethane | 20 | 18.3 | ug/L | 92 | | | 30 | 155 | |
| | Chloromethane | 20 | 18.2 | ug/L | 91 | | | 40 | 125 | |
| | Vinyl chloride | 20 | 19 | ug/L | 95 | | | 50 | 145 | |
| | Ethyl Acetate | 20 | 19.6 | ug/L | 98 | | | 70 | 130 | |
| | Isopropylacetate | 20 | 20.6 | ug/L | 103 | | | 70 | 130 | |
| | Bromomethane | 20 | 17.7 | ug/L | 89 | | | 30 | 145 | |
| | Chloroethane | 20 | 18.4 | ug/L | 92 | | | 60 | 135 | |
| | Trichlorofluoromethane | 20 | 18.7 | ug/L | 94 | | | 60 | 145 | |
| | 1,1,2-Trichlorotrifluoroethane | 20 | 19.2 | ug/L | 96 | | | 52 | 142 | |
| | Tert butyl alcohol | 100 | 98.2 | ug/L | 98 | | | 46 | 147 | |
| | Diethyl Ether | 20 | 19.6 | ug/L | 98 | | | 70 | 130 | |
| | 1,1-Dichloroethene | 20 | 18.4 | ug/L | 92 | | | 70 | 130 | |
| | Acrolein | 100 | 110 | ug/L | 110 | | | 38 | 155 | |
| | Acrylonitrile | 100 | 98.3 | ug/L | 98 | | | 53 | 150 | |
| | Acetone | 100 | 110 | ug/L | 110 | | | 40 | 140 | |
| | Carbon disulfide | 20 | 17.7 | ug/L | 89 | | | 35 | 160 | |
| | Methyl tert-butyl Ether | 20 | 19.7 | ug/L | 99 | | | 65 | 125 | |
| | Methyl Acetate | 20 | 19.7 | ug/L | 99 | | | 51 | 158 | |
| | Methylene Chloride | 20 | 20.5 | ug/L | 103 | | | 55 | 140 | |
| | trans-1,2-Dichloroethene | 20 | 18.8 | ug/L | 94 | | | 60 | 140 | |
| | Vinyl Acetate | 100 | 96.5 | ug/L | 97 | | | 47 | 166 | |
| | 1,1-Dichloroethane | 20 | 19.1 | ug/L | 96 | | | 70 | 135 | |
| | Cyclohexane | 20 | 19.4 | ug/L | 97 | | | 56 | 141 | |
| | 2-Butanone | 100 | 100 | ug/L | 100 | | | 30 | 150 | |
| | Carbon Tetrachloride | 20 | 20.7 | ug/L | 104 | | | 65 | 140 | |
| | 2,2-Dichloropropane | 20 | 19.8 | ug/L | 99 | | | 70 | 135 | |
| | cis-1,2-Dichloroethene | 20 | 19.5 | ug/L | 98 | | | 70 | 125 | |
| | Bromochloromethane | 20 | 24.9 | ug/L | 125 | | | 65 | 130 | |
| | Chloroform | 20 | 19.1 | ug/L | 96 | | | 65 | 135 | |
| | 1,1,1-Trichloroethane | 20 | 18.9 | ug/L | 95 | | | 65 | 130 | |
| | Methylcyclohexane | 20 | 20.4 | ug/L | 102 | | | 56 | 137 | |
| | 1,1-Dichloropropene | 20 | 19.8 | ug/L | 99 | | | 75 | 130 | |
| | Benzene | 20 | 20.2 | ug/L | 101 | | | 80 | 120 | |
| | 1,2-Dichloroethane | 20 | 19.5 | ug/L | 98 | | | 70 | 130 | |
| | Trichloroethene | 20 | 20.8 | ug/L | 104 | | | 70 | 125 | |
| | 1,2-Dichloropropane | 20 | 20.5 | ug/L | 103 | | | 75 | 125 | |
| | Dibromomethane | 20 | 20.3 | ug/L | 102 | | | 75 | 125 | |
| | Bromodichloromethane | 20 | 20.6 | ug/L | 103 | | | 75 | 120 | |
| | 4-Methyl-2-Pentanone | 100 | 110 | ug/L | 110 | | | 60 | 135 | |
| | Toluene | 20 | 20.4 | ug/L | 102 | | | 75 | 120 | |
| | t-1,3-Dichloropropene | 20 | 20.7 | ug/L | 104 | | | 55 | 140 | |
| | cis-1,3-Dichloropropene | 20 | 20.8 | ug/L | 104 | | | 70 | 130 | |
| | 1,1,2-Trichloroethane | 20 | 20.8 | ug/L | 104 | | | 75 | 125 | |
| | 1,3-Dichloropropane | 20 | 20.3 | ug/L | 102 | | | 75 | 125 | |
| | 2-Chloroethyl vinyl ether | 100 | 83.3 | ug/L | 83 | | | 54 | 151 | |
| | 2-Hexanone | 100 | 110 | ug/L | 110 | | | 55 | 130 | |
| | Dibromochloromethane | 20 | 21.6 | ug/L | 108 | | | 60 | 135 | |
| | 1,2-Dibromoethane | 20 | 21.1 | ug/L | 106 | | | 80 | 120 | |
| | Tetrachloroethene | 20 | 21.1 | ug/L | 106 | | | 45 | 150 | |

CHEMTECH

**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** E3854
**Client:** Cardno ATC
**Analytical Method:** SW8260-Low **Datafile :** VN009228.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN0930WBS01 | Chlorobenzene | 20 | 20.1 | ug/L | 101 | | | 80 | 120 | |
| | 1,1,1,2-Tetrachloroethane | 20 | 20.8 | ug/L | 104 | | | 80 | 130 | |
| | Hexachloroethane | 20 | 20.6 | ug/L | 103 | | | 70 | 130 | |
| | Ethyl Benzene | 20 | 20.1 | ug/L | 101 | | | 75 | 125 | |
| | m/p-Xylenes | 40 | 40.5 | ug/L | 101 | | | 75 | 130 | |
| | o-Xylene | 20 | 20.9 | ug/L | 104 | | | 80 | 120 | |
| | Styrene | 20 | 20.6 | ug/L | 103 | | | 65 | 135 | |
| | Bromoform | 20 | 23.4 | ug/L | 117 | | | 70 | 130 | |
| | Isopropylbenzene | 20 | 19.9 | ug/L | 100 | | | 75 | 125 | |
| | 1,1,2,2-Tetrachloroethane | 20 | 20.2 | ug/L | 101 | | | 65 | 130 | |
| | 1,2,3-Trichloropropane | 20 | 21.8 | ug/L | 109 | | | 75 | 125 | |
| | Bromobenzene | 20 | 21.2 | ug/L | 106 | | | 75 | 125 | |
| | N-propylbenzene | 20 | 19.8 | ug/L | 99 | | | 70 | 130 | |
| | 2-Chlorotoluene | 20 | 19.6 | ug/L | 98 | | | 75 | 125 | |
| | 1,3,5-Trimethylbenzene | 20 | 20.6 | ug/L | 103 | | | 75 | 130 | |
| | 4-Chlorotoluene | 20 | 19.7 | ug/L | 99 | | | 75 | 130 | |
| | tert-Butylbenzene | 20 | 20.7 | ug/L | 104 | | | 70 | 130 | |
| | 1,2,4-Trimethylbenzene | 20 | 20.7 | ug/L | 104 | | | 75 | 130 | |
| | Sec-butylbenzene | 20 | 20.3 | ug/L | 102 | | | 70 | 125 | |
| | p-Isopropyltoluene | 20 | 20.5 | ug/L | 103 | | | 75 | 130 | |
| | 1,3-Dichlorobenzene | 20 | 20.3 | ug/L | 102 | | | 75 | 125 | |
| | 1,4-Dichlorobenzene | 20 | 20.2 | ug/L | 101 | | | 75 | 125 | |
| | n-Butylbenzene | 20 | 20 | ug/L | 100 | | | 70 | 135 | |
| | 1,2-Dichlorobenzene | 20 | 20.8 | ug/L | 104 | | | 70 | 120 | |
| | 1,2-Dibromo-3-Chloropropane | 20 | 22.4 | ug/L | 112 | | | 50 | 130 | |
| | 1,2,4-Trichlorobenzene | 20 | 23 | ug/L | 115 | | | 65 | 135 | |
| | Hexachlorobutadiene | 20 | 22 | ug/L | 110 | | | 50 | 140 | |
| | Naphthalene | 20 | 23.1 | ug/L | 116 | | | 55 | 140 | |
| | 1,2,3-Trichlorobenzene | 20 | 23.3 | ug/L | 117 | | | 55 | 140 | |
| | N-amyl acetate | 20 | 19.8 | ug/L | 99 | | | 70 | 130 | |
| | Methyl iodide | 20 | 15.4 | ug/L | 77 | | | 70 | 130 | |
| | Allyl chloride | 20 | 19 | ug/L | 95 | | | 70 | 130 | |
| | Methacrylonitrile | 20 | 20.4 | ug/L | 102 | | | 70 | 130 | |
| | trans-1,4-Dichloro-2-butene | 20 | 20.7 | ug/L | 104 | | | 70 | 130 | |
| | Ethyl methacrylate | 20 | 21.6 | ug/L | 108 | | | 70 | 130 | |

CHEMTECH

**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low **Datafile :** VN009251.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN1001WBS01 | Dichlorodifluoromethane | 20 | 16.9 | ug/L | 85 | | | 30 | 155 | |
| | Chloromethane | 20 | 18.3 | ug/L | 92 | | | 40 | 125 | |
| | Vinyl chloride | 20 | 18.5 | ug/L | 93 | | | 50 | 145 | |
| | Ethyl Acetate | 20 | 20.9 | ug/L | 104 | | | 70 | 130 | |
| | Isopropylacetate | 20 | 21.2 | ug/L | 106 | | | 70 | 130 | |
| | Bromomethane | 20 | 17.2 | ug/L | 86 | | | 30 | 145 | |
| | Chloroethane | 20 | 18 | ug/L | 90 | | | 60 | 135 | |
| | Trichlorofluoromethane | 20 | 17.9 | ug/L | 90 | | | 60 | 145 | |
| | 1,1,2-Trichlorotrifluoroethane | 20 | 18.3 | ug/L | 92 | | | 52 | 142 | |
| | Tert butyl alcohol | 100 | 110 | ug/L | 110 | | | 46 | 147 | |
| | Diethyl Ether | 20 | 19.6 | ug/L | 98 | | | 70 | 130 | |
| | 1,1-Dichloroethene | 20 | 18.5 | ug/L | 93 | | | 70 | 130 | |
| | Acrolein | 100 | 93.4 | ug/L | 93 | | | 38 | 155 | |
| | Acrylonitrile | 100 | 97.5 | ug/L | 98 | | | 53 | 150 | |
| | Acetone | 100 | 110 | ug/L | 110 | | | 40 | 140 | |
| | Carbon disulfide | 20 | 17.1 | ug/L | 86 | | | 35 | 160 | |
| | Methyl tert-butyl Ether | 20 | 19.9 | ug/L | 100 | | | 65 | 125 | |
| | Methyl Acetate | 20 | 20.9 | ug/L | 104 | | | 51 | 158 | |
| | Methylene Chloride | 20 | 18.7 | ug/L | 94 | | | 55 | 140 | |
| | trans-1,2-Dichloroethene | 20 | 18.3 | ug/L | 92 | | | 60 | 140 | |
| | Vinyl Acetate | 100 | 98.7 | ug/L | 99 | | | 47 | 166 | |
| | 1,1-Dichloroethane | 20 | 18.7 | ug/L | 94 | | | 70 | 135 | |
| | Cyclohexane | 20 | 18.3 | ug/L | 92 | | | 56 | 141 | |
| | 2-Butanone | 100 | 110 | ug/L | 110 | | | 30 | 150 | |
| | Carbon Tetrachloride | 20 | 19.6 | ug/L | 98 | | | 65 | 140 | |
| | 2,2-Dichloropropane | 20 | 19.6 | ug/L | 98 | | | 70 | 135 | |
| | cis-1,2-Dichloroethene | 20 | 18.9 | ug/L | 95 | | | 70 | 125 | |
| | Bromochloromethane | 20 | 23.7 | ug/L | 119 | | | 65 | 130 | |
| | Chloroform | 20 | 18.7 | ug/L | 94 | | | 65 | 135 | |
| | 1,1,1-Trichloroethane | 20 | 18.6 | ug/L | 93 | | | 65 | 130 | |
| | Methylcyclohexane | 20 | 19.1 | ug/L | 96 | | | 56 | 137 | |
| | 1,1-Dichloropropene | 20 | 19.6 | ug/L | 98 | | | 75 | 130 | |
| | Benzene | 20 | 19.7 | ug/L | 99 | | | 80 | 120 | |
| | 1,2-Dichloroethane | 20 | 18.8 | ug/L | 94 | | | 70 | 130 | |
| | Trichloroethene | 20 | 20.1 | ug/L | 101 | | | 70 | 125 | |
| | 1,2-Dichloropropane | 20 | 20 | ug/L | 100 | | | 75 | 125 | |
| | Dibromomethane | 20 | 20.1 | ug/L | 101 | | | 75 | 125 | |
| | Bromodichloromethane | 20 | 20.5 | ug/L | 103 | | | 75 | 120 | |
| | 4-Methyl-2-Pentanone | 100 | 110 | ug/L | 110 | | | 60 | 135 | |
| | Toluene | 20 | 20.6 | ug/L | 103 | | | 75 | 120 | |
| | t-1,3-Dichloropropene | 20 | 20.4 | ug/L | 102 | | | 55 | 140 | |
| | cis-1,3-Dichloropropene | 20 | 20.6 | ug/L | 103 | | | 70 | 130 | |
| | 1,1,2-Trichloroethane | 20 | 20.9 | ug/L | 104 | | | 75 | 125 | |
| | 1,3-Dichloropropane | 20 | 20.6 | ug/L | 103 | | | 75 | 125 | |
| | 2-Chloroethyl vinyl ether | 100 | 90.7 | ug/L | 91 | | | 54 | 151 | |
| | 2-Hexanone | 100 | 120 | ug/L | 120 | | | 55 | 130 | |
| | Dibromochloromethane | 20 | 21.5 | ug/L | 108 | | | 60 | 135 | |
| | 1,2-Dibromoethane | 20 | 20.8 | ug/L | 104 | | | 80 | 120 | |
| | Tetrachloroethene | 20 | 19.8 | ug/L | 99 | | | 45 | 150 | |

CHEMTECH

**Laboratory Control Sample/Laboratory Control Sample Duplicate Summary**
**SW-846**



**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW8260-Low **Datafile :** VN009251.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| VN1001WBS01 | Chlorobenzene | 20 | 20.1 | ug/L | 101 | | | 80 | 120 | |
| | 1,1,1,2-Tetrachloroethane | 20 | 21.1 | ug/L | 106 | | | 80 | 130 | |
| | Hexachloroethane | 20 | 20 | ug/L | 100 | | | 70 | 130 | |
| | Ethyl Benzene | 20 | 20.1 | ug/L | 101 | | | 75 | 125 | |
| | m/p-Xylenes | 40 | 40.5 | ug/L | 101 | | | 75 | 130 | |
| | o-Xylene | 20 | 20.8 | ug/L | 104 | | | 80 | 120 | |
| | Styrene | 20 | 20.7 | ug/L | 104 | | | 65 | 135 | |
| | Bromoform | 20 | 23.6 | ug/L | 118 | | | 70 | 130 | |
| | Isopropylbenzene | 20 | 19.5 | ug/L | 98 | | | 75 | 125 | |
| | 1,1,2,2-Tetrachloroethane | 20 | 20.5 | ug/L | 103 | | | 65 | 130 | |
| | 1,2,3-Trichloropropane | 20 | 23.3 | ug/L | 117 | | | 75 | 125 | |
| | Bromobenzene | 20 | 20.3 | ug/L | 102 | | | 75 | 125 | |
| | N-propylbenzene | 20 | 19.3 | ug/L | 97 | | | 70 | 130 | |
| | 2-Chlorotoluene | 20 | 19.3 | ug/L | 97 | | | 75 | 125 | |
| | 1,3,5-Trimethylbenzene | 20 | 20 | ug/L | 100 | | | 75 | 130 | |
| | 4-Chlorotoluene | 20 | 19.2 | ug/L | 96 | | | 75 | 130 | |
| | tert-Butylbenzene | 20 | 20.5 | ug/L | 103 | | | 70 | 130 | |
| | 1,2,4-Trimethylbenzene | 20 | 20.4 | ug/L | 102 | | | 75 | 130 | |
| | Sec-butylbenzene | 20 | 20 | ug/L | 100 | | | 70 | 125 | |
| | p-Isopropyltoluene | 20 | 20.1 | ug/L | 101 | | | 75 | 130 | |
| | 1,3-Dichlorobenzene | 20 | 20 | ug/L | 100 | | | 75 | 125 | |
| | 1,4-Dichlorobenzene | 20 | 19.6 | ug/L | 98 | | | 75 | 125 | |
| | n-Butylbenzene | 20 | 19.4 | ug/L | 97 | | | 70 | 135 | |
| | 1,2-Dichlorobenzene | 20 | 20.2 | ug/L | 101 | | | 70 | 120 | |
| | 1,2-Dibromo-3-Chloropropane | 20 | 22.5 | ug/L | 113 | | | 50 | 130 | |
| | 1,2,4-Trichlorobenzene | 20 | 22.7 | ug/L | 114 | | | 65 | 135 | |
| | Hexachlorobutadiene | 20 | 20.7 | ug/L | 104 | | | 50 | 140 | |
| | Naphthalene | 20 | 23.1 | ug/L | 116 | | | 55 | 140 | |
| | 1,2,3-Trichlorobenzene | 20 | 23 | ug/L | 115 | | | 55 | 140 | |
| | N-amyl acetate | 20 | 20.7 | ug/L | 104 | | | 70 | 130 | |
| | Methyl iodide | 20 | 16.2 | ug/L | 81 | | | 70 | 130 | |
| | Allyl chloride | 20 | 18.9 | ug/L | 95 | | | 70 | 130 | |
| | trans-1,4-Dichloro-2-butene | 20 | 21.1 | ug/L | 106 | | | 70 | 130 | |
| | Methacrylonitrile | 20 | 20.7 | ug/L | 104 | | | 70 | 130 | |
| | Ethyl methacrylate | 20 | 22 | ug/L | 110 | | | 70 | 130 | |

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# VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0927WBL01

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009183.D Lab Sample ID: VN0927WBL01

Date Analyzed: 09/27/2013 Time Analyzed: 13:06

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| VN0927WBS01 | VN0927WBS01 | VN009184.D | 09/27/2013 |
| TBQ3-2013 | E3854-12 | VN009188.D | 09/27/2013 |
| FBQ3-2013 | E3854-10 | VN009189.D | 09/27/2013 |
| MW-2-Q3-2013 | E3854-01 | VN009194.D | 09/27/2013 |
| MW-8-Q3-2013 | E3854-02 | VN009195.D | 09/27/2013 |
| MW-12R-Q3-2013 | E3854-06 | VN009196.D | 09/27/2013 |
| MW-14-Q3-2013 | E3854-07 | VN009197.D | 09/27/2013 |
| MW-15-Q3-2013 | E3854-08 | VN009198.D | 09/27/2013 |
| MW-16-Q3-2013 | E3854-09 | VN009199.D | 09/27/2013 |
| DUPQ3-2013 | E3854-11 | VN009200.D | 09/27/2013 |
| MW-11R-Q3-2013 | E3854-03 | VN009201.D | 09/27/2013 |
| MW-11R-Q3-2013MS | E3854-04MS | VN009202.D | 09/27/2013 |
| MW-11R-Q3-2013MSD | E3854-05MSD | VN009203.D | 09/27/2013 |

COMMENTS:

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# VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN0930WBL01

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009227.D Lab Sample ID: VN0930WBL01

Date Analyzed: 09/30/2013 Time Analyzed: 17:50

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| VN0930WBS01 | VN0930WBS01 | VN009228.D | 09/30/2013 |
| MW-2-Q3-2013DL | E3854-01DL | VN009240.D | 09/30/2013 |

COMMENTS:

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# VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VN1001WBL01

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009250.D Lab Sample ID: VN1001WBL01

Date Analyzed: 10/01/2013 Time Analyzed: 11:28

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

Instrument ID: MSVOA_N

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| VN1001WBS01 | VN1001WBS01 | VN009251.D | 10/01/2013 |
| MW-8-Q3-2013DL | E3854-02DL | VN009258.D | 10/01/2013 |

COMMENTS:

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009033.D BFB Injection Date: 09/23/2013

Instrument ID: MSVOA_N BFB Injection Time: 18:09

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 15.6 |
| 75 | 30.0 - 60.0% of mass 95 | 47.4 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.5 |
| 173 | Less than 2.0% of mass 174 | 1 ( 1.1 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 92.1 |
| 175 | 5.0 - 9.0% of mass 174 | 7.3 ( 8 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 88.9 ( 96.5 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.5 ( 6.2 ) 2 |
| | | |

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDICC001 | VSTDICC001 | VN009034.D | 09/23/2013 | 20:01 |
| VSTDICC005 | VSTDICC005 | VN009035.D | 09/23/2013 | 20:29 |
| VSTDICC020 | VSTDICC020 | VN009036.D | 09/23/2013 | 20:57 |
| VSTDICCC050 | VSTDICCC050 | VN009037.D | 09/23/2013 | 21:25 |
| VSTDICC100 | VSTDICC100 | VN009038.D | 09/23/2013 | 21:53 |
| VSTDICC200 | VSTDICC200 | VN009039.D | 09/23/2013 | 22:21 |

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VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009181.D BFB Injection Date: 09/27/2013

Instrument ID: MSVOA_N BFB Injection Time: 11:22

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 15.8 |
| 75 | 30.0 - 60.0% of mass 95 | 47 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.8 |
| 173 | Less than 2.0% of mass 174 | 0.6 ( 0.6 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 95.8 |
| 175 | 5.0 - 9.0% of mass 174 | 7.2 ( 7.5 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 91.4 ( 95.4 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.8 ( 6.4 ) 2 |

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDCCC050 | VSTDCCC050 | VN009182.D | 09/27/2013 | 11:55 |
| VN0927WBL01 | VN0927WBL01 | VN009183.D | 09/27/2013 | 13:06 |
| VN0927WBS01 | VN0927WBS01 | VN009184.D | 09/27/2013 | 13:34 |
| TBQ3-2013 | E3854-12 | VN009188.D | 09/27/2013 | 15:27 |
| FBQ3-2013 | E3854-10 | VN009189.D | 09/27/2013 | 15:55 |
| MW-2-Q3-2013 | E3854-01 | VN009194.D | 09/27/2013 | 18:16 |
| MW-8-Q3-2013 | E3854-02 | VN009195.D | 09/27/2013 | 18:44 |
| MW-12R-Q3-2013 | E3854-06 | VN009196.D | 09/27/2013 | 19:13 |
| MW-14-Q3-2013 | E3854-07 | VN009197.D | 09/27/2013 | 19:41 |
| MW-15-Q3-2013 | E3854-08 | VN009198.D | 09/27/2013 | 20:09 |
| MW-16-Q3-2013 | E3854-09 | VN009199.D | 09/27/2013 | 20:37 |
| DUPQ3-2013 | E3854-11 | VN009200.D | 09/27/2013 | 21:06 |
| MW-11R-Q3-2013 | E3854-03 | VN009201.D | 09/27/2013 | 21:34 |
| MW-11R-Q3-2013MS | E3854-04MS | VN009202.D | 09/27/2013 | 22:02 |
| MW-11R-Q3-2013MSD | E3854-05MSD | VN009203.D | 09/27/2013 | 22:30 |

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009225.D BFB Injection Date: 09/30/2013

Instrument ID: MSVOA_N BFB Injection Time: 15:06

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 15.5 |
| 75 | 30.0 - 60.0% of mass 95 | 46.9 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.6 |
| 173 | Less than 2.0% of mass 174 | 1 ( 1 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 96.2 |
| 175 | 5.0 - 9.0% of mass 174 | 7 ( 7.3 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 92.7 ( 96.3 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 6.4 ( 6.9 ) 2 |
| | | |

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDCCC050 | VSTDCCC050 | VN009226.D | 09/30/2013 | 16:32 |
| VN0930WBL01 | VN0930WBL01 | VN009227.D | 09/30/2013 | 17:50 |
| VN0930WBS01 | VN0930WBS01 | VN009228.D | 09/30/2013 | 18:18 |
| MW-2-Q3-2013DL | E3854-01DL | VN009240.D | 09/30/2013 | 23:57 |

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# VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
## BROMOFLUOROBENZENE (BFB)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009248.D BFB Injection Date: 10/01/2013

Instrument ID: MSVOA_N BFB Injection Time: 08:50

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: Y/N N

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 15.6 |
| 75 | 30.0 - 60.0% of mass 95 | 46.5 |
| 95 | Base Peak, 100% relative abundance | 100 |
| 96 | 5.0 - 9.0% of mass 95 | 6.5 |
| 173 | Less than 2.0% of mass 174 | 1.1 ( 1.1 ) 1 |
| 174 | 50.0 - 100.0% of mass 95 | 97.4 |
| 175 | 5.0 - 9.0% of mass 174 | 6.9 ( 7 ) 1 |
| 176 | 95.0 - 101.0% of mass 174 | 94.3 ( 96.8 ) 1 |
| 177 | 5.0 - 9.0% of mass 176 | 6.3 ( 6.7 ) 2 |
| | | |

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| VSTDCCC050 | VSTDCCC050 | VN009249.D | 10/01/2013 | 10:13 |
| VN1001WBL01 | VN1001WBL01 | VN009250.D | 10/01/2013 | 11:28 |
| VN1001WBS01 | VN1001WBS01 | VN009251.D | 10/01/2013 | 11:56 |
| MW-8-Q3-2013DL | E3854-02DL | VN009258.D | 10/01/2013 | 15:14 |

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009182.D Date Analyzed: 09/27/2013

Instrument ID: MSVOA_N Time Analyzed: 11:55

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS1 AREA # | RT # | IS2 AREA # | RT # | IS3 AREA # | RT # |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 510349 | 7.87 | 776840 | 8.79 | 716151 | 11.61 |
| UPPER LIMIT | 1020700 | 8.37 | 1553680 | 9.29 | 1432300 | 12.11 |
| LOWER LIMIT | 255175 | 7.37 | 388420 | 8.29 | 358076 | 11.11 |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q3-2013 | 616134 | 7.87 | 967113 | 8.78 | 835680 | 11.61 |
| MW-8-Q3-2013 | 644422 | 7.86 | 1012820 | 8.78 | 879711 | 11.61 |
| MW-11R-Q3-2013 | 579955 | 7.87 | 888034 | 8.79 | 797853 | 11.61 |
| MW-11R-Q3-2013MS | 520338 | 7.87 | 842688 | 8.79 | 770757 | 11.61 |
| MW-11R-Q3-2013MSD | 528276 | 7.87 | 843026 | 8.79 | 771035 | 11.61 |
| MW-12R-Q3-2013 | 575174 | 7.87 | 880742 | 8.79 | 792676 | 11.61 |
| MW-14-Q3-2013 | 591803 | 7.87 | 904244 | 8.79 | 819419 | 11.61 |
| MW-15-Q3-2013 | 591138 | 7.87 | 904165 | 8.79 | 805396 | 11.61 |
| MW-16-Q3-2013 | 580741 | 7.87 | 886591 | 8.79 | 792379 | 11.61 |
| FBQ3-2013 | 568376 | 7.87 | 880448 | 8.79 | 785140 | 11.61 |
| DUPQ3-2013 | 612707 | 7.87 | 946709 | 8.79 | 843888 | 11.61 |
| TBQ3-2013 | 573817 | 7.87 | 873916 | 8.79 | 775219 | 11.61 |
| VN0927WBL01 | 575354 | 7.87 | 893513 | 8.79 | 792025 | 11.61 |
| VN0927WBS01 | 502780 | 7.87 | 808208 | 8.79 | 734660 | 11.61 |

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009182.D Date Analyzed: 09/27/2013

Instrument ID: MSVOA_N Time Analyzed: 11:55

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS4 AREA # | RT # | | | | |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 363970 | 13.56 | | | | |
| UPPER LIMIT | 727940 | 14.06 | | | | |
| LOWER LIMIT | 181985 | 13.06 | | | | |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q3-2013 | 415994 | 13.56 | | | | |
| MW-8-Q3-2013 | 407212 | 13.56 | | | | |
| MW-11R-Q3-2013 | 376997 | 13.56 | | | | |
| MW-11R-Q3-2013MS | 382065 | 13.56 | | | | |
| MW-11R-Q3-2013MSD | 383452 | 13.56 | | | | |
| MW-12R-Q3-2013 | 415079 | 13.56 | | | | |
| MW-14-Q3-2013 | 403257 | 13.56 | | | | |
| MW-15-Q3-2013 | 408571 | 13.56 | | | | |
| MW-16-Q3-2013 | 374112 | 13.56 | | | | |
| FBQ3-2013 | 353170 | 13.56 | | | | |
| DUPQ3-2013 | 412200 | 13.56 | | | | |
| TBQ3-2013 | 357761 | 13.56 | | | | |
| VN0927WBL01 | 357773 | 13.56 | | | | |
| VN0927WBS01 | 352715 | 13.56 | | | | |

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009226.D Date Analyzed: 09/30/2013

Instrument ID: MSVOA_N Time Analyzed: 16:32

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS1 AREA # | RT # | IS2 AREA # | RT # | IS3 AREA # | RT # |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 585632 | 7.87 | 863307 | 8.78 | 789318 | 11.61 |
| UPPER LIMIT | 1171260 | 8.37 | 1726610 | 9.28 | 1578640 | 12.11 |
| LOWER LIMIT | 292816 | 7.37 | 431654 | 8.28 | 394659 | 11.11 |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q3-2013DL | 558492 | 7.87 | 861020 | 8.79 | 770129 | 11.61 |
| VN0930WBL01 | 614151 | 7.87 | 929147 | 8.79 | 825351 | 11.61 |
| VN0930WBS01 | 526017 | 7.87 | 816101 | 8.79 | 743545 | 11.61 |

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009226.D Date Analyzed: 09/30/2013

Instrument ID: MSVOA_N Time Analyzed: 16:32

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS4 AREA # | RT # | | | | |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 403695 | 13.56 | | | | |
| UPPER LIMIT | 807390 | 14.06 | | | | |
| LOWER LIMIT | 201848 | 13.06 | | | | |
| EPA SAMPLE NO. | | | | | | |
| MW-2-Q3-2013DL | 363383 | 13.56 | | | | |
| VN0930WBL01 | 372894 | 13.56 | | | | |
| VN0930WBS01 | 359073 | 13.56 | | | | |

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

**# Column used to flag values outside QC limits with an asterisk.**
*** Values outside of QC limits.**

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009249.D Date Analyzed: 10/01/2013

Instrument ID: MSVOA_N Time Analyzed: 10:13

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS1 AREA # | RT # | IS2 AREA # | RT # | IS3 AREA # | RT # |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 609931 | 7.87 | 895957 | 8.78 | 808827 | 11.61 |
| UPPER LIMIT | 1219860 | 8.37 | 1791910 | 9.28 | 1617650 | 12.11 |
| LOWER LIMIT | 304966 | 7.37 | 447979 | 8.28 | 404414 | 11.11 |
| EPA SAMPLE NO. | | | | | | |
| MW-8-Q3-2013DL | 600342 | 7.87 | 890358 | 8.79 | 796380 | 11.61 |
| VN1001WBL01 | 627019 | 7.87 | 937264 | 8.79 | 838198 | 11.61 |
| VN1001WBS01 | 545572 | 7.87 | 853237 | 8.79 | 770015 | 11.61 |

IS1 = Pentafluorobenzene
IS2 = 1,4-Difluorobenzene
IS3 = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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## VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: VN009249.D Date Analyzed: 10/01/2013

Instrument ID: MSVOA_N Time Analyzed: 10:13

GC Column: RXI-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | IS4 AREA # | RT # | | | | |
|---|---|---|---|---|---|---|
| 12 HOUR STD | 415903 | 13.56 | | | | |
| UPPER LIMIT | 831806 | 14.06 | | | | |
| LOWER LIMIT | 207952 | 13.06 | | | | |
| EPA SAMPLE NO. | | | | | | |
| MW-8-Q3-2013DL | 373709 | 13.56 | | | | |
| VN1001WBL01 | 381803 | 13.56 | | | | |
| VN1001WBS01 | 376529 | 13.56 | | | | |

IS4 = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

**# Column used to flag values outside QC limits with an asterisk.**
*** Values outside of QC limits.**

# QC SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009183.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009183.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009183.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 46.9 | | 61 - 141 | | 94% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.1 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.3 | | 65 - 126 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.9 | | 58 - 135 | | 96% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 575354 | 7.867 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 893513 | 8.787 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 792025 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 357773 | 13.561 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009183.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009227.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009227.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009227.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45 | | 70 - 120 | | 90% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 49.4 | | 85 - 115 | | 99% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 52.7 | | 85 - 120 | | 105% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.4 | | 75 - 120 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 614151 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 929147 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 825351 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 372894 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009227.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009250.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 0.27 | U | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 0.5 | U | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 1 | U | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 0.5 | U | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 0.35 | U | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 1.1 | U | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 1.3 | U | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009250.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 0.39 | U | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 1 | U | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 1.9 | U | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 0.4 | U | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009250.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.2 | U | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 0.2 | U | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 0.2 | U | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 45.3 | | 70 - 120 | | 90% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.4 | | 85 - 115 | | 97% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 53.7 | | 85 - 120 | | 107% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.2 | | 75 - 120 | | 96% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 627019 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 937264 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 838198 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 381803 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBL01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBL01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009250.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009184.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 18.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 19.1 | | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 19.3 | | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 19.7 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 18.2 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 19.1 | | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 19.4 | | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 110 | | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 19.5 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 18.8 | | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 100 | | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 99.4 | | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 100 | | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 17.6 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 20 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 21.3 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 19.2 | | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 19 | | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 99.1 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 19 | | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 19.1 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 110 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 19.8 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 24.3 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 19.2 | | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 19.2 | | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 19.2 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009184.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 19.4 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 19.9 | | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 19.8 | | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 19.7 | | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 110 | | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 95.1 | | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 110 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 20.4 | | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 19.4 | | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 19.8 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 39.8 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 21.2 | | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 19.8 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 23 | | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 19.4 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009184.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 20.4 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 19.7 | | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 23.1 | | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 22.1 | | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 23.5 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 22.1 | | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 20.2 | | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 15.6 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 18.5 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 20.4 | | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 19.7 | | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 21.4 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 43 | | 61 - 141 | | 86% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.4 | | 69 - 133 | | 95% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 44.9 | | 65 - 126 | | 90% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.3 | | 58 - 135 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 502780 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 808208 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 734660 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 352715 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0927WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0927WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009184.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009228.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 18.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 19 | | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 19.6 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 17.7 | | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 18.4 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 18.7 | | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 19.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 98.2 | | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 19.6 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 18.4 | | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 110 | | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 98.3 | | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 110 | | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 17.7 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 19.7 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 19.7 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 18.8 | | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 96.5 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 19.1 | | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 19.4 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 100 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 19.8 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 24.9 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 19.1 | | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 18.9 | | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 20.4 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009228.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 19.8 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 110 | | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 20.4 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 83.3 | | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 110 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 21.6 | | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 21.1 | | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 21.1 | | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 40.5 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 20.9 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 23.4 | | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 19.9 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 21.8 | | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 21.2 | | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 19.8 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 19.6 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009228.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 19.7 | | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 22.4 | | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 23 | | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 22 | | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 23.1 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 23.3 | | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 19.8 | | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 15.4 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 19 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 20.4 | | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 20.7 | | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 21.6 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 44.1 | | 70 - 120 | | 88% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 50 | | 85 - 115 | | 100% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 46.3 | | 85 - 120 | | 93% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.6 | | 75 - 120 | | 99% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 526017 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 816101 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 743545 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 359073 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN0930WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN0930WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009228.D | 1 | | 09/30/13 | VN093013 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009251.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 16.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 18.5 | | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 20.9 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 21.2 | | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 17.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 18 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 17.9 | | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 110 | | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 19.6 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 18.5 | | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 93.4 | | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 97.5 | | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 110 | | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 17.1 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 19.9 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 20.9 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 18.7 | | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 98.7 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 18.7 | | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 18.3 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 110 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 19.6 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 18.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 23.7 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 18.7 | | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 18.6 | | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 19.1 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009251.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 19.6 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 19.7 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 18.8 | | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 110 | | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 20.4 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 20.9 | | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 20.6 | | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 90.7 | | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 120 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 21.5 | | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 19.8 | | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 21.1 | | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 40.5 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 20.8 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 23.6 | | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 19.5 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 23.3 | | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 20.3 | | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 19.3 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 19.3 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009251.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 19.2 | | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 20.5 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 20.4 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 20.1 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 20 | | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 19.6 | | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 19.4 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 20.2 | | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 22.5 | | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 22.7 | | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 20.7 | | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 23.1 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 23 | | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 20.7 | | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 16.2 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 18.9 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 20.7 | | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 21.1 | | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 22 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 43 | | 70 - 120 | | 86% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 48.1 | | 85 - 115 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 44.9 | | 85 - 120 | | 90% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 47.7 | | 75 - 120 | | 95% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 545572 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 853237 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 770015 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 376529 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | VN1001WBS01 | SDG No.: | E3854 |
| Lab Sample ID: | VN1001WBS01 | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009251.D | 1 | | 10/01/13 | VN100113 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009202.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 41.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 41.1 | | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 44.5 | | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 46.1 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 49 | | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 21.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 44.4 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 44.8 | | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 43.2 | | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 300 | | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 47.4 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 45 | | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 230 | | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 260 | | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 210 | | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 42.5 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 48.6 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 46.2 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 45.7 | | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 45.2 | | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 230 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 45.5 | | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 45.4 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 250 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 48.1 | | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 39.5 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 46.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 47.3 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 45.7 | | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 45.6 | | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 44.8 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009202.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 46.6 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 46.9 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 45.4 | | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 47 | | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 47 | | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 48.1 | | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 47.2 | | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 270 | | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 48.4 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 48.2 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 47 | | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 49.2 | | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 48.1 | | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 290 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 50.8 | | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 50.1 | | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 43.1 | | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 48.4 | | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 50.3 | | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 46.3 | | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 48.6 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 99 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 50.8 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 50.8 | | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 55.2 | | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 47.1 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 48.6 | | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 45.3 | | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 48.1 | | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 46.4 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 46.4 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009202.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 48.2 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 46.9 | | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 49.6 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 48.2 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 48.6 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 48.7 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 47.7 | | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 46.9 | | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 46 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 47.8 | | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 54.8 | | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 53.2 | | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 47.2 | | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 60 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 54.4 | | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 53.5 | | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 22.2 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 44.9 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 50.4 | | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 43.4 | | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 55.1 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 43.8 | | 61 - 141 | | 88% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.9 | | 69 - 133 | | 96% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 45 | | 65 - 126 | | 90% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 49.3 | | 58 - 135 | | 99% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 520338 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 842688 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 770757 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 382065 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009202.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009203.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 75-71-8 | Dichlorodifluoromethane | 45.1 | | 0.2 | 0.2 | 1 | ug/L |
| 74-87-3 | Chloromethane | 42.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-01-4 | Vinyl Chloride | 45.7 | | 0.2 | 0.2 | 1 | ug/L |
| 141-78-6 | Ethyl Acetate | 46 | | 0.2 | 0.5 | 1 | ug/L |
| 108-21-4 | Isopropyl Acetate | 50.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-83-9 | Bromomethane | 28.3 | | 0.2 | 0.2 | 1 | ug/L |
| 75-00-3 | Chloroethane | 44.8 | | 0.2 | 0.5 | 1 | ug/L |
| 75-69-4 | Trichlorofluoromethane | 45.9 | | 0.2 | 0.2 | 1 | ug/L |
| 76-13-1 | 1,1,2-Trichlorotrifluoroethane | 44.7 | | 0.2 | 0.2 | 1 | ug/L |
| 75-65-0 | Tert butyl alcohol | 290 | | 0.5 | 3.8 | 5 | ug/L |
| 60-29-7 | Diethyl Ether | 48.1 | | 0.27 | 0.5 | 1 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | 45.7 | | 0.2 | 0.2 | 1 | ug/L |
| 107-02-8 | Acrolein | 220 | | 0.5 | 3.8 | 5 | ug/L |
| 107-13-1 | Acrylonitrile | 260 | | 1 | 1 | 5 | ug/L |
| 67-64-1 | Acetone | 210 | | 0.5 | 1 | 5 | ug/L |
| 75-15-0 | Carbon Disulfide | 43.8 | | 0.2 | 0.2 | 1 | ug/L |
| 1634-04-4 | Methyl tert-butyl Ether | 50 | | 0.35 | 0.5 | 1 | ug/L |
| 79-20-9 | Methyl Acetate | 46.1 | | 0.2 | 0.5 | 1 | ug/L |
| 75-09-2 | Methylene Chloride | 46.3 | | 0.2 | 0.2 | 1 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | 46 | | 0.2 | 0.2 | 1 | ug/L |
| 108-05-4 | Vinyl Acetate | 240 | | 1.1 | 2.5 | 5 | ug/L |
| 75-34-3 | 1,1-Dichloroethane | 46.5 | | 0.2 | 0.2 | 1 | ug/L |
| 110-82-7 | Cyclohexane | 47.5 | | 0.2 | 0.2 | 1 | ug/L |
| 78-93-3 | 2-Butanone | 260 | | 1.3 | 2.5 | 5 | ug/L |
| 56-23-5 | Carbon Tetrachloride | 49.9 | | 0.2 | 0.2 | 1 | ug/L |
| 594-20-7 | 2,2-Dichloropropane | 39.2 | | 0.2 | 0.5 | 1 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | 47.5 | | 0.2 | 0.2 | 1 | ug/L |
| 74-97-5 | Bromochloromethane | 47.2 | | 0.2 | 0.5 | 1 | ug/L |
| 67-66-3 | Chloroform | 46.3 | | 0.2 | 0.2 | 1 | ug/L |
| 71-55-6 | 1,1,1-Trichloroethane | 46 | | 0.2 | 0.2 | 1 | ug/L |
| 108-87-2 | Methylcyclohexane | 47.5 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009203.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 563-58-6 | 1,1-Dichloropropene | 48.5 | | 0.39 | 0.5 | 1 | ug/L |
| 71-43-2 | Benzene | 48 | | 0.2 | 0.2 | 1 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | 46.9 | | 0.2 | 0.2 | 1 | ug/L |
| 79-01-6 | Trichloroethene | 48.8 | | 0.2 | 0.2 | 1 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | 48.9 | | 0.2 | 0.2 | 1 | ug/L |
| 74-95-3 | Dibromomethane | 50.1 | | 0.2 | 0.2 | 1 | ug/L |
| 75-27-4 | Bromodichloromethane | 48.8 | | 0.2 | 0.2 | 1 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | 280 | | 1 | 1 | 5 | ug/L |
| 108-88-3 | Toluene | 50 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-02-6 | t-1,3-Dichloropropene | 49.9 | | 0.2 | 0.2 | 1 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | 48 | | 0.2 | 0.2 | 1 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | 51 | | 0.2 | 0.2 | 1 | ug/L |
| 142-28-9 | 1,3-Dichloropropane | 49.2 | | 0.2 | 0.2 | 1 | ug/L |
| 110-75-8 | 2-Chloroethyl Vinyl ether | 1 | U | 1 | 1 | 5 | ug/L |
| 591-78-6 | 2-Hexanone | 300 | | 1.9 | 2.5 | 5 | ug/L |
| 124-48-1 | Dibromochloromethane | 52.4 | | 0.2 | 0.2 | 1 | ug/L |
| 106-93-4 | 1,2-Dibromoethane | 50.8 | | 0.2 | 0.2 | 1 | ug/L |
| 127-18-4 | Tetrachloroethene | 44.7 | | 0.2 | 0.2 | 1 | ug/L |
| 108-90-7 | Chlorobenzene | 49.4 | | 0.2 | 0.2 | 1 | ug/L |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 51.4 | | 0.2 | 0.2 | 1 | ug/L |
| 67-72-1 | Hexachloroethane | 48.5 | | 0.2 | 0.2 | 1 | ug/L |
| 100-41-4 | Ethyl Benzene | 50.3 | | 0.2 | 0.2 | 1 | ug/L |
| 179601-23-1 | m/p-Xylenes | 100 | | 0.4 | 0.4 | 2 | ug/L |
| 95-47-6 | o-Xylene | 52.4 | | 0.2 | 0.2 | 1 | ug/L |
| 100-42-5 | Styrene | 52.5 | | 0.2 | 0.2 | 1 | ug/L |
| 75-25-2 | Bromoform | 57.3 | | 0.2 | 0.2 | 1 | ug/L |
| 98-82-8 | Isopropylbenzene | 48.4 | | 0.2 | 0.2 | 1 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 49.4 | | 0.2 | 0.2 | 1 | ug/L |
| 96-18-4 | 1,2,3-Trichloropropane | 46.4 | | 0.2 | 0.2 | 1 | ug/L |
| 108-86-1 | Bromobenzene | 50.1 | | 0.2 | 0.2 | 1 | ug/L |
| 103-65-1 | n-propylbenzene | 48.2 | | 0.2 | 0.2 | 1 | ug/L |
| 95-49-8 | 2-Chlorotoluene | 47.6 | | 0.2 | 0.2 | 1 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009203.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 108-67-8 | 1,3,5-Trimethylbenzene | 49.7 | | 0.2 | 0.2 | 1 | ug/L |
| 106-43-4 | 4-Chlorotoluene | 48 | | 0.2 | 0.2 | 1 | ug/L |
| 98-06-6 | tert-Butylbenzene | 50.7 | | 0.2 | 0.2 | 1 | ug/L |
| 95-63-6 | 1,2,4-Trimethylbenzene | 49.2 | | 0.2 | 0.2 | 1 | ug/L |
| 135-98-8 | sec-Butylbenzene | 50 | | 0.2 | 0.2 | 1 | ug/L |
| 99-87-6 | p-Isopropyltoluene | 50.2 | | 0.2 | 0.2 | 1 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 48.9 | | 0.2 | 0.2 | 1 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 48.4 | | 0.2 | 0.2 | 1 | ug/L |
| 104-51-8 | n-Butylbenzene | 47.5 | | 0.2 | 0.2 | 1 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 49.6 | | 0.2 | 0.2 | 1 | ug/L |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 55.9 | | 0.2 | 0.2 | 1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 55.3 | | 0.2 | 0.2 | 1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 48.4 | | 0.2 | 0.2 | 1 | ug/L |
| 91-20-3 | Naphthalene | 62.9 | | 0.2 | 0.2 | 1 | ug/L |
| 87-61-6 | 1,2,3-Trichlorobenzene | 56.2 | | 0.2 | 0.2 | 1 | ug/L |
| 628-63-7 | N-amyl acetate | 54.3 | | 0.2 | 0.75 | 1 | ug/L |
| 74-88-4 | Methyl Iodide | 33.7 | | 0.2 | 0.5 | 1 | ug/L |
| 107-05-1 | Allyl chloride | 45.4 | | 0.2 | 0.5 | 1 | ug/L |
| 126-98-7 | Methacrylonitrile | 53.4 | | 0.2 | 0.75 | 1 | ug/L |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 45.3 | | 0.2 | 0.75 | 1 | ug/L |
| 97-63-2 | Ethyl methacrylate | 57.1 | | 0.2 | 0.5 | 1 | ug/L |
| **SURROGATES** | | | | | | | |
| 17060-07-0 | 1,2-Dichloroethane-d4 | 42.7 | | 61 - 141 | | 85% | SPK: 50 |
| 1868-53-7 | Dibromofluoromethane | 47.1 | | 69 - 133 | | 94% | SPK: 50 |
| 2037-26-5 | Toluene-d8 | 44.6 | | 65 - 126 | | 89% | SPK: 50 |
| 460-00-4 | 4-Bromofluorobenzene | 48.6 | | 58 - 135 | | 97% | SPK: 50 |
| **INTERNAL STANDARDS** | | | | | | | |
| 363-72-4 | Pentafluorobenzene | 528276 | 7.87 | | | | |
| 540-36-3 | 1,4-Difluorobenzene | 843026 | 8.79 | | | | |
| 3114-55-4 | Chlorobenzene-d5 | 771035 | 11.61 | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 383452 | 13.56 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | SW8260 | % Moisture: | 100 |
| Sample Wt/Vol: | 5 Units: mL | Final Vol: | 5000 uL |
| Soil Aliquot Vol: | uL | Test: | VOC- Chemtech Full |
| GC Column: | RXI-624 ID : 0.25 | Level : | LOW |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| VN009203.D | 1 | | 09/27/13 | VN092713 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# CALIBRATION SUMMARY

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# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Calibration Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN009034.D RRF005 = VN009035.D RRF020 = VN009036.D
RRF050 = VN009037.D RRF100 = VN009038.D RRF200 = VN009039.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.542 | 0.506 | 0.600 | 0.540 | 0.523 | 0.536 | 0.541 | 5.9 |
| Chloromethane | 0.659 | 0.546 | 0.584 | 0.503 | 0.480 | 0.499 | 0.545 | 12.3 |
| Vinyl Chloride | 0.760 | 0.707 | 0.725 | 0.663 | 0.623 | 0.644 | 0.687 | 7.6 |
| Ethyl Acetate | 0.287 | 0.237 | 0.306 | 0.243 | 0.225 | 0.243 | 0.257 | 12.4 |
| Isopropyl Acetate | 0.440 | 0.451 | 0.460 | 0.430 | 0.411 | 0.447 | 0.440 | 4 |
| Bromomethane | 0.481 | 0.452 | 0.411 | 0.362 | 0.364 | 0.368 | 0.406 | 12.5 |
| Chloroethane | 0.412 | 0.346 | 0.346 | 0.311 | 0.303 | 0.311 | 0.338 | 12 |
| Trichlorofluoromethane | 0.990 | 0.886 | 0.858 | 0.801 | 0.758 | 0.776 | 0.845 | 10.2 |
| 1,1,2-Trichlorotrifluoroethane | 0.531 | 0.540 | 0.499 | 0.454 | 0.440 | 0.450 | 0.486 | 9 |
| Tert butyl alcohol | 0.052 | 0.045 | 0.054 | 0.038 | 0.035 | 0.038 | 0.044 | 18.6 |
| Diethyl Ether | 0.295 | 0.293 | 0.301 | 0.277 | 0.262 | 0.278 | 0.284 | 5.1 |
| 1,1-Dichloroethene | 0.572 | 0.496 | 0.483 | 0.455 | 0.432 | 0.450 | 0.481 | 10.4 |
| Acrolein | 0.074 | 0.072 | 0.074 | 0.063 | 0.065 | 0.073 | 0.070 | 7.2 |
| Acrylonitrile | 0.160 | 0.159 | 0.181 | 0.163 | 0.149 | 0.166 | 0.163 | 6.5 |
| Acetone | 0.155 | 0.146 | 0.159 | 0.127 | 0.113 | 0.121 | 0.137 | 14 |
| Carbon Disulfide | 1.525 | 1.413 | 1.335 | 1.266 | 1.231 | 1.300 | 1.345 | 8 |
| Methyl tert-butyl Ether | 1.415 | 1.393 | 1.467 | 1.358 | 1.299 | 1.368 | 1.383 | 4.1 |
| Methyl Acetate | 0.408 | 0.408 | 0.430 | 0.370 | 0.340 | 0.369 | 0.388 | 8.7 |
| Methylene Chloride | 0.621 | 0.574 | 0.559 | 0.507 | 0.487 | 0.504 | 0.542 | 9.5 |
| trans-1,2-Dichloroethene | 0.575 | 0.562 | 0.528 | 0.505 | 0.489 | 0.499 | 0.526 | 6.7 |
| Vinyl Acetate | 0.695 | 0.756 | 0.874 | 0.812 | 0.776 | 0.865 | 0.796 | 8.6 |
| 1,1-Dichloroethane | 0.932 | 0.902 | 0.872 | 0.813 | 0.782 | 0.818 | 0.853 | 6.8 |
| Cyclohexane | 1.583 | 0.905 | 0.757 | 0.697 | 0.671 | 0.682 | 0.882 | 40.1 |
| 2-Butanone | 0.182 | 0.181 | 0.204 | 0.177 | 0.163 | 0.176 | 0.181 | 7.4 |
| Carbon Tetrachloride | 0.449 | 0.453 | 0.454 | 0.439 | 0.432 | 0.446 | 0.445 | 1.9 |
| 2,2-Dichloropropane | 0.768 | 0.787 | 0.746 | 0.701 | 0.670 | 0.697 | 0.728 | 6.3 |
| cis-1,2-Dichloroethene | 0.668 | 0.628 | 0.600 | 0.574 | 0.555 | 0.572 | 0.599 | 7 |
| Bromochloromethane | 0.371 | 0.366 | 0.383 | 0.353 | 0.345 | 0.331 | 0.358 | 5.3 |
| Chloroform | 1.066 | 1.031 | 0.959 | 0.904 | 0.866 | 0.891 | 0.953 | 8.5 |
| 1,1,1-Trichloroethane | 0.955 | 0.878 | 0.850 | 0.800 | 0.773 | 0.798 | 0.842 | 8 |
| Methylcyclohexane | 0.538 | 0.490 | 0.505 | 0.497 | 0.493 | 0.521 | 0.507 | 3.7 |
| 1,1-Dichloropropene | 0.434 | 0.453 | 0.428 | 0.417 | 0.409 | 0.419 | 0.427 | 3.7 |
| Benzene | 1.328 | 1.293 | 1.268 | 1.203 | 1.174 | 1.210 | 1.246 | 4.8 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Calibration Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN009034.D RRF005 = VN009035.D RRF020 = VN009036.D
RRF050 = VN009037.D RRF100 = VN009038.D RRF200 = VN009039.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | 0.444 | 0.457 | 0.427 | 0.390 | 0.384 | 0.393 | 0.416 | 7.5 |
| Trichloroethene | 0.435 | 0.400 | 0.378 | 0.363 | 0.357 | 0.368 | 0.383 | 7.6 |
| 1,2-Dichloropropane | 0.341 | 0.329 | 0.315 | 0.301 | 0.294 | 0.303 | 0.314 | 5.8 |
| Dibromomethane | 0.222 | 0.237 | 0.230 | 0.220 | 0.214 | 0.219 | 0.224 | 3.8 |
| Bromodichloromethane | 0.424 | 0.452 | 0.430 | 0.417 | 0.411 | 0.428 | 0.427 | 3.3 |
| 4-Methyl-2-Pentanone | 0.225 | 0.229 | 0.279 | 0.239 | 0.221 | 0.235 | 0.238 | 8.9 |
| Toluene | 0.774 | 0.808 | 0.800 | 0.788 | 0.773 | 0.818 | 0.793 | 2.3 |
| t-1,3-Dichloropropene | 0.419 | 0.441 | 0.447 | 0.460 | 0.453 | 0.489 | 0.451 | 5.1 |
| cis-1,3-Dichloropropene | 0.477 | 0.504 | 0.496 | 0.496 | 0.490 | 0.519 | 0.497 | 2.9 |
| 1,1,2-Trichloroethane | 0.326 | 0.349 | 0.334 | 0.313 | 0.304 | 0.315 | 0.324 | 5 |
| 1,3-Dichloropropane | 0.529 | 0.555 | 0.536 | 0.508 | 0.486 | 0.509 | 0.520 | 4.7 |
| 2-Chloroethyl Vinyl ether | 0.095 | 0.109 | 0.135 | 0.142 | 0.138 | 0.150 | 0.128 | 16.7 |
| 2-Hexanone | 0.136 | 0.149 | 0.167 | 0.163 | 0.149 | 0.158 | 0.154 | 7.5 |
| Dibromochloromethane | 0.356 | 0.364 | 0.363 | 0.365 | 0.358 | 0.382 | 0.365 | 2.5 |
| 1,2-Dibromoethane | 0.333 | 0.357 | 0.344 | 0.334 | 0.321 | 0.339 | 0.338 | 3.5 |
| Tetrachloroethene | 0.449 | 0.422 | 0.380 | 0.342 | 0.329 | 0.341 | 0.377 | 13 |
| Chlorobenzene | 1.101 | 1.138 | 1.061 | 1.023 | 0.995 | 1.058 | 1.063 | 4.9 |
| 1,1,1,2-Tetrachloroethane | 0.375 | 0.376 | 0.390 | 0.369 | 0.364 | 0.383 | 0.376 | 2.5 |
| Hexachloroethane | 0.598 | 0.572 | 0.567 | 0.564 | 0.553 | 0.584 | 0.573 | 2.8 |
| Ethyl Benzene | 1.564 | 1.653 | 1.614 | 1.581 | 1.570 | 1.698 | 1.614 | 3.3 |
| m/p-Xylenes | 0.611 | 0.636 | 0.637 | 0.632 | 0.626 | 0.678 | 0.637 | 3.5 |
| o-Xylene | 0.550 | 0.610 | 0.624 | 0.617 | 0.614 | 0.667 | 0.614 | 6.1 |
| Styrene | 0.846 | 0.898 | 0.961 | 0.992 | 0.996 | 1.083 | 0.963 | 8.6 |
| Bromoform | 0.235 | 0.262 | 0.277 | 0.275 | 0.267 | 0.286 | 0.267 | 6.7 |
| Isopropylbenzene | 3.361 | 3.613 | 3.490 | 3.366 | 3.343 | 3.725 | 3.483 | 4.5 |
| 1,1,2,2-Tetrachloroethane | 1.115 | 1.063 | 0.997 | 0.917 | 0.831 | 0.868 | 0.965 | 11.6 |
| 1,2,3-Trichloropropane | 0.816 | 0.872 | 0.742 | 0.665 | 0.612 | 0.705 | 0.735 | 13.1 |
| Bromobenzene | 0.951 | 1.008 | 0.941 | 0.895 | 0.865 | 0.940 | 0.933 | 5.3 |
| n-propylbenzene | 3.740 | 3.901 | 3.902 | 3.723 | 3.728 | 4.106 | 3.850 | 3.9 |
| 2-Chlorotoluene | 2.482 | 2.378 | 2.345 | 2.217 | 2.172 | 2.345 | 2.323 | 4.8 |
| 1,3,5-Trimethylbenzene | 2.561 | 2.803 | 2.821 | 2.654 | 2.613 | 2.830 | 2.714 | 4.4 |
| 4-Chlorotoluene | 2.302 | 2.328 | 2.287 | 2.174 | 2.159 | 2.339 | 2.265 | 3.5 |
| tert-Butylbenzene | 2.140 | 2.509 | 2.482 | 2.374 | 2.355 | 2.554 | 2.402 | 6.2 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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# VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Calibration Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

LAB FILE ID: RRF001 = VN009034.D RRF005 = VN009035.D RRF020 = VN009036.D
RRF050 = VN009037.D RRF100 = VN009038.D RRF200 = VN009039.D

| COMPOUND | RRF001 | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | % RSD |
|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 2.659 | 2.962 | 2.930 | 2.742 | 2.675 | 2.849 | 2.803 | 4.6 |
| sec-Butylbenzene | 2.935 | 3.388 | 3.437 | 3.289 | 3.281 | 3.543 | 3.312 | 6.3 |
| p-Isopropyltoluene | 2.528 | 2.786 | 2.895 | 2.760 | 2.781 | 3.019 | 2.795 | 5.8 |
| 1,3-Dichlorobenzene | 1.819 | 1.805 | 1.690 | 1.615 | 1.579 | 1.692 | 1.700 | 5.7 |
| 1,4-Dichlorobenzene | 1.968 | 1.847 | 1.696 | 1.617 | 1.574 | 1.657 | 1.727 | 8.7 |
| n-Butylbenzene | 2.609 | 2.513 | 2.477 | 2.345 | 2.336 | 2.526 | 2.468 | 4.4 |
| 1,2-Dichlorobenzene | 1.837 | 1.764 | 1.639 | 1.567 | 1.505 | 1.568 | 1.647 | 7.8 |
| 1,2-Dibromo-3-Chloropropane | 0.137 | 0.141 | 0.159 | 0.147 | 0.132 | 0.141 | 0.143 | 6.6 |
| 1,2,4-Trichlorobenzene | 0.896 | 0.947 | 1.035 | 0.977 | 0.926 | 1.004 | 0.964 | 5.3 |
| Hexachlorobutadiene | 0.484 | 0.507 | 0.453 | 0.404 | 0.387 | 0.406 | 0.440 | 11 |
| Naphthalene | 1.717 | 1.930 | 2.363 | 2.414 | 2.253 | 2.497 | 2.196 | 14 |
| 1,2,3-Trichlorobenzene | 0.767 | 0.871 | 0.976 | 0.907 | 0.879 | 0.968 | 0.895 | 8.6 |
| 1,2-Dichloroethane-d4 | 0.631 | 0.590 | 0.534 | 0.486 | 0.461 | 0.444 | 0.524 | 14.2 |
| Dibromofluoromethane | 0.329 | 0.337 | 0.318 | 0.299 | 0.293 | 0.283 | 0.310 | 6.8 |
| Toluene-d8 | 1.263 | 1.249 | 1.030 | 0.987 | 0.973 | 0.967 | 1.078 | 13 |
| 4-Bromofluorobenzene | 0.422 | 0.393 | 0.361 | 0.359 | 0.361 | 0.346 | 0.374 | 7.6 |
| N-amyl acetate | 0.718 | 0.787 | 0.806 | 0.834 | 0.797 | 0.921 | 0.810 | 8.2 |
| Methyl Iodide | 0.219 | 0.357 | 0.497 | 0.606 | 0.638 | 0.666 | 0.497 | 35.6 |
| Allyl chloride | 0.566 | 0.518 | 0.518 | 0.493 | 0.479 | 0.504 | 0.513 | 5.8 |
| trans-1,4-Dichloro-2-butene | 0.251 | 0.238 | 0.254 | 0.273 | 0.256 | 0.299 | 0.262 | 8.2 |
| Methacrylonitrile | 0.131 | 0.136 | 0.152 | 0.137 | 0.133 | 0.142 | 0.138 | 5.6 |
| Ethyl methacrylate | 0.308 | 0.325 | 0.368 | 0.386 | 0.377 | 0.407 | 0.362 | 10.5 |

* Compounds with required minimum RRF and maximum %RSD values.
All other compounds must meet a minimum RRF of 0.010.

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/27/2013 11:55

Lab File ID: VN009182.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.541 | 0.512 | | -5.36 | 20 |
| Chloromethane | 0.545 | 0.506 | 0.1 | -7.16 | 20 |
| Vinyl Chloride | 0.687 | 0.638 | | -7.13 | 20 |
| Ethyl Acetate | 0.257 | 0.251 | | -2.34 | 20 |
| Isopropyl Acetate | 0.440 | 0.455 | | 3.41 | 20 |
| Bromomethane | 0.406 | 0.337 | | -17 | 20 |
| Chloroethane | 0.338 | 0.303 | | -10.35 | 20 |
| Trichlorofluoromethane | 0.845 | 0.797 | | -5.68 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 0.486 | 0.480 | | -1.24 | 20 |
| Tert butyl alcohol | 0.044 | 0.041 | | -6.82 | 20 |
| Diethyl Ether | 0.284 | 0.271 | | -4.58 | 20 |
| 1,1-Dichloroethene | 0.481 | 0.448 | | -6.86 | 20 |
| Acrolein | 0.070 | 0.068 | | -2.86 | 20 |
| Acrylonitrile | 0.163 | 0.159 | | -2.45 | 20 |
| Acetone | 0.137 | 0.141 | | 2.92 | 20 |
| Carbon Disulfide | 1.345 | 1.201 | | -10.71 | 20 |
| Methyl tert-butyl Ether | 1.383 | 1.350 | | -2.39 | 20 |
| Methyl Acetate | 0.388 | 0.363 | | -6.44 | 20 |
| Methylene Chloride | 0.542 | 0.500 | | -7.75 | 20 |
| trans-1,2-Dichloroethene | 0.526 | 0.499 | | -5.13 | 20 |
| Vinyl Acetate | 0.796 | 0.807 | | 1.38 | 20 |
| 1,1-Dichloroethane | 0.853 | 0.800 | 0.1 | -6.21 | 20 |
| Cyclohexane | 0.882 | 0.694 | | -21.32 | 20 |
| 2-Butanone | 0.181 | 0.184 | | 1.66 | 20 |
| Carbon Tetrachloride | 0.445 | 0.472 | | 6.07 | 20 |
| 2,2-Dichloropropane | 0.728 | 0.754 | | 3.57 | 20 |
| cis-1,2-Dichloroethene | 0.599 | 0.574 | | -4.17 | 20 |
| Bromochloromethane | 0.358 | 0.335 | | -6.43 | 20 |
| Chloroform | 0.953 | 0.898 | | -5.77 | 20 |
| 1,1,1-Trichloroethane | 0.842 | 0.792 | | -5.94 | 20 |
| Methylcyclohexane | 0.507 | 0.553 | | 9.07 | 20 |
| 1,1-Dichloropropene | 0.427 | 0.445 | | 4.22 | 20 |
| Benzene | 1.246 | 1.269 | | 1.85 | 20 |
| 1,2-Dichloroethane | 0.416 | 0.411 | | -1.2 | 20 |
| Trichloroethene | 0.383 | 0.403 | | 5.22 | 20 |
| 1,2-Dichloropropane | 0.314 | 0.319 | | 1.59 | 20 |
| Dibromomethane | 0.224 | 0.234 | | 4.46 | 20 |
| Bromodichloromethane | 0.427 | 0.444 | | 3.98 | 20 |
| 4-Methyl-2-Pentanone | 0.238 | 0.255 | | 7.14 | 20 |
| Toluene | 0.793 | 0.849 | | 7.06 | 20 |
| t-1,3-Dichloropropene | 0.451 | 0.491 | | 8.87 | 20 |
| cis-1,3-Dichloropropene | 0.497 | 0.539 | | 8.45 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/27/2013 11:55

Lab File ID: VN009182.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0.324 | 0.343 | | 5.86 | 20 |
| 1,3-Dichloropropane | 0.520 | 0.541 | | 4.04 | 20 |
| 2-Chloroethyl Vinyl ether | 0.128 | 0.124 | | -3.13 | 20 |
| 2-Hexanone | 0.154 | 0.183 | | 18.83 | 20 |
| Dibromochloromethane | 0.365 | 0.402 | | 10.14 | 20 |
| 1,2-Dibromoethane | 0.338 | 0.361 | | 6.8 | 20 |
| Tetrachloroethene | 0.377 | 0.400 | | 6.1 | 20 |
| Chlorobenzene | 1.063 | 1.119 | 0.3 | 5.27 | 20 |
| 1,1,1,2-Tetrachloroethane | 0.376 | 0.404 | | 7.45 | 20 |
| Hexachloroethane | 0.573 | 0.598 | | 4.36 | 20 |
| Ethyl Benzene | 1.614 | 1.730 | | 7.19 | 20 |
| m/p-Xylenes | 0.637 | 0.699 | | 9.73 | 20 |
| o-Xylene | 0.614 | 0.686 | | 11.73 | 20 |
| Styrene | 0.963 | 1.092 | | 13.4 | 20 |
| Bromoform | 0.267 | 0.306 | 0.1 | 14.61 | 20 |
| Isopropylbenzene | 3.483 | 3.593 | | 3.16 | 20 |
| 1,1,2,2-Tetrachloroethane | 0.965 | 0.921 | 0.3 | -4.56 | 20 |
| 1,2,3-Trichloropropane | 0.735 | 0.742 | | 0.95 | 20 |
| Bromobenzene | 0.933 | 0.961 | | 3 | 20 |
| n-propylbenzene | 3.850 | 4.005 | | 4.03 | 20 |
| 2-Chlorotoluene | 2.323 | 2.335 | | 0.52 | 20 |
| 1,3,5-Trimethylbenzene | 2.714 | 2.850 | | 5.01 | 20 |
| 4-Chlorotoluene | 2.265 | 2.317 | | 2.3 | 20 |
| tert-Butylbenzene | 2.402 | 2.538 | | 5.66 | 20 |
| 1,2,4-Trimethylbenzene | 2.803 | 2.950 | | 5.24 | 20 |
| sec-Butylbenzene | 3.312 | 3.599 | | 8.66 | 20 |
| p-Isopropyltoluene | 2.795 | 3.051 | | 9.16 | 20 |
| 1,3-Dichlorobenzene | 1.700 | 1.777 | | 4.53 | 20 |
| 1,4-Dichlorobenzene | 1.727 | 1.774 | | 2.72 | 20 |
| n-Butylbenzene | 2.468 | 2.620 | | 6.2 | 20 |
| 1,2-Dichlorobenzene | 1.647 | 1.685 | | 2.31 | 20 |
| 1,2-Dibromo-3-Chloropropane | 0.143 | 0.152 | | 6.29 | 20 |
| 1,2,4-Trichlorobenzene | 0.964 | 1.115 | | 15.66 | 20 |
| Hexachlorobutadiene | 0.440 | 0.481 | | 9.32 | 20 |
| Naphthalene | 2.196 | 2.611 | | 18.9 | 20 |
| 1,2,3-Trichlorobenzene | 0.895 | 1.025 | | 14.52 | 20 |
| 1,2-Dichloroethane-d4 | 0.524 | 0.454 | | -13.36 | 20 |
| Dibromofluoromethane | 0.310 | 0.315 | | 1.61 | 20 |
| Toluene-d8 | 1.078 | 1.042 | | -3.34 | 20 |
| 4-Bromofluorobenzene | 0.374 | 0.401 | | 7.22 | 20 |
| N-amyl acetate | 0.810 | 0.861 | | 6.3 | 20 |
| Methyl Iodide | 0.497 | 0.544 | | 9.46 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/27/2013 11:55

Lab File ID: VN009182.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Allyl chloride | 0.513 | 0.477 | | -7.02 | 20 |
| trans-1,4-Dichloro-2-butene | 0.262 | 0.277 | | 5.72 | 20 |
| Methacrylonitrile | 0.138 | 0.143 | | 3.62 | 20 |
| Ethyl methacrylate | 0.362 | 0.415 | | 14.64 | 20 |

All other compounds must meet a minimum RRF of 0.010.

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/30/2013 16:32

Lab File ID: VN009226.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.541 | 0.503 | | -7.02 | 20 |
| Chloromethane | 0.545 | 0.482 | 0.1 | -11.56 | 20 |
| Vinyl Chloride | 0.687 | 0.629 | | -8.44 | 20 |
| Ethyl Acetate | 0.257 | 0.242 | | -5.84 | 20 |
| Isopropyl Acetate | 0.440 | 0.433 | | -1.59 | 20 |
| Bromomethane | 0.406 | 0.330 | | -18.72 | 20 |
| Chloroethane | 0.338 | 0.304 | | -10.06 | 20 |
| Trichlorofluoromethane | 0.845 | 0.788 | | -6.75 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 0.486 | 0.444 | | -8.64 | 20 |
| Tert butyl alcohol | 0.044 | 0.035 | | -20.45 | 20 |
| Diethyl Ether | 0.284 | 0.257 | | -9.51 | 20 |
| 1,1-Dichloroethene | 0.481 | 0.413 | | -14.14 | 20 |
| Acrolein | 0.070 | 0.070 | | 0 | 20 |
| Acrylonitrile | 0.163 | 0.148 | | -9.2 | 20 |
| Acetone | 0.137 | 0.132 | | -3.65 | 20 |
| Carbon Disulfide | 1.345 | 1.123 | | -16.51 | 20 |
| Methyl tert-butyl Ether | 1.383 | 1.242 | | -10.19 | 20 |
| Methyl Acetate | 0.388 | 0.337 | | -13.14 | 20 |
| Methylene Chloride | 0.542 | 0.480 | | -11.44 | 20 |
| trans-1,2-Dichloroethene | 0.526 | 0.458 | | -12.93 | 20 |
| Vinyl Acetate | 0.796 | 0.730 | | -8.29 | 20 |
| 1,1-Dichloroethane | 0.853 | 0.735 | 0.1 | -13.83 | 20 |
| Cyclohexane | 0.882 | 0.642 | | -27.21 | 20 |
| 2-Butanone | 0.181 | 0.168 | | -7.18 | 20 |
| Carbon Tetrachloride | 0.445 | 0.451 | | 1.35 | 20 |
| 2,2-Dichloropropane | 0.728 | 0.684 | | -6.04 | 20 |
| cis-1,2-Dichloroethene | 0.599 | 0.534 | | -10.85 | 20 |
| Bromochloromethane | 0.358 | 0.327 | | -8.66 | 20 |
| Chloroform | 0.953 | 0.825 | | -13.43 | 20 |
| 1,1,1-Trichloroethane | 0.842 | 0.737 | | -12.47 | 20 |
| Methylcyclohexane | 0.507 | 0.538 | | 6.11 | 20 |
| 1,1-Dichloropropene | 0.427 | 0.428 | | 0.23 | 20 |
| Benzene | 1.246 | 1.225 | | -1.68 | 20 |
| 1,2-Dichloroethane | 0.416 | 0.389 | | -6.49 | 20 |
| Trichloroethene | 0.383 | 0.386 | | 0.78 | 20 |
| 1,2-Dichloropropane | 0.314 | 0.312 | | -0.64 | 20 |
| Dibromomethane | 0.224 | 0.220 | | -1.79 | 20 |
| Bromodichloromethane | 0.427 | 0.430 | | 0.7 | 20 |
| 4-Methyl-2-Pentanone | 0.238 | 0.239 | | 0.42 | 20 |
| Toluene | 0.793 | 0.813 | | 2.52 | 20 |
| t-1,3-Dichloropropene | 0.451 | 0.482 | | 6.87 | 20 |
| cis-1,3-Dichloropropene | 0.497 | 0.519 | | 4.43 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/30/2013 16:32

Lab File ID: VN009226.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0.324 | 0.326 | | 0.93 | 20 |
| 1,3-Dichloropropane | 0.520 | 0.516 | | -0.77 | 20 |
| 2-Chloroethyl Vinyl ether | 0.128 | 0.170 | | 32.81 | 20 |
| 2-Hexanone | 0.154 | 0.169 | | 9.74 | 20 |
| Dibromochloromethane | 0.365 | 0.387 | | 6.03 | 20 |
| 1,2-Dibromoethane | 0.338 | 0.342 | | 1.18 | 20 |
| Tetrachloroethene | 0.377 | 0.388 | | 2.92 | 20 |
| Chlorobenzene | 1.063 | 1.081 | 0.3 | 1.69 | 20 |
| 1,1,1,2-Tetrachloroethane | 0.376 | 0.393 | | 4.52 | 20 |
| Hexachloroethane | 0.573 | 0.593 | | 3.49 | 20 |
| Ethyl Benzene | 1.614 | 1.660 | | 2.85 | 20 |
| m/p-Xylenes | 0.637 | 0.665 | | 4.4 | 20 |
| o-Xylene | 0.614 | 0.654 | | 6.51 | 20 |
| Styrene | 0.963 | 1.049 | | 8.93 | 20 |
| Bromoform | 0.267 | 0.312 | 0.1 | 16.85 | 20 |
| Isopropylbenzene | 3.483 | 3.409 | | -2.13 | 20 |
| 1,1,2,2-Tetrachloroethane | 0.965 | 0.873 | 0.3 | -9.53 | 20 |
| 1,2,3-Trichloropropane | 0.735 | 0.695 | | -5.44 | 20 |
| Bromobenzene | 0.933 | 0.936 | | 0.32 | 20 |
| n-propylbenzene | 3.850 | 3.798 | | -1.35 | 20 |
| 2-Chlorotoluene | 2.323 | 2.224 | | -4.26 | 20 |
| 1,3,5-Trimethylbenzene | 2.714 | 2.715 | | 0.04 | 20 |
| 4-Chlorotoluene | 2.265 | 2.201 | | -2.83 | 20 |
| tert-Butylbenzene | 2.402 | 2.442 | | 1.66 | 20 |
| 1,2,4-Trimethylbenzene | 2.803 | 2.828 | | 0.89 | 20 |
| sec-Butylbenzene | 3.312 | 3.402 | | 2.72 | 20 |
| p-Isopropyltoluene | 2.795 | 2.924 | | 4.61 | 20 |
| 1,3-Dichlorobenzene | 1.700 | 1.705 | | 0.29 | 20 |
| 1,4-Dichlorobenzene | 1.727 | 1.693 | | -1.97 | 20 |
| n-Butylbenzene | 2.468 | 2.525 | | 2.35 | 20 |
| 1,2-Dichlorobenzene | 1.647 | 1.626 | | -1.27 | 20 |
| 1,2-Dibromo-3-Chloropropane | 0.143 | 0.140 | | -2.1 | 20 |
| 1,2,4-Trichlorobenzene | 0.964 | 1.116 | | 15.77 | 20 |
| Hexachlorobutadiene | 0.440 | 0.504 | | 14.55 | 20 |
| Naphthalene | 2.196 | 2.485 | | 13.16 | 20 |
| 1,2,3-Trichlorobenzene | 0.895 | 1.024 | | 14.41 | 20 |
| 1,2-Dichloroethane-d4 | 0.524 | 0.413 | | -21.18 | 20 |
| Dibromofluoromethane | 0.310 | 0.292 | | -5.81 | 20 |
| Toluene-d8 | 1.078 | 0.978 | | -9.28 | 20 |
| 4-Bromofluorobenzene | 0.374 | 0.370 | | -1.07 | 20 |
| N-amyl acetate | 0.810 | 0.806 | | -0.49 | 20 |
| Methyl Iodide | 0.497 | 0.519 | | 4.43 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 09/30/2013 16:32

Lab File ID: VN009226.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Allyl chloride | 0.513 | 0.459 | | -10.53 | 20 |
| trans-1,4-Dichloro-2-butene | 0.262 | 0.272 | | 3.82 | 20 |
| Methacrylonitrile | 0.138 | 0.140 | | 1.45 | 20 |
| Ethyl methacrylate | 0.362 | 0.396 | | 9.39 | 20 |

All other compounds must meet a minimum RRF of 0.010.

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 10/01/2013 10:13

Lab File ID: VN009249.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.541 | 0.521 | | -3.7 | 20 |
| Chloromethane | 0.545 | 0.528 | 0.1 | -3.12 | 20 |
| Vinyl Chloride | 0.687 | 0.665 | | -3.2 | 20 |
| Ethyl Acetate | 0.257 | 0.238 | | -7.39 | 20 |
| Isopropyl Acetate | 0.440 | 0.438 | | -0.46 | 20 |
| Bromomethane | 0.406 | 0.355 | | -12.56 | 20 |
| Chloroethane | 0.338 | 0.332 | | -1.77 | 20 |
| Trichlorofluoromethane | 0.845 | 0.853 | | 0.95 | 20 |
| 1,1,2-Trichlorotrifluoroethane | 0.486 | 0.452 | | -7 | 20 |
| Tert butyl alcohol | 0.044 | 0.038 | | -13.64 | 20 |
| Diethyl Ether | 0.284 | 0.260 | | -8.45 | 20 |
| 1,1-Dichloroethene | 0.481 | 0.415 | | -13.72 | 20 |
| Acrolein | 0.070 | 0.070 | | 0 | 20 |
| Acrylonitrile | 0.163 | 0.148 | | -9.2 | 20 |
| Acetone | 0.137 | 0.149 | | 8.76 | 20 |
| Carbon Disulfide | 1.345 | 1.111 | | -17.4 | 20 |
| Methyl tert-butyl Ether | 1.383 | 1.267 | | -8.39 | 20 |
| Methyl Acetate | 0.388 | 0.345 | | -11.08 | 20 |
| Methylene Chloride | 0.542 | 0.471 | | -13.1 | 20 |
| trans-1,2-Dichloroethene | 0.526 | 0.460 | | -12.55 | 20 |
| Vinyl Acetate | 0.796 | 0.758 | | -4.77 | 20 |
| 1,1-Dichloroethane | 0.853 | 0.746 | 0.1 | -12.54 | 20 |
| Cyclohexane | 0.882 | 0.637 | | -27.78 | 20 |
| 2-Butanone | 0.181 | 0.176 | | -2.76 | 20 |
| Carbon Tetrachloride | 0.445 | 0.450 | | 1.12 | 20 |
| 2,2-Dichloropropane | 0.728 | 0.697 | | -4.26 | 20 |
| cis-1,2-Dichloroethene | 0.599 | 0.531 | | -11.35 | 20 |
| Bromochloromethane | 0.358 | 0.337 | | -5.87 | 20 |
| Chloroform | 0.953 | 0.830 | | -12.91 | 20 |
| 1,1,1-Trichloroethane | 0.842 | 0.738 | | -12.35 | 20 |
| Methylcyclohexane | 0.507 | 0.531 | | 4.73 | 20 |
| 1,1-Dichloropropene | 0.427 | 0.421 | | -1.4 | 20 |
| Benzene | 1.246 | 1.222 | | -1.93 | 20 |
| 1,2-Dichloroethane | 0.416 | 0.395 | | -5.05 | 20 |
| Trichloroethene | 0.383 | 0.386 | | 0.78 | 20 |
| 1,2-Dichloropropane | 0.314 | 0.314 | | 0 | 20 |
| Dibromomethane | 0.224 | 0.221 | | -1.34 | 20 |
| Bromodichloromethane | 0.427 | 0.432 | | 1.17 | 20 |
| 4-Methyl-2-Pentanone | 0.238 | 0.244 | | 2.52 | 20 |
| Toluene | 0.793 | 0.812 | | 2.4 | 20 |
| t-1,3-Dichloropropene | 0.451 | 0.480 | | 6.43 | 20 |
| cis-1,3-Dichloropropene | 0.497 | 0.522 | | 5.03 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 10/01/2013 10:13

Lab File ID: VN009249.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| 1,1,2-Trichloroethane | 0.324 | 0.323 | | -0.31 | 20 |
| 1,3-Dichloropropane | 0.520 | 0.512 | | -1.54 | 20 |
| 2-Chloroethyl Vinyl ether | 0.128 | 0.130 | | 1.56 | 20 |
| 2-Hexanone | 0.154 | 0.174 | | 12.99 | 20 |
| Dibromochloromethane | 0.365 | 0.387 | | 6.03 | 20 |
| 1,2-Dibromoethane | 0.338 | 0.339 | | 0.3 | 20 |
| Tetrachloroethene | 0.377 | 0.381 | | 1.06 | 20 |
| Chlorobenzene | 1.063 | 1.087 | 0.3 | 2.26 | 20 |
| 1,1,1,2-Tetrachloroethane | 0.376 | 0.401 | | 6.65 | 20 |
| Hexachloroethane | 0.573 | 0.585 | | 2.09 | 20 |
| Ethyl Benzene | 1.614 | 1.684 | | 4.34 | 20 |
| m/p-Xylenes | 0.637 | 0.678 | | 6.44 | 20 |
| o-Xylene | 0.614 | 0.667 | | 8.63 | 20 |
| Styrene | 0.963 | 1.066 | | 10.7 | 20 |
| Bromoform | 0.267 | 0.315 | 0.1 | 17.98 | 20 |
| Isopropylbenzene | 3.483 | 3.409 | | -2.13 | 20 |
| 1,1,2,2-Tetrachloroethane | 0.965 | 0.875 | 0.3 | -9.33 | 20 |
| 1,2,3-Trichloropropane | 0.735 | 0.691 | | -5.99 | 20 |
| Bromobenzene | 0.933 | 0.946 | | 1.39 | 20 |
| n-propylbenzene | 3.850 | 3.807 | | -1.12 | 20 |
| 2-Chlorotoluene | 2.323 | 2.251 | | -3.1 | 20 |
| 1,3,5-Trimethylbenzene | 2.714 | 2.722 | | 0.29 | 20 |
| 4-Chlorotoluene | 2.265 | 2.216 | | -2.16 | 20 |
| tert-Butylbenzene | 2.402 | 2.472 | | 2.91 | 20 |
| 1,2,4-Trimethylbenzene | 2.803 | 2.850 | | 1.68 | 20 |
| sec-Butylbenzene | 3.312 | 3.422 | | 3.32 | 20 |
| p-Isopropyltoluene | 2.795 | 2.939 | | 5.15 | 20 |
| 1,3-Dichlorobenzene | 1.700 | 1.715 | | 0.88 | 20 |
| 1,4-Dichlorobenzene | 1.727 | 1.699 | | -1.62 | 20 |
| n-Butylbenzene | 2.468 | 2.517 | | 2.03 | 20 |
| 1,2-Dichlorobenzene | 1.647 | 1.629 | | -1.09 | 20 |
| 1,2-Dibromo-3-Chloropropane | 0.143 | 0.140 | | -2.1 | 20 |
| 1,2,4-Trichlorobenzene | 0.964 | 1.115 | | 15.66 | 20 |
| Hexachlorobutadiene | 0.440 | 0.504 | | 14.55 | 20 |
| Naphthalene | 2.196 | 2.469 | | 12.43 | 20 |
| 1,2,3-Trichlorobenzene | 0.895 | 1.001 | | 11.84 | 20 |
| 1,2-Dichloroethane-d4 | 0.524 | 0.405 | | -22.71 | 20 |
| Dibromofluoromethane | 0.310 | 0.290 | | -6.45 | 20 |
| Toluene-d8 | 1.078 | 0.954 | | -11.5 | 20 |
| 4-Bromofluorobenzene | 0.374 | 0.369 | | -1.34 | 20 |
| N-amyl acetate | 0.810 | 0.820 | | 1.24 | 20 |
| Methyl Iodide | 0.497 | 0.543 | | 9.26 | 20 |

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## VOLATILE CONTINUING CALIBRATION CHECK

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: MSVOA_N Calibration Date/Time: 10/01/2013 10:13

Lab File ID: VN009249.D Init. Calib. Date(s): 09/23/2013 09/23/2013

Heated Purge: (Y/N) N Init. Calib. Time(s): 20:01 22:21

GC Column: RXI-624 ID: 0.25 (mm)

| COMPOUND | RRF | RRF050 | MIN RRF | %D | MAX%D |
|---|---|---|---|---|---|
| Allyl chloride | 0.513 | 0.465 | | -9.36 | 20 |
| trans-1,4-Dichloro-2-butene | 0.262 | 0.279 | | 6.49 | 20 |
| Methacrylonitrile | 0.138 | 0.139 | | 0.73 | 20 |
| Ethyl methacrylate | 0.362 | 0.398 | | 9.94 | 20 |

All other compounds must meet a minimum RRF of 0.010.

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# LAB CHRONICLE

| | | | |
|---|---|---|---|
| **OrderID:** | E3854 | **OrderDate:** | 9/25/2013 5:28:00 PM |
| **Client:** | Cardno ATC | **Project:** | Avalon- WP9 |
| **Contact:** | John Mascioli | **Location:** | Extraction Lab |

| LabID | ClientID | Matrix | Test | Method | Sample Date | Prep Date | Anal Date | Received |
|---|---|---|---|---|---|---|---|---|
| **E3854-01** | **MW-2-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-01DL** | **MW-2-Q3-2013DL** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/28/13 | |
| **E3854-02** | **MW-8-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-02DL** | **MW-8-Q3-2013DL** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/28/13 | |
| **E3854-02DL2** | **MW-8-Q3-2013DL2** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/28/13 | |
| **E3854-03** | **MW-11R-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-06** | **MW-12R-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-07** | **MW-14-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-08** | **MW-15-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/27/13 | |
| **E3854-09** | **MW-16-Q3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/28/13 | |
| **E3854-10** | **FBQ3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |
| | | | SVOC- Chemtech Full | 625 | | 09/26/13 | 09/28/13 | |
| **E3854-11** | **DUPQ3-2013** | **Water** | | | **09/24/13** | | | **09/25/13** |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



## LAB CHRONICLE

| | | | |
|---|---|---|---|
| SVOC- Chemtech Full | 625 | 09/26/13 | 09/28/13 |

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# Hit Summary Sheet
## SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| **Client ID : DUPQ3-2013** | | | | | | | | | |
| E3854-11 | DUPQ3-2013 | WATER | Naphthalene | 1.400 | J | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Caprolactam | 3.600 | J | 2 | 5 | 10 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Dimethylphthalate | 5.600 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Acenaphthene | 25.700 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Dibenzofuran | 17.600 | | 2.1 | 5 | 10 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Carbazole | 6.500 | Q | 0.47 | 1.3 | 2.5 | ug/L |
| E3854-11 | DUPQ3-2013 | WATER | Bis(2-ethylhexyl)phthalate | 1.200 | J | 0.29 | 1.3 | 2.5 | ug/L |
| | | | **Total Svoc :** | | **61.60** | | | | |
| | | | **Total Concentration:** | | **61.60** | | | | |
| **Client ID : MW-14-Q3-2013** | | | | | | | | | |
| E3854-07 | MW-14-Q3-2013 | WATER | Naphthalene | 2.100 | J | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-07 | MW-14-Q3-2013 | WATER | 2-Methylnaphthalene | 3.200 | | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-07 | MW-14-Q3-2013 | WATER | Acenaphthene | 24.600 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-07 | MW-14-Q3-2013 | WATER | Fluorene | 6.800 | Q | 0.15 | 1.3 | 2.5 | ug/L |
| E3854-07 | MW-14-Q3-2013 | WATER | Phenanthrene | 3.600 | | 0.11 | 1.3 | 2.5 | ug/L |
| E3854-07 | MW-14-Q3-2013 | WATER | Carbazole | 1.600 | JQ | 0.47 | 1.3 | 2.5 | ug/L |
| | | | **Total Svoc :** | | **41.90** | | | | |
| | | | **Total Concentration:** | | **41.90** | | | | |
| **Client ID : MW-15-Q3-2013** | | | | | | | | | |
| E3854-08 | MW-15-Q3-2013 | WATER | Caprolactam | 3.400 | J | 2 | 5.1 | 10.2 | ug/L |
| E3854-08 | MW-15-Q3-2013 | WATER | Dimethylphthalate | 4.400 | | 0.17 | 1.3 | 2.6 | ug/L |
| E3854-08 | MW-15-Q3-2013 | WATER | Acenaphthene | 22.100 | | 0.17 | 1.3 | 2.6 | ug/L |
| E3854-08 | MW-15-Q3-2013 | WATER | Dibenzofuran | 15.200 | | 2.2 | 5.1 | 10.2 | ug/L |
| E3854-08 | MW-15-Q3-2013 | WATER | Carbazole | 5.600 | Q | 0.48 | 1.3 | 2.6 | ug/L |
| | | | **Total Svoc :** | | **50.70** | | | | |
| | | | **Total Concentration:** | | **50.70** | | | | |
| **Client ID : MW-16-Q3-2013** | | | | | | | | | |
| E3854-09 | MW-16-Q3-2013 | WATER | Caprolactam | 2.400 | J | 2.1 | 5.2 | 10.3 | ug/L |
| E3854-09 | MW-16-Q3-2013 | WATER | Dimethylphthalate | 3.400 | | 0.18 | 1.3 | 2.6 | ug/L |
| | | | **Total Svoc :** | | **5.80** | | | | |
| | | | **Total Concentration:** | | **5.80** | | | | |
| **Client ID : MW-2-Q3-2013** | | | | | | | | | |
| E3854-01 | MW-2-Q3-2013 | WATER | Naphthalene | 8.600 | | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | 1,1-Biphenyl | 1.300 | J | 0.26 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Dimethylphthalate | 5.200 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Acenaphthene | 47.700 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Dibenzofuran | 25.200 | | 2.1 | 5.1 | 10.1 | ug/L |

# Hit Summary Sheet
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| E3854-01 | MW-2-Q3-2013 | WATER | Fluorene | 12.400 | Q | 0.15 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Phenanthrene | 2.400 | J | 0.11 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Anthracene | 1.200 | J | 0.3 | 1.3 | 2.5 | ug/L |
| E3854-01 | MW-2-Q3-2013 | WATER | Carbazole | 100.000 | EQ | 0.47 | 1.3 | 2.5 | ug/L |
| | | | **Total Svoc :** | **204.00** | | | | | |
| | | | **Total Concentration:** | **204.00** | | | | | |
| **Client ID :** | **MW-2-Q3-2013DL** | | | | | | | | |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Naphthalene | 9.000 | JD | 0.96 | 6.3 | 12.6 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Dimethylphthalate | 5.200 | JD | 0.86 | 6.3 | 12.6 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Acenaphthene | 49.100 | D | 0.86 | 6.3 | 12.6 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Dibenzofuran | 25.100 | JD | 10.7 | 25.3 | 50.5 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Fluorene | 12.100 | JDQ | 0.76 | 6.3 | 12.6 | ug/L |
| E3854-01DL | MW-2-Q3-2013DL | WATER | Carbazole | 100.000 | DQ | 2.4 | 6.3 | 12.6 | ug/L |
| | | | **Total Svoc :** | **200.50** | | | | | |
| | | | **Total Concentration:** | **200.50** | | | | | |
| **Client ID :** | **MW-8-Q3-2013** | | | | | | | | |
| E3854-02 | MW-8-Q3-2013 | WATER | Phenol | 2.100 | J | 0.46 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 2-Methylphenol | 5.700 | J | 1.8 | 5.1 | 10.1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Acetophenone | 9.900 | | 0.2 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 3+4-Methylphenols | 2.900 | | 0.59 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 2,4-Dimethylphenol | 7.200 | | 0.71 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Naphthalene | 820.000 | E | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 2-Methylnaphthalene | 7.400 | | 0.19 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 1,1-Biphenyl | 97.400 | E | 0.26 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Dimethylphthalate | 2.600 | | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Acenaphthylene | 2.100 | J | 0.16 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Acenaphthene | 190.000 | E | 0.17 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Dibenzofuran | 140.000 | E | 2.1 | 5.1 | 10.1 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Fluorene | 70.800 | EQ | 0.15 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Phenanthrene | 37.900 | | 0.11 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Anthracene | 6.400 | | 0.3 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Carbazole | 130.000 | EQ | 0.47 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | Fluoranthene | 1.400 | J | 0.85 | 1.3 | 2.5 | ug/L |
| E3854-02 | MW-8-Q3-2013 | WATER | 1,4-Dioxane | 10.300 | Q | 5.1 | 5.1 | 10.1 | ug/L |
| | | | **Total Svoc :** | **1,544.10** | | | | | |
| | | | **Total Concentration:** | **1,544.10** | | | | | |
| **Client ID :** | **MW-8-Q3-2013DL** | | | | | | | | |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Acetophenone | 7.600 | JD | 1 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Naphthalene | 1,000.000 | ED | 0.96 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | 2-Methylnaphthalene | 5.400 | JD | 0.96 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | 1,1-Biphenyl | 110.000 | D | 1.3 | 6.3 | 12.6 | ug/L |

# Hit Summary Sheet
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

| Sample ID | Client ID | | Parameter | Concentration | C | MDL | LOD | RDL | Units |
|---|---|---|---|---|---|---|---|---|---|
| E3854-02DL | MW-8-Q3-2013DL | WATER | Acenaphthene | 230.000 | D | 0.86 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Dibenzofuran | 160.000 | D | 10.7 | 25.3 | 50.5 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Fluorene | 80.700 | DQ | 0.76 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Phenanthrene | 41.400 | D | 0.56 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Anthracene | 8.700 | JD | 1.5 | 6.3 | 12.6 | ug/L |
| E3854-02DL | MW-8-Q3-2013DL | WATER | Carbazole | 140.000 | DQ | 2.4 | 6.3 | 12.6 | ug/L |
| | | | **Total Svoc :** | **1,783.80** | | | | | |
| | | | **Total Concentration:** | **1,783.80** | | | | | |

**Client ID : MW-8-Q3-2013DL2**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | Naphthalene | 1,300.000 | D | 9.6 | 63.1 | 130 | ug/L |
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | 1,1-Biphenyl | 110.000 | JD | 13.1 | 63.1 | 130 | ug/L |
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | Acenaphthene | 240.000 | D | 8.6 | 63.1 | 130 | ug/L |
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | Dibenzofuran | 160.000 | JD | 110 | 250 | 510 | ug/L |
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | Fluorene | 75.300 | JDQ | 7.6 | 63.1 | 130 | ug/L |
| E3854-02DL2 | MW-8-Q3-2013DL2 | WATER | Carbazole | 130.000 | DQ | 23.7 | 63.1 | 130 | ug/L |
| | | | **Total Svoc :** | **2,015.30** | | | | | |
| | | | **Total Concentration:** | **2,015.30** | | | | | |

# SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050743.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 8.6 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050743.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 1.3 | J | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 5.2 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 47.7 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 25.2 | | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 12.4 | Q | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 2.4 | J | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 1.2 | J | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 100 | EQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.85 | U | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | U | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050743.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 33 | | 10 - 160 | | 33% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 19 | | 10 - 161 | | 19% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 77.1 | | 25 - 124 | | 77% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 78.8 | | 20 - 129 | | 79% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 86.8 | | 10 - 140 | | 87% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 80.3 | | 14 - 155 | | 80% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 74477 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 289088 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 168369 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 320084 | 13.95 | | | | |
| 1719-03-5 | Chrysene-d12 | 258178 | 19.52 | | | | |
| 1520-96-3 | Perylene-d12 | 132147 | 22.47 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050743.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050754.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 13.5 | UD | 13.5 | 25.3 | 50.5 | ug/L |
| 110-86-1 | Pyridine | 29.6 | UDQ | 29.6 | 63.1 | 130 | ug/L |
| 100-52-7 | Benzaldehyde | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 62-53-3 | Aniline | 19.5 | UDQ | 19.5 | 25.3 | 50.5 | ug/L |
| 108-95-2 | Phenol | 2.3 | UD | 2.3 | 6.3 | 12.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 1.8 | UD | 1.8 | 6.3 | 12.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.96 | UD | 0.96 | 6.3 | 12.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 1.3 | UD | 1.3 | 6.3 | 12.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.61 | UD | 0.61 | 6.3 | 12.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.91 | UD | 0.91 | 6.3 | 12.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 1.6 | UD | 1.6 | 6.3 | 12.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 9.1 | UD | 9.1 | 25.3 | 50.5 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 1.8 | UD | 1.8 | 6.3 | 12.6 | ug/L |
| 98-86-2 | Acetophenone | 1 | UD | 1 | 6.3 | 12.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 2.9 | UD | 2.9 | 6.3 | 12.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 67-72-1 | Hexachloroethane | 1.3 | UD | 1.3 | 6.3 | 12.6 | ug/L |
| 98-95-3 | Nitrobenzene | 3.3 | UD | 3.3 | 6.3 | 12.6 | ug/L |
| 78-59-1 | Isophorone | 2.1 | UD | 2.1 | 6.3 | 12.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 22.2 | UD | 22.2 | 25.3 | 50.5 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 3.5 | UD | 3.5 | 6.3 | 12.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 5.6 | UD | 5.6 | 6.3 | 12.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 16.2 | UD | 16.2 | 25.3 | 50.5 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.71 | UD | 0.71 | 6.3 | 12.6 | ug/L |
| 65-85-0 | Benzoic acid | 16.3 | UD | 16.3 | 63.1 | 130 | ug/L |
| 91-20-3 | Naphthalene | 9 | JD | 0.96 | 6.3 | 12.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 13.3 | UD | 13.3 | 25.3 | 50.5 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 105-60-2 | Caprolactam | 10.1 | UD | 10.1 | 25.3 | 50.5 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 8.7 | UD | 8.7 | 25.3 | 50.5 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.96 | UD | 0.96 | 6.3 | 12.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050754.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 7.6 | UD | 7.6 | 25.3 | 50.5 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 10.7 | UD | 10.7 | 25.3 | 50.5 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 11.5 | UD | 11.5 | 25.3 | 50.5 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 1.3 | UD | 1.3 | 6.3 | 12.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.76 | UDQ | 0.76 | 6.3 | 12.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 21.4 | UD | 21.4 | 25.3 | 50.5 | ug/L |
| 131-11-3 | Dimethylphthalate | 5.2 | JD | 0.86 | 6.3 | 12.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.81 | UD | 0.81 | 6.3 | 12.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 10.2 | UD | 10.2 | 25.3 | 50.5 | ug/L |
| 83-32-9 | Acenaphthene | 49.1 | D | 0.86 | 6.3 | 12.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 9.5 | UD | 9.5 | 63.1 | 130 | ug/L |
| 100-02-7 | 4-Nitrophenol | 19.5 | UD | 19.5 | 25.3 | 50.5 | ug/L |
| 132-64-9 | Dibenzofuran | 25.1 | JD | 10.7 | 25.3 | 50.5 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 10.7 | UD | 10.7 | 25.3 | 50.5 | ug/L |
| 84-66-2 | Diethylphthalate | 0.51 | UD | 0.51 | 6.3 | 12.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 86-73-7 | Fluorene | 12.1 | JDQ | 0.76 | 6.3 | 12.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 12.6 | UDQ | 12.6 | 6.3 | 12.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 9.4 | UD | 9.4 | 25.3 | 50.5 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 4 | UD | 4 | 6.3 | 12.6 | ug/L |
| 103-33-3 | Azobenzene | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 2.1 | UD | 2.1 | 6.3 | 12.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 1912-24-9 | Atrazine | 2.8 | UD | 2.8 | 6.3 | 12.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 13.6 | UD | 13.6 | 25.3 | 50.5 | ug/L |
| 85-01-8 | Phenanthrene | 0.56 | UD | 0.56 | 6.3 | 12.6 | ug/L |
| 120-12-7 | Anthracene | 1.5 | UD | 1.5 | 6.3 | 12.6 | ug/L |
| 86-74-8 | Carbazole | 100 | DQ | 2.4 | 6.3 | 12.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 3 | UD | 3 | 6.3 | 12.6 | ug/L |
| 206-44-0 | Fluoranthene | 4.2 | UD | 4.2 | 6.3 | 12.6 | ug/L |
| 92-87-5 | Benzidine | 43.8 | UD | 43.8 | 63.1 | 130 | ug/L |
| 129-00-0 | Pyrene | 0.66 | UD | 0.66 | 6.3 | 12.6 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050754.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 18.1 | UD | 18.1 | 25.3 | 50.5 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.61 | UD | 0.61 | 6.3 | 12.6 | ug/L |
| 218-01-9 | Chrysene | 1.2 | UD | 1.2 | 6.3 | 12.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1.5 | UD | 1.5 | 6.3 | 12.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 1.6 | UD | 1.6 | 6.3 | 12.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 3.3 | UD | 3.3 | 6.3 | 12.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.66 | UD | 0.66 | 6.3 | 12.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1.9 | UDQ | 1.9 | 6.3 | 12.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 25.3 | UDQ | 25.3 | 25.3 | 50.5 | ug/L |
| 123-91-1 | 1,4-Dioxane | 25.3 | UDQ | 25.3 | 25.3 | 50.5 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 32.3 | | 10 - 160 | | 32% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 19.4 | | 10 - 161 | | 19% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 78.9 | | 25 - 124 | | 79% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 87.4 | | 20 - 129 | | 87% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 83.7 | | 10 - 140 | | 84% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 94.2 | | 14 - 155 | | 94% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 109411 | 6.65 | | | | |
| 1146-65-2 | Naphthalene-d8 | 426478 | 8.54 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 244397 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 417423 | 13.94 | | | | |
| 1719-03-5 | Chrysene-d12 | 314566 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 183238 | 22.47 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-2-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-01DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050754.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050744.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 2.1 | J | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 5.7 | J | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 9.9 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 2.9 | | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 7.2 | | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 820 | E | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 7.4 | | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050744.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 97.4 | E | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 2.6 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 2.1 | J | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 190 | E | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 140 | E | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 70.8 | EQ | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 37.9 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 6.4 | | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 130 | EQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 1.4 | J | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | U | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050744.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 10.3 | Q | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 35.3 | | 10 - 160 | | 35% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 24.3 | | 10 - 161 | | 24% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 100 | | 25 - 124 | | 101% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 79.6 | | 20 - 129 | | 80% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 83.7 | | 10 - 140 | | 84% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 89.1 | | 14 - 155 | | 89% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 100843 | 6.67 | | | | |
| 1146-65-2 | Naphthalene-d8 | 306371 | 8.59 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 249603 | 11.22 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 432569 | 13.97 | | | | |
| 1719-03-5 | Chrysene-d12 | 298260 | 19.55 | | | | |
| 1520-96-3 | Perylene-d12 | 130122 | 22.49 | | | | |

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050744.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050755.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 13.5 | UD | 13.5 | 25.3 | 50.5 | ug/L |
| 110-86-1 | Pyridine | 29.6 | UDQ | 29.6 | 63.1 | 130 | ug/L |
| 100-52-7 | Benzaldehyde | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 62-53-3 | Aniline | 19.5 | UDQ | 19.5 | 25.3 | 50.5 | ug/L |
| 108-95-2 | Phenol | 2.3 | UD | 2.3 | 6.3 | 12.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 1.8 | UD | 1.8 | 6.3 | 12.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.96 | UD | 0.96 | 6.3 | 12.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 1.3 | UD | 1.3 | 6.3 | 12.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.61 | UD | 0.61 | 6.3 | 12.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.91 | UD | 0.91 | 6.3 | 12.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 1.6 | UD | 1.6 | 6.3 | 12.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 9.1 | UD | 9.1 | 25.3 | 50.5 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 1.8 | UD | 1.8 | 6.3 | 12.6 | ug/L |
| 98-86-2 | Acetophenone | 7.6 | JD | 1 | 6.3 | 12.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 2.9 | UD | 2.9 | 6.3 | 12.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 67-72-1 | Hexachloroethane | 1.3 | UD | 1.3 | 6.3 | 12.6 | ug/L |
| 98-95-3 | Nitrobenzene | 3.3 | UD | 3.3 | 6.3 | 12.6 | ug/L |
| 78-59-1 | Isophorone | 2.1 | UD | 2.1 | 6.3 | 12.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 22.2 | UD | 22.2 | 25.3 | 50.5 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 3.5 | UD | 3.5 | 6.3 | 12.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 5.6 | UD | 5.6 | 6.3 | 12.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 16.2 | UD | 16.2 | 25.3 | 50.5 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.71 | UD | 0.71 | 6.3 | 12.6 | ug/L |
| 65-85-0 | Benzoic acid | 16.3 | UD | 16.3 | 63.1 | 130 | ug/L |
| 91-20-3 | Naphthalene | 1000 | ED | 0.96 | 6.3 | 12.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 13.3 | UD | 13.3 | 25.3 | 50.5 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 105-60-2 | Caprolactam | 10.1 | UD | 10.1 | 25.3 | 50.5 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 8.7 | UD | 8.7 | 25.3 | 50.5 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 5.4 | JD | 0.96 | 6.3 | 12.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050755.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 7.6 | UD | 7.6 | 25.3 | 50.5 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 10.7 | UD | 10.7 | 25.3 | 50.5 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 11.5 | UD | 11.5 | 25.3 | 50.5 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 110 | D | 1.3 | 6.3 | 12.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.76 | UDQ | 0.76 | 6.3 | 12.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 21.4 | UD | 21.4 | 25.3 | 50.5 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.81 | UD | 0.81 | 6.3 | 12.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 10.2 | UD | 10.2 | 25.3 | 50.5 | ug/L |
| 83-32-9 | Acenaphthene | 230 | D | 0.86 | 6.3 | 12.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 9.5 | UD | 9.5 | 63.1 | 130 | ug/L |
| 100-02-7 | 4-Nitrophenol | 19.5 | UD | 19.5 | 25.3 | 50.5 | ug/L |
| 132-64-9 | Dibenzofuran | 160 | D | 10.7 | 25.3 | 50.5 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 10.7 | UD | 10.7 | 25.3 | 50.5 | ug/L |
| 84-66-2 | Diethylphthalate | 0.51 | UD | 0.51 | 6.3 | 12.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 86-73-7 | Fluorene | 80.7 | DQ | 0.76 | 6.3 | 12.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 12.6 | UDQ | 12.6 | 6.3 | 12.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 9.4 | UD | 9.4 | 25.3 | 50.5 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 4 | UD | 4 | 6.3 | 12.6 | ug/L |
| 103-33-3 | Azobenzene | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 2.1 | UD | 2.1 | 6.3 | 12.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 1912-24-9 | Atrazine | 2.8 | UD | 2.8 | 6.3 | 12.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 13.6 | UD | 13.6 | 25.3 | 50.5 | ug/L |
| 85-01-8 | Phenanthrene | 41.4 | D | 0.56 | 6.3 | 12.6 | ug/L |
| 120-12-7 | Anthracene | 8.7 | JD | 1.5 | 6.3 | 12.6 | ug/L |
| 86-74-8 | Carbazole | 140 | DQ | 2.4 | 6.3 | 12.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 3 | UD | 3 | 6.3 | 12.6 | ug/L |
| 206-44-0 | Fluoranthene | 4.2 | UD | 4.2 | 6.3 | 12.6 | ug/L |
| 92-87-5 | Benzidine | 43.8 | UD | 43.8 | 63.1 | 130 | ug/L |
| 129-00-0 | Pyrene | 0.66 | UD | 0.66 | 6.3 | 12.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050755.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 1.1 | UD | 1.1 | 6.3 | 12.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 18.1 | UD | 18.1 | 25.3 | 50.5 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.61 | UD | 0.61 | 6.3 | 12.6 | ug/L |
| 218-01-9 | Chrysene | 1.2 | UD | 1.2 | 6.3 | 12.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1.5 | UD | 1.5 | 6.3 | 12.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 1.6 | UD | 1.6 | 6.3 | 12.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.86 | UD | 0.86 | 6.3 | 12.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 3.3 | UD | 3.3 | 6.3 | 12.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 1.4 | UD | 1.4 | 6.3 | 12.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.66 | UD | 0.66 | 6.3 | 12.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 1.9 | UDQ | 1.9 | 6.3 | 12.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 25.3 | UDQ | 25.3 | 25.3 | 50.5 | ug/L |
| 123-91-1 | 1,4-Dioxane | 25.3 | UDQ | 25.3 | 25.3 | 50.5 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 37.2 | | 10 - 160 | | 37% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 23.6 | | 10 - 161 | | 24% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 84.4 | | 25 - 124 | | 84% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 93.1 | | 20 - 129 | | 93% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 95.9 | | 10 - 140 | | 96% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 90.9 | | 14 - 155 | | 91% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 107574 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 421722 | 8.55 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 249035 | 11.21 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 426709 | 13.93 | | | | |
| 1719-03-5 | Chrysene-d12 | 325260 | 19.5 | | | | |
| 1520-96-3 | Perylene-d12 | 180695 | 22.47 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050755.D | 5 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL2 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL2 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050756.D | 50 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 140 | UD | 140 | 250 | 510 | ug/L |
| 110-86-1 | Pyridine | 300 | UDQ | 300 | 630 | 1300 | ug/L |
| 100-52-7 | Benzaldehyde | 14.1 | UD | 14.1 | 63.1 | 130 | ug/L |
| 62-53-3 | Aniline | 190 | UDQ | 190 | 250 | 510 | ug/L |
| 108-95-2 | Phenol | 23.2 | UD | 23.2 | 63.1 | 130 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 17.7 | UD | 17.7 | 63.1 | 130 | ug/L |
| 95-57-8 | 2-Chlorophenol | 9.6 | UD | 9.6 | 63.1 | 130 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 12.6 | UD | 12.6 | 63.1 | 130 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 6.1 | UD | 6.1 | 63.1 | 130 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 9.1 | UD | 9.1 | 63.1 | 130 | ug/L |
| 100-51-6 | Benzyl Alcohol | 16.2 | UD | 16.2 | 63.1 | 130 | ug/L |
| 95-48-7 | 2-Methylphenol | 91.4 | UD | 91.4 | 250 | 510 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 17.7 | UD | 17.7 | 63.1 | 130 | ug/L |
| 98-86-2 | Acetophenone | 10.1 | UD | 10.1 | 63.1 | 130 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 29.3 | UD | 29.3 | 63.1 | 130 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 11.1 | UD | 11.1 | 63.1 | 130 | ug/L |
| 67-72-1 | Hexachloroethane | 12.6 | UD | 12.6 | 63.1 | 130 | ug/L |
| 98-95-3 | Nitrobenzene | 32.8 | UD | 32.8 | 63.1 | 130 | ug/L |
| 78-59-1 | Isophorone | 20.7 | UD | 20.7 | 63.1 | 130 | ug/L |
| 88-75-5 | 2-Nitrophenol | 220 | UD | 220 | 250 | 510 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 35.4 | UD | 35.4 | 63.1 | 130 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 56.1 | UD | 56.1 | 63.1 | 130 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 160 | UD | 160 | 250 | 510 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 7.1 | UD | 7.1 | 63.1 | 130 | ug/L |
| 65-85-0 | Benzoic acid | 160 | UD | 160 | 630 | 1300 | ug/L |
| 91-20-3 | Naphthalene | 1300 | D | 9.6 | 63.1 | 130 | ug/L |
| 106-47-8 | 4-Chloroaniline | 130 | UD | 130 | 250 | 510 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 8.6 | UD | 8.6 | 63.1 | 130 | ug/L |
| 105-60-2 | Caprolactam | 100 | UD | 100 | 250 | 510 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 86.9 | UD | 86.9 | 250 | 510 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 9.6 | UD | 9.6 | 63.1 | 130 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL2 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL2 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050756.D | 50 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 75.8 | UD | 75.8 | 250 | 510 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 110 | UD | 110 | 250 | 510 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 110 | UD | 110 | 250 | 510 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 110 | JD | 13.1 | 63.1 | 130 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 7.6 | UDQ | 7.6 | 63.1 | 130 | ug/L |
| 88-74-4 | 2-Nitroaniline | 210 | UD | 210 | 250 | 510 | ug/L |
| 131-11-3 | Dimethylphthalate | 8.6 | UD | 8.6 | 63.1 | 130 | ug/L |
| 208-96-8 | Acenaphthylene | 8.1 | UD | 8.1 | 63.1 | 130 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 13.6 | UD | 13.6 | 63.1 | 130 | ug/L |
| 99-09-2 | 3-Nitroaniline | 100 | UD | 100 | 250 | 510 | ug/L |
| 83-32-9 | Acenaphthene | 240 | D | 8.6 | 63.1 | 130 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 94.9 | UD | 94.9 | 630 | 1300 | ug/L |
| 100-02-7 | 4-Nitrophenol | 200 | UD | 200 | 250 | 510 | ug/L |
| 132-64-9 | Dibenzofuran | 160 | JD | 110 | 250 | 510 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 110 | UD | 110 | 250 | 510 | ug/L |
| 84-66-2 | Diethylphthalate | 5.1 | UD | 5.1 | 63.1 | 130 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 13.6 | UD | 13.6 | 63.1 | 130 | ug/L |
| 86-73-7 | Fluorene | 75.3 | JDQ | 7.6 | 63.1 | 130 | ug/L |
| 100-01-6 | 4-Nitroaniline | 130 | UDQ | 130 | 63.1 | 130 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 94.4 | UD | 94.4 | 250 | 510 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 40.4 | UD | 40.4 | 63.1 | 130 | ug/L |
| 103-33-3 | Azobenzene | 11.1 | UD | 11.1 | 63.1 | 130 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 21.2 | UD | 21.2 | 63.1 | 130 | ug/L |
| 118-74-1 | Hexachlorobenzene | 11.1 | UD | 11.1 | 63.1 | 130 | ug/L |
| 1912-24-9 | Atrazine | 28.3 | UD | 28.3 | 63.1 | 130 | ug/L |
| 87-86-5 | Pentachlorophenol | 140 | UD | 140 | 250 | 510 | ug/L |
| 85-01-8 | Phenanthrene | 5.6 | UD | 5.6 | 63.1 | 130 | ug/L |
| 120-12-7 | Anthracene | 15.2 | UD | 15.2 | 63.1 | 130 | ug/L |
| 86-74-8 | Carbazole | 130 | DQ | 23.7 | 63.1 | 130 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 29.8 | UD | 29.8 | 63.1 | 130 | ug/L |
| 206-44-0 | Fluoranthene | 42.4 | UD | 42.4 | 63.1 | 130 | ug/L |
| 92-87-5 | Benzidine | 440 | UD | 440 | 630 | 1300 | ug/L |
| 129-00-0 | Pyrene | 6.6 | UD | 6.6 | 63.1 | 130 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL2 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL2 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050756.D | 50 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 11.1 | UD | 11.1 | 63.1 | 130 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 180 | UD | 180 | 250 | 510 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 6.1 | UD | 6.1 | 63.1 | 130 | ug/L |
| 218-01-9 | Chrysene | 12.1 | UD | 12.1 | 63.1 | 130 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 14.6 | UD | 14.6 | 63.1 | 130 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 15.7 | UD | 15.7 | 63.1 | 130 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 8.6 | UD | 8.6 | 63.1 | 130 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 14.1 | UD | 14.1 | 63.1 | 130 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 8.6 | UD | 8.6 | 63.1 | 130 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 33.3 | UD | 33.3 | 63.1 | 130 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 14.1 | UD | 14.1 | 63.1 | 130 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 6.6 | UD | 6.6 | 63.1 | 130 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 18.7 | UDQ | 18.7 | 63.1 | 130 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 250 | UDQ | 250 | 250 | 510 | ug/L |
| 123-91-1 | 1,4-Dioxane | 250 | UDQ | 250 | 250 | 510 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 32 | | 10 - 160 | | 32% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 22.5 | | 10 - 161 | | 22% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 84 | | 25 - 124 | | 84% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 92 | | 20 - 129 | | 92% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 82 | | 10 - 140 | | 82% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 100 | | 14 - 155 | | 102% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 112224 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 434920 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 245371 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 406908 | 13.93 | | | | |
| 1719-03-5 | Chrysene-d12 | 263431 | 19.5 | | | | |
| 1520-96-3 | Perylene-d12 | 137306 | 22.46 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-8-Q3-2013DL2 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-02DL2 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050756.D | 50 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050745.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050745.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | UQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050745.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | UQ | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 37.7 | | 10 - 160 | | 38% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 21.7 | | 10 - 161 | | 22% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 89.8 | | 25 - 124 | | 90% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 95 | | 20 - 129 | | 95% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 92 | | 10 - 140 | | 92% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 110 | | 14 - 155 | | 107% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 103659 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 387647 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 205569 | 11.19 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 346664 | 13.93 | | | | |
| 1719-03-5 | Chrysene-d12 | 252665 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 146950 | 22.46 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-03 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050745.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050748.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050748.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | UQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050748.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | UQ | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 40.6 | | 10 - 160 | | 41% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 24.7 | | 10 - 161 | | 25% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 91.2 | | 25 - 124 | | 91% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 93.7 | | 20 - 129 | | 94% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 96.8 | | 10 - 140 | | 97% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 120 | | 14 - 155 | | 116% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 112868 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 435550 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 244132 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 397233 | 13.93 | | | | |
| 1719-03-5 | Chrysene-d12 | 260724 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 144783 | 22.46 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-12R-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-06 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050748.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050749.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 2.1 | J | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 3.2 | | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050749.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 24.6 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 6.8 | Q | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.81 | U | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 3.6 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 1.6 | JQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.85 | U | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | U | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050749.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 42.4 | | 10 - 160 | | 42% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 26.7 | | 10 - 161 | | 27% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 90 | | 25 - 124 | | 90% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 90.8 | | 20 - 129 | | 91% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 100 | | 10 - 140 | | 101% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 100 | | 14 - 155 | | 101% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 120601 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 469901 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 283471 | 11.21 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 459707 | 13.95 | | | | |
| 1719-03-5 | Chrysene-d12 | 341841 | 19.5 | | | | |
| 1520-96-3 | Perylene-d12 | 185503 | 22.47 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-14-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-07 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 990 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050749.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050750.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 110-86-1 | Pyridine | 6 | UQ | 6 | 12.8 | 25.5 | ug/L |
| 100-52-7 | Benzaldehyde | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5.1 | 10.2 | ug/L |
| 108-95-2 | Phenol | 0.47 | U | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.33 | U | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.59 | U | 0.59 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 0.66 | U | 0.66 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 0.42 | U | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.5 | U | 4.5 | 5.1 | 10.2 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.71 | U | 0.71 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.3 | U | 3.3 | 5.1 | 10.2 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.8 | 25.5 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 3.4 | J | 2 | 5.1 | 10.2 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.8 | U | 1.8 | 5.1 | 10.2 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050750.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5.1 | 10.2 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.1 | 10.2 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.27 | U | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.3 | U | 4.3 | 5.1 | 10.2 | ug/L |
| 131-11-3 | Dimethylphthalate | 4.4 | | 0.17 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2.1 | U | 2.1 | 5.1 | 10.2 | ug/L |
| 83-32-9 | Acenaphthene | 22.1 | | 0.17 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.8 | 25.5 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5.1 | 10.2 | ug/L |
| 132-64-9 | Dibenzofuran | 15.2 | | 2.2 | 5.1 | 10.2 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.2 | U | 2.2 | 5.1 | 10.2 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.1 | 10.2 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.82 | U | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.43 | U | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 0.57 | U | 0.57 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5.1 | 10.2 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 0.31 | U | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 5.6 | Q | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.6 | U | 0.6 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 0.86 | U | 0.86 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | U | 8.9 | 12.8 | 25.5 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050750.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.7 | U | 3.7 | 5.1 | 10.2 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.3 | U | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.32 | U | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.67 | U | 0.67 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.38 | UQ | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.1 | UQ | 5.1 | 5.1 | 10.2 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.1 | UQ | 5.1 | 5.1 | 10.2 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 42.4 | | 10 - 160 | | 42% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 26.2 | | 10 - 161 | | 26% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 89.4 | | 25 - 124 | | 89% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 92.3 | | 20 - 129 | | 92% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 100 | | 10 - 140 | | 105% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 100 | | 14 - 155 | | 104% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 112063 | 6.67 | | | | |
| 1146-65-2 | Naphthalene-d8 | 429856 | 8.54 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 241711 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 416422 | 13.94 | | | | |
| 1719-03-5 | Chrysene-d12 | 300205 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 167029 | 22.46 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-15-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-08 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 980 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050750.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 970 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050751.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.8 | U | 2.8 | 5.2 | 10.3 | ug/L |
| 110-86-1 | Pyridine | 6.1 | UQ | 6.1 | 12.9 | 25.8 | ug/L |
| 100-52-7 | Benzaldehyde | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 4 | UQ | 4 | 5.2 | 10.3 | ug/L |
| 108-95-2 | Phenol | 0.47 | U | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.19 | U | 0.19 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.33 | U | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.9 | U | 1.9 | 5.2 | 10.3 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.36 | U | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 0.21 | U | 0.21 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.6 | U | 0.6 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 0.26 | U | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 0.67 | U | 0.67 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 0.42 | U | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.5 | U | 4.5 | 5.2 | 10.3 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.72 | U | 0.72 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.3 | U | 3.3 | 5.2 | 10.3 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 3.3 | U | 3.3 | 12.9 | 25.8 | ug/L |
| 91-20-3 | Naphthalene | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.7 | U | 2.7 | 5.2 | 10.3 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 2.4 | J | 2.1 | 5.2 | 10.3 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.8 | U | 1.8 | 5.2 | 10.3 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.2 | U | 0.2 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 970 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050751.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5.2 | 10.3 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5.2 | 10.3 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.27 | U | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.4 | U | 4.4 | 5.2 | 10.3 | ug/L |
| 131-11-3 | Dimethylphthalate | 3.4 | | 0.18 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2.1 | U | 2.1 | 5.2 | 10.3 | ug/L |
| 83-32-9 | Acenaphthene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.9 | 25.8 | ug/L |
| 100-02-7 | 4-Nitrophenol | 4 | U | 4 | 5.2 | 10.3 | ug/L |
| 132-64-9 | Dibenzofuran | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.2 | U | 2.2 | 5.2 | 10.3 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.28 | U | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.6 | UQ | 2.6 | 1.3 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5.2 | 10.3 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.82 | U | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.43 | U | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 0.58 | U | 0.58 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.8 | U | 2.8 | 5.2 | 10.3 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 0.31 | U | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 0.48 | UQ | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.61 | U | 0.61 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 0.87 | U | 0.87 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | U | 8.9 | 12.9 | 25.8 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 970 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050751.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.23 | U | 0.23 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.7 | U | 3.7 | 5.2 | 10.3 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 0.25 | U | 0.25 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.3 | U | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.32 | U | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.18 | U | 0.18 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.68 | U | 0.68 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.29 | U | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.38 | UQ | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5.2 | UQ | 5.2 | 5.2 | 10.3 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5.2 | UQ | 5.2 | 5.2 | 10.3 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 42.5 | | 10 - 160 | | 42% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 26 | | 10 - 161 | | 26% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 88.1 | | 25 - 124 | | 88% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 95.2 | | 20 - 129 | | 95% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 90.5 | | 10 - 140 | | 91% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 110 | | 14 - 155 | | 109% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 114672 | 6.67 | | | | |
| 1146-65-2 | Naphthalene-d8 | 424524 | 8.54 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 219663 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 340692 | 13.94 | | | | |
| 1719-03-5 | Chrysene-d12 | 238666 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 146972 | 22.46 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | MW-16-Q3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-09 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 970 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050751.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050752.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050752.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | UQ | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050752.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | UQ | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 40.7 | | 10 - 160 | | 41% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 23.5 | | 10 - 161 | | 23% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 91.1 | | 25 - 124 | | 91% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 99.7 | | 20 - 129 | | 100% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 91 | | 10 - 140 | | 91% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 120 | | 14 - 155 | | 120% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 107686 | 6.66 | | | | |
| 1146-65-2 | Naphthalene-d8 | 402038 | 8.54 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 210547 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 327015 | 13.94 | | | | |
| 1719-03-5 | Chrysene-d12 | 221898 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 121134 | 22.46 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | FBQ3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-10 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050752.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050753.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | UQ | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | UQ | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 1.4 | J | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 3.6 | J | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050753.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 5.6 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 25.7 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 17.6 | | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | UQ | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | UQ | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 6.5 | Q | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050753.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 1.2 | J | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | UQ | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | UQ | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | UQ | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 42.6 | | 10 - 160 | | 43% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 25.8 | | 10 - 161 | | 26% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 90.9 | | 25 - 124 | | 91% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 98.3 | | 20 - 129 | | 98% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 100 | | 10 - 140 | | 100% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 100 | | 14 - 155 | | 105% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 106861 | 6.65 | | | | |
| 1146-65-2 | Naphthalene-d8 | 401662 | 8.53 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 216683 | 11.2 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 351944 | 13.94 | | | | |
| 1719-03-5 | Chrysene-d12 | 268849 | 19.49 | | | | |
| 1520-96-3 | Perylene-d12 | 163533 | 22.46 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | | | Date Received: | 09/25/13 |
| Client Sample ID: | DUPQ3-2013 | | | SDG No.: | E3854 |
| Lab Sample ID: | E3854-11 | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050753.D | 1 | 09/26/13 | 09/28/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# QC SUMMARY

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# Surrogate Summary

**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** 625

| Lab Sample ID | Client ID | Parameter | Spike (PPM) | Result (PPM) | Recovery (%) | Qual | Limits (%) Low | Limits (%) High |
|---|---|---|---|---|---|---|---|---|
| E3854-01 | MW-2-Q3-2013 | 2-Fluorophenol | 100 | 32.98 | 33 | | 10 | 160 |
| | | Phenol-d6 | 100 | 19.04 | 19 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 77.12 | 77 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 78.80 | 79 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 86.82 | 87 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 80.33 | 80 | | 14 | 155 |
| E3854-01DL | MW-2-Q3-2013DL | 2-Fluorophenol | 100 | 32.30 | 32 | | 10 | 160 |
| | | Phenol-d6 | 100 | 19.40 | 19 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 78.85 | 79 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 87.40 | 87 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 83.65 | 84 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 94.20 | 94 | | 14 | 155 |
| E3854-02 | MW-8-Q3-2013 | 2-Fluorophenol | 100 | 35.26 | 35 | | 10 | 160 |
| | | Phenol-d6 | 100 | 24.31 | 24 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 100.64 | 101 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 79.58 | 80 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 83.74 | 84 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 89.13 | 89 | | 14 | 155 |
| E3854-02DL | MW-8-Q3-2013DL | 2-Fluorophenol | 100 | 37.15 | 37 | | 10 | 160 |
| | | Phenol-d6 | 100 | 23.60 | 24 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 84.35 | 84 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 93.10 | 93 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 95.90 | 96 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 90.90 | 91 | | 14 | 155 |
| E3854-02DL2 | MW-8-Q3-2013DL2 | 2-Fluorophenol | 100 | 32.00 | 32 | | 10 | 160 |
| | | Phenol-d6 | 100 | 22.50 | 22 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 84.00 | 84 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 92.00 | 92 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 82.00 | 82 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 102.50 | 102 | | 14 | 155 |
| E3854-03 | MW-11R-Q3-2013 | 2-Fluorophenol | 100 | 37.67 | 38 | | 10 | 160 |
| | | Phenol-d6 | 100 | 21.72 | 22 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 89.80 | 90 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 94.95 | 95 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 92.04 | 92 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 106.73 | 107 | | 14 | 155 |
| E3854-04MS | MW-11R-Q3-2013MS | 2-Fluorophenol | 100 | 38.69 | 39 | | 10 | 160 |
| | | Phenol-d6 | 100 | 23.68 | 24 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 84.96 | 85 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 91.13 | 91 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 96.18 | 96 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 84.61 | 85 | | 14 | 155 |
| E3854-05MSD | MW-11R-Q3-2013MSD | 2-Fluorophenol | 100 | 37.33 | 37 | | 10 | 160 |
| | | Phenol-d6 | 100 | 23.00 | 23 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 87.63 | 88 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 89.88 | 90 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 96.96 | 97 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 91.60 | 92 | | 14 | 155 |
| E3854-06 | MW-12R-Q3-2013 | 2-Fluorophenol | 100 | 40.63 | 41 | | 10 | 160 |
| | | Phenol-d6 | 100 | 24.67 | 25 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 91.19 | 91 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 93.69 | 94 | | 20 | 129 |

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## Surrogate Summary

**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** 625

| Lab Sample ID | Client ID | Parameter | Spike (PPM) | Result (PPM) | Recovery (%) | Qual | Limits (%) Low | High |
|---|---|---|---|---|---|---|---|---|
| E3854-06 | MW-12R-Q3-2013 | 2,4,6-Tribromophenol | 100 | 96.78 | 97 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 116.19 | 116 | | 14 | 155 |
| E3854-07 | MW-14-Q3-2013 | 2-Fluorophenol | 100 | 42.44 | 42 | | 10 | 160 |
| | | Phenol-d6 | 100 | 26.73 | 27 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 89.98 | 90 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 90.80 | 91 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 101.04 | 101 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 100.74 | 101 | | 14 | 155 |
| E3854-08 | MW-15-Q3-2013 | 2-Fluorophenol | 100 | 42.39 | 42 | | 10 | 160 |
| | | Phenol-d6 | 100 | 26.19 | 26 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 89.40 | 89 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 92.33 | 92 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 104.66 | 105 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 104.27 | 104 | | 14 | 155 |
| E3854-09 | MW-16-Q3-2013 | 2-Fluorophenol | 100 | 42.48 | 42 | | 10 | 160 |
| | | Phenol-d6 | 100 | 26.03 | 26 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 88.14 | 88 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 95.16 | 95 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 90.52 | 91 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 108.69 | 109 | | 14 | 155 |
| E3854-10 | FBQ3-2013 | 2-Fluorophenol | 100 | 40.69 | 41 | | 10 | 160 |
| | | Phenol-d6 | 100 | 23.48 | 23 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 91.06 | 91 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 99.67 | 100 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 91.02 | 91 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 119.95 | 120 | | 14 | 155 |
| E3854-11 | DUPQ3-2013 | 2-Fluorophenol | 100 | 42.64 | 43 | | 10 | 160 |
| | | Phenol-d6 | 100 | 25.78 | 26 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 90.88 | 91 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 98.32 | 98 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 100.38 | 100 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 104.80 | 105 | | 14 | 155 |
| PB72483BL | PB72483BL | 2-Fluorophenol | 100 | 85.78 | 86 | | 10 | 160 |
| | | Phenol-d6 | 100 | 84.41 | 84 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 84.02 | 84 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 90.50 | 90 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 85.53 | 86 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 102.59 | 103 | | 14 | 155 |
| PB72483BS | PB72483BS | 2-Fluorophenol | 100 | 54.77 | 55 | | 10 | 160 |
| | | Phenol-d6 | 100 | 52.90 | 53 | | 10 | 161 |
| | | Nitrobenzene-d5 | 100 | 53.29 | 53 | | 25 | 124 |
| | | 2-Fluorobiphenyl | 100 | 59.56 | 60 | | 20 | 129 |
| | | 2,4,6-Tribromophenol | 100 | 65.53 | 66 | | 10 | 140 |
| | | Terphenyl-d14 | 100 | 61.93 | 62 | | 14 | 155 |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID: E3854-04MS** | **Client Sample ID: MW-11R-Q3-2013MS** | | | | | | **DataFile: BA050746.D** | | | | |
| n-Nitrosodimethylamine | 51 | 0 | 21.7 | ug/L | 43 | | | | 10 | 160 | |
| Pyridine | 51 | 0 | 18.9 | ug/L | 37 | | | | 10 | 145 | |
| Benzaldehyde | 51 | 0 | 34.1 | ug/L | 67 | | | | 10 | 160 | |
| Aniline | 51 | 0 | 19.1 | ug/L | 37 | * | | | 50 | 150 | |
| Phenol | 51 | 0 | 13.1 | ug/L | 26 | | | | 5 | 112 | |
| bis(2-Chloroethyl)ether | 51 | 0 | 44.4 | ug/L | 87 | | | | 12 | 158 | |
| 2-Chlorophenol | 51 | 0 | 31.4 | ug/L | 62 | | | | 23 | 134 | |
| 1,2-Dichlorobenzene | 51 | 0 | 41.1 | ug/L | 81 | | | | 32 | 129 | |
| 1,3-Dichlorobenzene | 51 | 0 | 40.4 | ug/L | 79 | | | | 1 | 172 | |
| 1,4-Dichlorobenzene | 51 | 0 | 40.6 | ug/L | 80 | | | | 20 | 124 | |
| Benzyl Alcohol | 51 | 0 | 29.8 | ug/L | 58 | | | | 10 | 145 | |
| 2-Methylphenol | 51 | 0 | 29 | ug/L | 57 | | | | 10 | 152 | |
| 2,2-oxybis(1-Chloropropane) | 51 | 0 | 48 | ug/L | 94 | | | | 36 | 166 | |
| Acetophenone | 51 | 0 | 47.1 | ug/L | 92 | | | | 50 | 135 | |
| 3+4-Methylphenols | 51 | 0 | 26.1 | ug/L | 51 | | | | 10 | 152 | |
| N-Nitroso-di-n-propylamine | 51 | 0 | 45.8 | ug/L | 90 | | | | 1 | 230 | |
| Hexachloroethane | 51 | 0 | 41.1 | ug/L | 81 | | | | 40 | 113 | |
| Nitrobenzene | 51 | 0 | 41.8 | ug/L | 82 | | | | 35 | 180 | |
| Isophorone | 51 | 0 | 41.2 | ug/L | 81 | | | | 21 | 196 | |
| 2-Nitrophenol | 51 | 0 | 41.1 | ug/L | 81 | | | | 29 | 182 | |
| 2,4-Dimethylphenol | 51 | 0 | 30.2 | ug/L | 59 | | | | 32 | 119 | |
| bis(2-Chloroethoxy)methane | 51 | 0 | 46.5 | ug/L | 91 | | | | 33 | 184 | |
| 2,4-Dichlorophenol | 51 | 0 | 40.5 | ug/L | 79 | | | | 39 | 135 | |
| 1,2,4-Trichlorobenzene | 51 | 0 | 44.7 | ug/L | 88 | | | | 44 | 142 | |
| Benzoic acid | 51 | 0 | 8.3 | ug/L | 16 | | | | 10 | 145 | |
| Naphthalene | 51 | 0 | 41.2 | ug/L | 81 | | | | 21 | 133 | |
| 4-Chloroaniline | 51 | 0 | 11.4 | ug/L | 22 | | | | 10 | 157 | |
| Hexachlorobutadiene | 51 | 0 | 43.5 | ug/L | 85 | | | | 24 | 116 | |
| Caprolactam | 51 | 0 | 9.8 | ug/L | 19 | | | | 10 | 161 | |
| 4-Chloro-3-methylphenol | 51 | 0 | 35.6 | ug/L | 70 | | | | 22 | 147 | |
| 2-Methylnaphthalene | 51 | 0 | 43 | ug/L | 84 | | | | 41 | 130 | |
| Hexachlorocyclopentadiene | 100 | 0 | 140 | ug/L | 140 | | | | 10 | 218 | |
| 2,4,6-Trichlorophenol | 51 | 0 | 43.8 | ug/L | 86 | | | | 37 | 144 | |
| 2,4,5-Trichlorophenol | 51 | 0 | 46.8 | ug/L | 92 | | | | 10 | 136 | |
| 1,1-Biphenyl | 51 | 0 | 47 | ug/L | 92 | | | | 51 | 126 | |
| 2-Chloronaphthalene | 51 | 0 | 47.2 | ug/L | 93 | | | | 60 | 118 | |
| 2-Nitroaniline | 51 | 0 | 49.4 | ug/L | 97 | | | | 46 | 154 | |
| Dimethylphthalate | 51 | 0 | 52.4 | ug/L | 103 | | | | 1 | 112 | |
| Acenaphthylene | 51 | 0 | 45.4 | ug/L | 89 | | | | 33 | 145 | |
| 2,6-Dinitrotoluene | 51 | 0 | 47.3 | ug/L | 93 | | | | 50 | 158 | |
| 3-Nitroaniline | 51 | 0 | 25.9 | ug/L | 51 | | | | 10 | 152 | |
| Acenaphthene | 51 | 0 | 44.2 | ug/L | 87 | | | | 47 | 145 | |
| 2,4-Dinitrophenol | 100 | 0 | 93.3 | ug/L | 93 | | | | 1 | 191 | |
| 4-Nitrophenol | 100 | 0 | 25.1 | ug/L | 25 | | | | 1 | 132 | |
| Dibenzofuran | 51 | 0 | 46.6 | ug/L | 91 | | | | 44 | 140 | |
| 2,4-Dinitrotoluene | 51 | 0 | 48.7 | ug/L | 95 | | | | 39 | 139 | |
| Diethylphthalate | 51 | 0 | 50.7 | ug/L | 99 | | | | 1 | 114 | |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-Chlorophenyl-phenylether | 51 | 0 | 48.5 | ug/L | 95 | | | | 25 | 158 | |
| Fluorene | 51 | 0 | 47 | ug/L | 92 | | | | 59 | 121 | |
| 4-Nitroaniline | 51 | 0 | 46.2 | ug/L | 91 | | | | 45 | 160 | |
| 4,6-Dinitro-2-methylphenol | 51 | 0 | 39.8 | ug/L | 78 | | | | 1 | 181 | |
| N-Nitrosodiphenylamine | 51 | 0 | 42.4 | ug/L | 83 | | | | 59 | 137 | |
| Azobenzene | 51 | 0 | 46.1 | ug/L | 90 | | | | 70 | 124 | |
| 4-Bromophenyl-phenylether | 51 | 0 | 46.3 | ug/L | 91 | | | | 53 | 127 | |
| Hexachlorobenzene | 51 | 0 | 48.6 | ug/L | 95 | | | | 1 | 152 | |
| Atrazine | 51 | 0 | 52 | ug/L | 102 | | | | 59 | 152 | |
| Pentachlorophenol | 100 | 0 | 86.4 | ug/L | 86 | | | | 14 | 176 | |
| Phenanthrene | 51 | 0 | 45.4 | ug/L | 89 | | | | 54 | 120 | |
| Anthracene | 51 | 0 | 46.3 | ug/L | 91 | | | | 27 | 133 | |
| Carbazole | 51 | 0 | 48.4 | ug/L | 95 | | | | 51 | 160 | |
| Di-n-butylphthalate | 51 | 0 | 48.1 | ug/L | 94 | | | | 1 | 118 | |
| Fluoranthene | 51 | 0 | 46.4 | ug/L | 91 | | | | 26 | 137 | |
| Benzidine | 100 | 0 | 0 | ug/L | 0 | * | | | 10 | 159 | |
| Pyrene | 51 | 0 | 43.9 | ug/L | 86 | | | | 52 | 115 | |
| Butylbenzylphthalate | 51 | 0 | 47.5 | ug/L | 93 | | | | 1 | 152 | |
| 3,3-Dichlorobenzidine | 51 | 0 | 18.2 | ug/L | 36 | | | | 1 | 262 | |
| Benzo(a)anthracene | 51 | 0 | 46.4 | ug/L | 91 | | | | 33 | 143 | |
| Chrysene | 51 | 0 | 45.7 | ug/L | 90 | | | | 17 | 168 | |
| bis(2-Ethylhexyl)phthalate | 51 | 0 | 46.3 | ug/L | 91 | | | | 8 | 158 | |
| Di-n-octyl phthalate | 51 | 0 | 48.5 | ug/L | 95 | | | | 4 | 146 | |
| Benzo(b)fluoranthene | 51 | 0 | 53.4 | ug/L | 105 | | | | 24 | 159 | |
| Benzo(k)fluoranthene | 51 | 0 | 41.8 | ug/L | 82 | | | | 11 | 162 | |
| Benzo(a)pyrene | 51 | 0 | 48.9 | ug/L | 96 | | | | 17 | 163 | |
| Indeno(1,2,3-cd)pyrene | 51 | 0 | 53.5 | ug/L | 105 | | | | 1 | 171 | |
| Dibenz(a,h)anthracene | 51 | 0 | 54.2 | ug/L | 106 | | | | 1 | 227 | |
| Benzo(g,h,i)perylene | 51 | 0 | 49 | ug/L | 96 | | | | 1 | 219 | |
| 1,2,4,5-Tetrachlorobenzene | 51 | 0 | 23.6 | ug/L | 46 | * | | | 70 | 130 | |
| 2,3,4,6-Tetrachlorophenol | 51 | 0 | 52.3 | ug/L | 103 | | | | 70 | 130 | |
| 1,4-Dioxane | 51 | 0 | 18.5 | ug/L | 36 | * | | | 70 | 130 | |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID: E3854-05MSD** | **Client Sample ID: MW-11R-Q3-2013MSD** | | | | | | **DataFile: BA050747.D** | | | | |
| n-Nitrosodimethylamine | 50.5 | 0 | 22.6 | ug/L | 45 | | 5 | | 10 | 160 | 20 |
| Pyridine | 50.5 | 0 | 20.4 | ug/L | 40 | | 8 | | 10 | 145 | 20 |
| Benzaldehyde | 50.5 | 0 | 34.1 | ug/L | 68 | | 1 | | 10 | 160 | 20 |
| Aniline | 50.5 | 0 | 20.1 | ug/L | 40 | * | 8 | | 50 | 150 | 20 |
| Phenol | 50.5 | 0 | 13 | ug/L | 26 | | 0 | | 5 | 112 | 20 |
| bis(2-Chloroethyl)ether | 50.5 | 0 | 47.5 | ug/L | 94 | | 8 | | 12 | 158 | 20 |
| 2-Chlorophenol | 50.5 | 0 | 33.5 | ug/L | 66 | | 6 | | 23 | 134 | 20 |
| 1,2-Dichlorobenzene | 50.5 | 0 | 44.7 | ug/L | 89 | | 9 | | 32 | 129 | 20 |
| 1,3-Dichlorobenzene | 50.5 | 0 | 43.8 | ug/L | 87 | | 10 | | 1 | 172 | 20 |
| 1,4-Dichlorobenzene | 50.5 | 0 | 43.8 | ug/L | 87 | | 8 | | 20 | 124 | 20 |
| Benzyl Alcohol | 50.5 | 0 | 32.3 | ug/L | 64 | | 10 | | 10 | 145 | 20 |
| 2-Methylphenol | 50.5 | 0 | 30.5 | ug/L | 60 | | 5 | | 10 | 152 | 20 |
| 2,2-oxybis(1-Chloropropane) | 50.5 | 0 | 51.1 | ug/L | 101 | | 7 | | 36 | 166 | 20 |
| Acetophenone | 50.5 | 0 | 49.3 | ug/L | 98 | | 6 | | 50 | 135 | 20 |
| 3+4-Methylphenols | 50.5 | 0 | 27.6 | ug/L | 55 | | 8 | | 10 | 152 | 20 |
| N-Nitroso-di-n-propylamine | 50.5 | 0 | 50.7 | ug/L | 100 | | 11 | | 1 | 230 | 20 |
| Hexachloroethane | 50.5 | 0 | 44.7 | ug/L | 89 | | 9 | | 40 | 113 | 20 |
| Nitrobenzene | 50.5 | 0 | 45.1 | ug/L | 89 | | 8 | | 35 | 180 | 20 |
| Isophorone | 50.5 | 0 | 44 | ug/L | 87 | | 7 | | 21 | 196 | 20 |
| 2-Nitrophenol | 50.5 | 0 | 42.7 | ug/L | 85 | | 5 | | 29 | 182 | 20 |
| 2,4-Dimethylphenol | 50.5 | 0 | 32.4 | ug/L | 64 | | 8 | | 32 | 119 | 20 |
| bis(2-Chloroethoxy)methane | 50.5 | 0 | 48.7 | ug/L | 96 | | 5 | | 33 | 184 | 20 |
| 2,4-Dichlorophenol | 50.5 | 0 | 43.3 | ug/L | 86 | | 8 | | 39 | 135 | 20 |
| 1,2,4-Trichlorobenzene | 50.5 | 0 | 46.7 | ug/L | 92 | | 4 | | 44 | 142 | 20 |
| Benzoic acid | 50.5 | 0 | 11.1 | ug/L | 22 | | 32 | * | 10 | 145 | 20 |
| Naphthalene | 50.5 | 0 | 44.2 | ug/L | 88 | | 8 | | 21 | 133 | 20 |
| 4-Chloroaniline | 50.5 | 0 | 9.5 | ug/L | 19 | | 15 | | 10 | 157 | 20 |
| Hexachlorobutadiene | 50.5 | 0 | 45.3 | ug/L | 90 | | 6 | | 24 | 116 | 20 |
| Caprolactam | 50.5 | 0 | 8.4 | ug/L | 17 | | 11 | | 10 | 161 | 20 |
| 4-Chloro-3-methylphenol | 50.5 | 0 | 39.4 | ug/L | 78 | | 11 | | 22 | 147 | 20 |
| 2-Methylnaphthalene | 50.5 | 0 | 46.3 | ug/L | 92 | | 9 | | 41 | 130 | 20 |
| Hexachlorocyclopentadiene | 100 | 0 | 160 | ug/L | 160 | | 13 | | 10 | 218 | 20 |
| 2,4,6-Trichlorophenol | 50.5 | 0 | 45.6 | ug/L | 90 | | 5 | | 37 | 144 | 20 |
| 2,4,5-Trichlorophenol | 50.5 | 0 | 52.6 | ug/L | 104 | | 12 | | 10 | 136 | 20 |
| 1,1-Biphenyl | 50.5 | 0 | 47.5 | ug/L | 94 | | 2 | | 51 | 126 | 20 |
| 2-Chloronaphthalene | 50.5 | 0 | 48.5 | ug/L | 96 | | 3 | | 60 | 118 | 20 |
| 2-Nitroaniline | 50.5 | 0 | 51.3 | ug/L | 102 | | 5 | | 46 | 154 | 20 |
| Dimethylphthalate | 50.5 | 0 | 53.3 | ug/L | 106 | | 3 | | 1 | 112 | 20 |
| Acenaphthylene | 50.5 | 0 | 46.7 | ug/L | 92 | | 3 | | 33 | 145 | 20 |
| 2,6-Dinitrotoluene | 50.5 | 0 | 50.5 | ug/L | 100 | | 7 | | 50 | 158 | 20 |
| 3-Nitroaniline | 50.5 | 0 | 23.4 | ug/L | 46 | | 10 | | 10 | 152 | 20 |
| Acenaphthene | 50.5 | 0 | 45.4 | ug/L | 90 | | 3 | | 47 | 145 | 20 |
| 2,4-Dinitrophenol | 100 | 0 | 110 | ug/L | 110 | | 17 | | 1 | 191 | 20 |
| 4-Nitrophenol | 100 | 0 | 25.4 | ug/L | 25 | | 0 | | 1 | 132 | 20 |
| Dibenzofuran | 50.5 | 0 | 48.5 | ug/L | 96 | | 5 | | 44 | 140 | 20 |
| 2,4-Dinitrotoluene | 50.5 | 0 | 51.2 | ug/L | 101 | | 6 | | 39 | 139 | 20 |
| Diethylphthalate | 50.5 | 0 | 53.8 | ug/L | 107 | | 8 | | 1 | 114 | 20 |

**Matrix Spike/Matrix Spike Duplicate Summary**
**SW-846**

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** SW625

| Parameter | Spike | Sample Result | Result | Units | Rec | Rec Qual | RPD | RPD Qual | Limits Low | Limits High | Limits RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4-Chlorophenyl-phenylether | 50.5 | 0 | 50.1 | ug/L | 99 | | 4 | | 25 | 158 | 20 |
| Fluorene | 50.5 | 0 | 48.1 | ug/L | 95 | | 3 | | 59 | 121 | 20 |
| 4-Nitroaniline | 50.5 | 0 | 45.8 | ug/L | 91 | | 0 | | 45 | 160 | 20 |
| 4,6-Dinitro-2-methylphenol | 50.5 | 0 | 44.8 | ug/L | 89 | | 13 | | 1 | 181 | 20 |
| N-Nitrosodiphenylamine | 50.5 | 0 | 46.3 | ug/L | 92 | | 10 | | 59 | 137 | 20 |
| Azobenzene | 50.5 | 0 | 52.4 | ug/L | 104 | | 14 | | 70 | 124 | 20 |
| 4-Bromophenyl-phenylether | 50.5 | 0 | 50 | ug/L | 99 | | 8 | | 53 | 127 | 20 |
| Hexachlorobenzene | 50.5 | 0 | 52.1 | ug/L | 103 | | 8 | | 1 | 152 | 20 |
| Atrazine | 50.5 | 0 | 53.6 | ug/L | 106 | | 4 | | 59 | 152 | 20 |
| Pentachlorophenol | 100 | 0 | 97.7 | ug/L | 98 | | 13 | | 14 | 176 | 20 |
| Phenanthrene | 50.5 | 0 | 47.8 | ug/L | 95 | | 7 | | 54 | 120 | 20 |
| Anthracene | 50.5 | 0 | 49.7 | ug/L | 98 | | 7 | | 27 | 133 | 20 |
| Carbazole | 50.5 | 0 | 50 | ug/L | 99 | | 4 | | 51 | 160 | 20 |
| Di-n-butylphthalate | 50.5 | 0 | 50.6 | ug/L | 100 | | 6 | | 1 | 118 | 20 |
| Fluoranthene | 50.5 | 0 | 47.6 | ug/L | 94 | | 3 | | 26 | 137 | 20 |
| Benzidine | 100 | 0 | 0 | ug/L | 0 | * | 0 | | 10 | 159 | 20 |
| Pyrene | 50.5 | 0 | 47.5 | ug/L | 94 | | 9 | | 52 | 115 | 20 |
| Butylbenzylphthalate | 50.5 | 0 | 50.8 | ug/L | 101 | | 8 | | 1 | 152 | 20 |
| 3,3-Dichlorobenzidine | 50.5 | 0 | 18.9 | ug/L | 37 | | 3 | | 1 | 262 | 20 |
| Benzo(a)anthracene | 50.5 | 0 | 49.3 | ug/L | 98 | | 7 | | 33 | 143 | 20 |
| Chrysene | 50.5 | 0 | 49.7 | ug/L | 98 | | 9 | | 17 | 168 | 20 |
| bis(2-Ethylhexyl)phthalate | 50.5 | 0 | 49.8 | ug/L | 99 | | 8 | | 8 | 158 | 20 |
| Di-n-octyl phthalate | 50.5 | 0 | 51.3 | ug/L | 102 | | 7 | | 4 | 146 | 20 |
| Benzo(b)fluoranthene | 50.5 | 0 | 55.4 | ug/L | 110 | | 5 | | 24 | 159 | 20 |
| Benzo(k)fluoranthene | 50.5 | 0 | 50.9 | ug/L | 101 | | 21 | * | 11 | 162 | 20 |
| Benzo(a)pyrene | 50.5 | 0 | 53.8 | ug/L | 107 | | 11 | | 17 | 163 | 20 |
| Indeno(1,2,3-cd)pyrene | 50.5 | 0 | 50.7 | ug/L | 100 | | 5 | | 1 | 171 | 20 |
| Dibenz(a,h)anthracene | 50.5 | 0 | 55.8 | ug/L | 110 | | 4 | | 1 | 227 | 20 |
| Benzo(g,h,i)perylene | 50.5 | 0 | 49.4 | ug/L | 98 | | 2 | | 1 | 219 | 20 |
| 1,2,4,5-Tetrachlorobenzene | 50.5 | 0 | 46.3 | ug/L | 92 | | 67 | * | 70 | 130 | 20 |
| 2,3,4,6-Tetrachlorophenol | 50.5 | 0 | 37.4 | ug/L | 74 | | 33 | * | 70 | 130 | 20 |
| 1,4-Dioxane | 50.5 | 0 | 18.9 | ug/L | 37 | * | 3 | | 70 | 130 | 20 |

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# Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** 625 **DataFile:** BA050765.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | RPD Qual | Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PB72483BS | n-Nitrosodimethylamine | 50 | 28.3 | ug/L | 57 | | | | 10 | 156 | |
| | Pyridine | 50 | 27.2 | ug/L | 54 | | | * | 55 | 145 | |
| | Benzaldehyde | 50 | 20.7 | ug/L | 41 | | | | 10 | 161 | |
| | Aniline | 50 | 17 | ug/L | 34 | | | * | 50 | 150 | |
| | Phenol | 50 | 25.8 | ug/L | 52 | | | | 5 | 112 | |
| | bis(2-Chloroethyl)ether | 50 | 29.9 | ug/L | 60 | | | | 12 | 158 | |
| | 2-Chlorophenol | 50 | 25 | ug/L | 50 | | | | 23 | 134 | |
| | 1,2-Dichlorobenzene | 50 | 27.9 | ug/L | 56 | | | | 32 | 129 | |
| | 1,3-Dichlorobenzene | 50 | 27.4 | ug/L | 55 | | | | 1 | 172 | |
| | 1,4-Dichlorobenzene | 50 | 27.1 | ug/L | 54 | | | | 20 | 124 | |
| | Benzyl Alcohol | 50 | 28.2 | ug/L | 56 | | | | 10 | 156 | |
| | 2-Methylphenol | 50 | 26.5 | ug/L | 53 | | | | 15 | 153 | |
| | 2,2-oxybis(1-Chloropropane) | 50 | 29.1 | ug/L | 58 | | | | 36 | 166 | |
| | Acetophenone | 50 | 28.8 | ug/L | 58 | | | | 21 | 128 | |
| | 3+4-Methylphenols | 50 | 27.9 | ug/L | 56 | | | | 10 | 156 | |
| | N-Nitroso-di-n-propylamine | 50 | 27.2 | ug/L | 54 | | | | 1 | 230 | |
| | Hexachloroethane | 50 | 27.7 | ug/L | 55 | | | | 40 | 113 | |
| | Nitrobenzene | 50 | 26 | ug/L | 52 | | | | 35 | 180 | |
| | Isophorone | 50 | 24.2 | ug/L | 48 | | | | 21 | 196 | |
| | 2-Nitrophenol | 50 | 25 | ug/L | 50 | | | | 29 | 182 | |
| | 2,4-Dimethylphenol | 50 | 25.9 | ug/L | 52 | | | | 32 | 119 | |
| | bis(2-Chloroethoxy)methane | 50 | 27.8 | ug/L | 56 | | | | 33 | 184 | |
| | 2,4-Dichlorophenol | 50 | 27.2 | ug/L | 54 | | | | 39 | 135 | |
| | 1,2,4-Trichlorobenzene | 50 | 28.8 | ug/L | 58 | | | | 44 | 142 | |
| | Benzoic acid | 50 | 24.6 | ug/L | 49 | | | | 10 | 159 | |
| | Naphthalene | 50 | 26.7 | ug/L | 53 | | | | 21 | 133 | |
| | 4-Chloroaniline | 50 | 12.2 | ug/L | 24 | | | | 10 | 156 | |
| | Hexachlorobutadiene | 50 | 28.2 | ug/L | 56 | | | | 24 | 116 | |
| | Caprolactam | 50 | 28.7 | ug/L | 57 | | | | 10 | 160 | |
| | 4-Chloro-3-methylphenol | 50 | 24.6 | ug/L | 49 | | | | 22 | 147 | |
| | 2-Methylnaphthalene | 50 | 26.5 | ug/L | 53 | | | | 25 | 124 | |
| | Hexachlorocyclopentadiene | 100 | 90 | ug/L | 90 | | | | 10 | 143 | |
| | 2,4,6-Trichlorophenol | 50 | 27.7 | ug/L | 55 | | | | 37 | 144 | |
| | 2,4,5-Trichlorophenol | 50 | 29.5 | ug/L | 59 | | | | 41 | 120 | |
| | 1,1-Biphenyl | 50 | 29.4 | ug/L | 59 | | | | 20 | 125 | |
| | 2-Chloronaphthalene | 50 | 28.7 | ug/L | 57 | | | * | 60 | 118 | |
| | 2-Nitroaniline | 50 | 28.2 | ug/L | 56 | | | | 38 | 131 | |
| | Dimethylphthalate | 50 | 29 | ug/L | 58 | | | | 1 | 112 | |
| | Acenaphthylene | 50 | 27.1 | ug/L | 54 | | | | 33 | 145 | |
| | 2,6-Dinitrotoluene | 50 | 26 | ug/L | 52 | | | | 50 | 158 | |
| | 3-Nitroaniline | 50 | 20.5 | ug/L | 41 | | | | 24 | 126 | |
| | Acenaphthene | 50 | 26.4 | ug/L | 53 | | | | 47 | 145 | |
| | 2,4-Dinitrophenol | 100 | 58.5 | ug/L | 58 | | | | 1 | 191 | |
| | 4-Nitrophenol | 100 | 49.8 | ug/L | 50 | | | | 1 | 132 | |
| | Dibenzofuran | 50 | 27.5 | ug/L | 55 | | | | 29 | 125 | |
| | 2,4-Dinitrotoluene | 50 | 26.3 | ug/L | 53 | | | | 39 | 139 | |

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# Laboratory Control Sample/Laboratory Control Sample Duplicate Summary
SW-846

**SDG No.:** E3854

**Client:** Cardno ATC

**Analytical Method:** 625 **DataFile:** BA050765.D

| Lab Sample ID | Parameter | Spike | Result | Unit | Rec | RPD | RPD Qual | Limits Low | Limits High | RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| PB72483BS | Diethylphthalate | 50 | 28.6 | ug/L | 57 | | | 1 | 114 | |
| | 4-Chlorophenyl-phenylether | 50 | 29.5 | ug/L | 59 | | | 25 | 158 | |
| | Fluorene | 50 | 27.9 | ug/L | 56 | | * | 59 | 121 | |
| | 4-Nitroaniline | 50 | 24.5 | ug/L | 49 | | * | 50 | 137 | |
| | 4,6-Dinitro-2-methylphenol | 50 | 23.2 | ug/L | 46 | | | 1 | 181 | |
| | N-Nitrosodiphenylamine | 50 | 29.3 | ug/L | 59 | | | 37 | 139 | |
| | Azobenzene | 50 | 26.7 | ug/L | 53 | | | 45 | 134 | |
| | 4-Bromophenyl-phenylether | 50 | 29.3 | ug/L | 59 | | | 53 | 127 | |
| | Hexachlorobenzene | 50 | 28.6 | ug/L | 57 | | | 1 | 152 | |
| | Atrazine | 50 | 31.9 | ug/L | 64 | | | 51 | 130 | |
| | Pentachlorophenol | 100 | 53.4 | ug/L | 53 | | | 14 | 176 | |
| | Phenanthrene | 50 | 27.6 | ug/L | 55 | | | 54 | 120 | |
| | Anthracene | 50 | 28.3 | ug/L | 57 | | | 27 | 133 | |
| | Carbazole | 50 | 27.1 | ug/L | 54 | | * | 60 | 125 | |
| | Di-n-butylphthalate | 50 | 29.5 | ug/L | 59 | | | 1 | 118 | |
| | Fluoranthene | 50 | 27.6 | ug/L | 55 | | | 26 | 137 | |
| | Benzidine | 100 | 29 | ug/L | 29 | | | 10 | 158 | |
| | Pyrene | 50 | 29 | ug/L | 58 | | | 52 | 115 | |
| | Butylbenzylphthalate | 50 | 30.6 | ug/L | 61 | | | 1 | 152 | |
| | 3,3-Dichlorobenzidine | 50 | 19.2 | ug/L | 38 | | | 1 | 262 | |
| | Benzo(a)anthracene | 50 | 27.9 | ug/L | 56 | | | 33 | 143 | |
| | Chrysene | 50 | 27.9 | ug/L | 56 | | | 17 | 168 | |
| | bis(2-Ethylhexyl)phthalate | 50 | 30 | ug/L | 60 | | | 8 | 158 | |
| | Di-n-octyl phthalate | 50 | 30 | ug/L | 60 | | | 4 | 146 | |
| | Benzo(b)fluoranthene | 50 | 27.8 | ug/L | 56 | | | 24 | 159 | |
| | Benzo(k)fluoranthene | 50 | 31.8 | ug/L | 64 | | | 11 | 162 | |
| | Benzo(a)pyrene | 50 | 29.8 | ug/L | 60 | | | 17 | 163 | |
| | Indeno(1,2,3-cd)pyrene | 50 | 28.7 | ug/L | 57 | | | 1 | 171 | |
| | Dibenz(a,h)anthracene | 50 | 30.7 | ug/L | 61 | | | 1 | 227 | |
| | Benzo(g,h,i)perylene | 50 | 30.8 | ug/L | 62 | | | 1 | 219 | |
| | 1,2,4,5-Tetrachlorobenzene | 50 | 28.9 | ug/L | 58 | | * | 70 | 130 | |
| | 2,3,4,6-Tetrachlorophenol | 50 | 29.9 | ug/L | 60 | | * | 70 | 130 | |
| | 1,4-Dioxane | 50 | 21.6 | ug/L | 43 | | * | 70 | 130 | |

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4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

PB72483BL

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

Lab File ID: BA050766.D Lab Sample ID: PB72483BL

Instrument ID: BNA_A Date Extracted: 09/26/2013

Matrix: (soil/water) Water Date Analyzed: 10/01/2013

Level: (low/med) LOW Time Analyzed: 17:57

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|
| MW-2-Q3-2013 | E3854-01 | BA050743.D | 09/27/2013 |
| MW-8-Q3-2013 | E3854-02 | BA050744.D | 09/27/2013 |
| MW-11R-Q3-2013 | E3854-03 | BA050745.D | 09/27/2013 |
| MW-11R-Q3-2013MS | E3854-04MS | BA050746.D | 09/27/2013 |
| MW-11R-Q3-2013MSD | E3854-05MSD | BA050747.D | 09/27/2013 |
| MW-12R-Q3-2013 | E3854-06 | BA050748.D | 09/27/2013 |
| MW-14-Q3-2013 | E3854-07 | BA050749.D | 09/27/2013 |
| MW-15-Q3-2013 | E3854-08 | BA050750.D | 09/27/2013 |
| MW-16-Q3-2013 | E3854-09 | BA050751.D | 09/28/2013 |
| FBQ3-2013 | E3854-10 | BA050752.D | 09/28/2013 |
| DUPQ3-2013 | E3854-11 | BA050753.D | 09/28/2013 |
| PB72483BS | PB72483BS | BA050765.D | 10/01/2013 |

COMMENTS:

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM SAS No.: E3854 SDG NO.: E3854

Lab File ID: BA050734.D DFTPP Injection Date: 09/27/2013

Instrument ID: BNA_A DFTPP Injection Time: 12:21

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 10.0 - 80.0% of mass 198 | 43.3 |
| 68 | Less than 2.0% of mass 69 | 0.3 ( 0.5 ) 1 |
| 69 | Mass 69 relative abundance | 56.2 |
| 70 | Less than 2.0% of mass 69 | 0.0 ( 0.0 ) 1 |
| 127 | 10.0 - 80.0% of mass 198 | 45.3 |
| 197 | Less than 2.0% of mass 198 | 0.0 |
| 198 | Base Peak, 100% relative abundance | 100 |
| 199 | 5.0 to 9.0% of mass 198 | 6.1 |
| 275 | 10.0 - 60.0% of mass 198 | 19.4 |
| 365 | Greater than 1% of mass 198 | 1.3 |
| 441 | Present, but less than mass 443 | 6.6 |
| 442 | Greater than 50% of mass 198 | 46.7 |
| 443 | 15.0 - 24.0% of mass 442 | 9.4 (20.1) 2 |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| SSTDICC060 | SSTDICC060 | BA050735.D | 09/27/2013 | 13:05 |
| SSTDICC040 | SSTDICC040 | BA050736.D | 09/27/2013 | 13:44 |
| SSTDICCC025 | SSTDICCC025 | BA050737.D | 09/27/2013 | 14:22 |
| SSTDICC010 | SSTDICC010 | BA050738.D | 09/27/2013 | 15:00 |
| SSTDICC2.5 | SSTDICC2.5 | BA050739.D | 09/27/2013 | 15:38 |
| MW-2-Q3-2013 | E3854-01 | BA050743.D | 09/27/2013 | 19:27 |
| MW-8-Q3-2013 | E3854-02 | BA050744.D | 09/27/2013 | 20:04 |
| MW-11R-Q3-2013 | E3854-03 | BA050745.D | 09/27/2013 | 20:42 |
| MW-11R-Q3-2013MS | E3854-04MS | BA050746.D | 09/27/2013 | 21:19 |
| MW-11R-Q3-2013MSD | E3854-05MSD | BA050747.D | 09/27/2013 | 21:57 |
| MW-12R-Q3-2013 | E3854-06 | BA050748.D | 09/27/2013 | 22:34 |
| MW-14-Q3-2013 | E3854-07 | BA050749.D | 09/27/2013 | 23:12 |
| MW-15-Q3-2013 | E3854-08 | BA050750.D | 09/27/2013 | 23:49 |
| MW-16-Q3-2013 | E3854-09 | BA050751.D | 09/28/2013 | 00:27 |
| FBQ3-2013 | E3854-10 | BA050752.D | 09/28/2013 | 01:04 |
| DUPQ3-2013 | E3854-11 | BA050753.D | 09/28/2013 | 01:41 |
| MW-2-Q3-2013DL | E3854-01DL | BA050754.D | 09/28/2013 | 02:20 |
| MW-8-Q3-2013DL | E3854-02DL | BA050755.D | 09/28/2013 | 02:57 |
| MW-8-Q3-2013DL2 | E3854-02DL2 | BA050756.D | 09/28/2013 | 03:35 |

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5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM SAS No.: E3854 SDG NO.: E3854

Lab File ID: BA050757.D DFTPP Injection Date: 10/01/2013

Instrument ID: BNA_A DFTPP Injection Time: 09:59

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 10.0 - 80.0% of mass 198 | 42.8 |
| 68 | Less than 2.0% of mass 69 | 0.0 ( 0.0 ) 1 |
| 69 | Mass 69 relative abundance | 54.3 |
| 70 | Less than 2.0% of mass 69 | 0.2 ( 0.4 ) 1 |
| 127 | 10.0 - 80.0% of mass 198 | 44.6 |
| 197 | Less than 2.0% of mass 198 | 0.0 |
| 198 | Base Peak, 100% relative abundance | 100 |
| 199 | 5.0 to 9.0% of mass 198 | 6.8 |
| 275 | 10.0 - 60.0% of mass 198 | 20 |
| 365 | Greater than 1% of mass 198 | 1.6 |
| 441 | Present, but less than mass 443 | 8.4 |
| 442 | Greater than 50% of mass 198 | 57.1 |
| 443 | 15.0 - 24.0% of mass 442 | 11.1 (19.4) 2 |

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

| EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| SSTDICC040 | SSTDICC040 | BA050759.D | 10/01/2013 | 11:34 |
| SSTDICCC025 | SSTDICCC025 | BA050760.D | 10/01/2013 | 12:12 |
| SSTDICC010 | SSTDICC010 | BA050761.D | 10/01/2013 | 12:50 |
| SSTDICC2.5 | SSTDICC2.5 | BA050762.D | 10/01/2013 | 13:28 |
| SSTDICC060 | SSTDICC060 | BA050763.D | 10/01/2013 | 14:45 |
| PB72483BS | PB72483BS | BA050765.D | 10/01/2013 | 17:19 |
| PB72483BL | PB72483BL | BA050766.D | 10/01/2013 | 17:57 |

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

EPA Sample No.: SSTDICCC025 Date Analyzed: 09/27/2013

Lab File ID: BA050737.D Time Analyzed: 14:22

Instrument ID: BNA_A GC Column: RTX-5 ID: 0.32 (mm)

| | | IS1 (DCB) AREA # | RT # | IS2 (NPT) AREA # | RT # | IS3 (ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 120431 | 6.67 | 457677 | 8.54 | 258637 | 11.21 |
| | UPPER LIMIT | 240862 | 7.17 | 915354 | 9.04 | 517274 | 11.71 |
| | LOWER LIMIT | 60215.5 | 6.17 | 228839 | 8.04 | 129319 | 10.71 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | MW-2-Q3-2013 | 74477 | 6.66 | 289088 | 8.53 | 168369 | 11.2 |
| 02 | MW-2-Q3-2013DL | 109411 | 6.65 | 426478 | 8.54 | 244397 | 11.2 |
| 03 | MW-8-Q3-2013 | 100843 | 6.67 | 306371 | 8.59 | 249603 | 11.22 |
| 04 | MW-8-Q3-2013DL | 107574 | 6.66 | 421722 | 8.55 | 249035 | 11.21 |
| 05 | MW-8-Q3-2013DL2 | 112224 | 6.66 | 434920 | 8.53 | 245371 | 11.2 |
| 06 | MW-11R-Q3-2013 | 103659 | 6.66 | 387647 | 8.53 | 205569 | 11.19 |
| 07 | MW-11R-Q3-2013MS | 108144 | 6.67 | 415323 | 8.54 | 223122 | 11.21 |
| 08 | MW-11R-Q3-2013MSD | 107857 | 6.68 | 432220 | 8.55 | 251512 | 11.21 |
| 09 | MW-12R-Q3-2013 | 112868 | 6.66 | 435550 | 8.53 | 244132 | 11.2 |
| 10 | MW-14-Q3-2013 | 120601 | 6.66 | 469901 | 8.53 | 283471 | 11.21 |
| 11 | MW-15-Q3-2013 | 112063 | 6.67 | 429856 | 8.54 | 241711 | 11.2 |
| 12 | MW-16-Q3-2013 | 114672 | 6.67 | 424524 | 8.54 | 219663 | 11.2 |
| 13 | FBQ3-2013 | 107686 | 6.66 | 402038 | 8.54 | 210547 | 11.2 |
| 14 | DUPQ3-2013 | 106861 | 6.65 | 401662 | 8.53 | 216683 | 11.2 |

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

EPA Sample No.: SSTDICCC025 Date Analyzed: 09/27/2013

Lab File ID: BA050737.D Time Analyzed: 14:22

Instrument ID: BNA_A GC Column: RTX-5 ID: 0.32 (mm)

| | | IS4 (PHN) AREA # | RT # | IS5 (CRY) AREA # | RT # | IS6 (PRY) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 446217 | 13.94 | 368100 | 19.52 | 215153 | 22.47 |
| | UPPER LIMIT | 892434 | 14.44 | 736200 | 20.02 | 430306 | 22.97 |
| | LOWER LIMIT | 223109 | 13.44 | 184050 | 19.02 | 107577 | 21.97 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | MW-2-Q3-2013 | 320084 | 13.95 | 258178 | 19.52 | 132147 | 22.47 |
| 02 | MW-2-Q3-2013DL | 417423 | 13.94 | 314566 | 19.49 | 183238 | 22.47 |
| 03 | MW-8-Q3-2013 | 432569 | 13.97 | 298260 | 19.55 | 130122 | 22.49 |
| 04 | MW-8-Q3-2013DL | 426709 | 13.93 | 325260 | 19.50 | 180695 | 22.47 |
| 05 | MW-8-Q3-2013DL2 | 406908 | 13.93 | 263431 | 19.50 | 137306 | 22.46 |
| 06 | MW-11R-Q3-2013 | 346664 | 13.93 | 252665 | 19.49 | 146950 | 22.46 |
| 07 | MW-11R-Q3-2013MS | 386418 | 13.95 | 331653 | 19.53 | 208757 | 22.49 |
| 08 | MW-11R-Q3-2013MSD | 420294 | 13.95 | 334884 | 19.54 | 193669 | 22.48 |
| 09 | MW-12R-Q3-2013 | 397233 | 13.93 | 260724 | 19.49 | 144783 | 22.46 |
| 10 | MW-14-Q3-2013 | 459707 | 13.95 | 341841 | 19.50 | 185503 | 22.47 |
| 11 | MW-15-Q3-2013 | 416422 | 13.94 | 300205 | 19.49 | 167029 | 22.46 |
| 12 | MW-16-Q3-2013 | 340692 | 13.94 | 238666 | 19.49 | 146972 | 22.46 |
| 13 | FBQ3-2013 | 327015 | 13.94 | 221898 | 19.49 | 121134 | 22.46 |
| 14 | DUPQ3-2013 | 351944 | 13.94 | 268849 | 19.49 | 163533 | 22.46 |

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

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8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

EPA Sample No.: SSTDICCC025 Date Analyzed: 10/01/2013

Lab File ID: BA050760.D Time Analyzed: 12:12

Instrument ID: BNA_A GC Column: RTX-5 ID: 0.32 (mm)

| | | IS1 (DCB) AREA # | RT # | IS2 (NPT) AREA # | RT # | IS3 (ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 195746 | 6.69 | 781844 | 8.56 | 438939 | 11.23 |
| | UPPER LIMIT | 391492 | 7.19 | 1563690 | 9.06 | 877878 | 11.73 |
| | LOWER LIMIT | 97873 | 6.19 | 390922 | 8.06 | 219470 | 10.73 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | PB72483BL | 139926 | 6.69 | 523720 | 8.55 | 280711 | 11.22 |
| 02 | PB72483BS | 129929 | 6.70 | 505621 | 8.56 | 272544 | 11.23 |

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: CHEMTECH

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG NO.: E3854

EPA Sample No.: SSTDICCC025 Date Analyzed: 10/01/2013

Lab File ID: BA050760.D Time Analyzed: 12:12

Instrument ID: BNA_A GC Column: RTX-5 ID: 0.32 (mm)

| | | IS4 (PHN) AREA # | RT # | IS5 (CRY) AREA # | RT # | IS6 (PRY) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 714848 | 13.97 | 617743 | 19.55 | 454983 | 22.52 |
| | UPPER LIMIT | 1429700 | 14.47 | 1235490 | 20.05 | 909966 | 23.02 |
| | LOWER LIMIT | 357424 | 13.47 | 308872 | 19.05 | 227492 | 22.02 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | PB72483BL | 449620 | 13.96 | 346010 | 19.53 | 231136 | 22.51 |
| 02 | PB72483BS | 435345 | 13.97 | 348906 | 19.55 | 236091 | 22.50 |

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT UPPER LIMIT = -0.50 minutes of internal standard RT

# Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

# QC SAMPLE DATA

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB72483BL | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050766.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 5.9 | U | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 0.46 | U | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 0.18 | U | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 0.32 | U | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 1.8 | U | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 0.35 | U | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 0.2 | U | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 0.58 | U | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 0.25 | U | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 0.65 | U | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 0.41 | U | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 4.4 | U | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 0.7 | U | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 1.1 | U | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 3.2 | U | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.14 | U | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 3.2 | U | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 2.6 | U | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 2 | U | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 1.7 | U | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 0.19 | U | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB72483BL | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BL | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050766.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 1.5 | U | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 2.3 | U | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 0.26 | U | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 4.2 | U | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 0.16 | U | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 2 | U | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 1.9 | U | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 3.9 | U | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 2.1 | U | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 0.1 | U | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 0.27 | U | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 0.15 | U | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 2.5 | U | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 1.9 | U | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 0.8 | U | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 0.42 | U | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 0.56 | U | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 2.7 | U | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 0.11 | U | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 0.3 | U | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 0.47 | U | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 0.59 | U | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 0.84 | U | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.7 | U | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB72483BL | | | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BL | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050766.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 0.22 | U | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 3.6 | U | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 0.12 | U | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 0.24 | U | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 0.29 | U | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 0.31 | U | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 0.17 | U | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.66 | U | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.28 | U | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 0.13 | U | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 0.37 | U | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 5 | U | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 5 | U | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 85.8 | | 10 - 160 | | 86% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 84.4 | | 10 - 161 | | 84% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 84 | | 25 - 124 | | 84% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 90.5 | | 20 - 129 | | 90% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 85.5 | | 10 - 140 | | 86% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 100 | | 14 - 155 | | 103% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 139926 | 6.69 | | | | |
| 1146-65-2 | Naphthalene-d8 | 523720 | 8.55 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 280711 | 11.22 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 449620 | 13.96 | | | | |
| 1719-03-5 | Chrysene-d12 | 346010 | 19.53 | | | | |
| 1520-96-3 | Perylene-d12 | 231136 | 22.51 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB72483BL | | | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BL | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050766.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB72483BS | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050765.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 28.3 | | 2.7 | 5 | 10 | ug/L |
| 110-86-1 | Pyridine | 27.2 | | 5.9 | 12.5 | 25 | ug/L |
| 100-52-7 | Benzaldehyde | 20.7 | | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 17 | | 3.9 | 5 | 10 | ug/L |
| 108-95-2 | Phenol | 25.8 | | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 29.9 | | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 25 | | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 27.9 | | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 27.4 | | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 27.1 | | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 28.2 | | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 26.5 | | 1.8 | 5 | 10 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 29.1 | | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 28.8 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 27.9 | | 0.58 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 27.2 | | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 27.7 | | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 26 | | 0.65 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 24.2 | | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 25 | | 4.4 | 5 | 10 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 25.9 | | 0.7 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 27.8 | | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 27.2 | | 3.2 | 5 | 10 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 28.8 | | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 24.6 | J | 3.2 | 12.5 | 25 | ug/L |
| 91-20-3 | Naphthalene | 26.7 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 12.2 | | 2.6 | 5 | 10 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 28.2 | | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 28.7 | | 2 | 5 | 10 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 24.6 | | 1.7 | 5 | 10 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 26.5 | | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | |
| Project: | Avalon- WP9 | Date Received: | |
| Client Sample ID: | PB72483BS | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050765.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 90 | E | 1.5 | 5 | 10 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 27.7 | | 2.1 | 5 | 10 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 29.5 | | 2.3 | 5 | 10 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 29.4 | | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 28.7 | | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 28.2 | | 4.2 | 5 | 10 | ug/L |
| 131-11-3 | Dimethylphthalate | 29 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 27.1 | | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 26 | | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 20.5 | | 2 | 5 | 10 | ug/L |
| 83-32-9 | Acenaphthene | 26.4 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 58.5 | | 1.9 | 12.5 | 25 | ug/L |
| 100-02-7 | 4-Nitrophenol | 49.8 | | 3.9 | 5 | 10 | ug/L |
| 132-64-9 | Dibenzofuran | 27.5 | | 2.1 | 5 | 10 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 26.3 | | 2.1 | 5 | 10 | ug/L |
| 84-66-2 | Diethylphthalate | 28.6 | | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 29.5 | | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 27.9 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 24.5 | | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 23.2 | | 1.9 | 5 | 10 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 29.3 | | 0.8 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 26.7 | | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 29.3 | | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 28.6 | | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 31.9 | | 0.56 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 53.4 | | 2.7 | 5 | 10 | ug/L |
| 85-01-8 | Phenanthrene | 27.6 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 28.3 | | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 27.1 | | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 29.5 | | 0.59 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 27.6 | | 0.84 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 29 | | 8.7 | 12.5 | 25 | ug/L |
| 129-00-0 | Pyrene | 29 | | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB72483BS | | | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BS | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050765.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 30.6 | | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 19.2 | | 3.6 | 5 | 10 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 27.9 | | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 27.9 | | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 30 | | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 30 | | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 27.8 | | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 31.8 | | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 29.8 | | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 28.7 | | 0.66 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 30.7 | | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 30.8 | | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 28.9 | | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 29.9 | | 5 | 5 | 10 | ug/L |
| 123-91-1 | 1,4-Dioxane | 21.6 | | 5 | 5 | 10 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 54.8 | | 10 - 160 | | 55% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 52.9 | | 10 - 161 | | 53% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 53.3 | | 25 - 124 | | 53% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 59.6 | | 20 - 129 | | 60% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 65.5 | | 10 - 140 | | 66% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 61.9 | | 14 - 155 | | 62% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 129929 | 6.7 | | | | |
| 1146-65-2 | Naphthalene-d8 | 505621 | 8.56 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 272544 | 11.23 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 435345 | 13.97 | | | | |
| 1719-03-5 | Chrysene-d12 | 348906 | 19.55 | | | | |
| 1520-96-3 | Perylene-d12 | 236091 | 22.5 | | | | |

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# Report of Analysis

| | | | | | |
|---|---|---|---|---|---|
| Client: | Cardno ATC | | | Date Collected: | |
| Project: | Avalon- WP9 | | | Date Received: | |
| Client Sample ID: | PB72483BS | | | SDG No.: | E3854 |
| Lab Sample ID: | PB72483BS | | | Matrix: | Water |
| Analytical Method: | 625 | | | % Moisture: | 100 |
| Sample Wt/Vol: | 1000 | Units: | mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | | | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | | | Decanted : N | Level : | LOW |
| Injection Volume : | | | GPC Factor : 1.0 | GPC Cleanup : N | PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050765.D | 1 | 09/26/13 | 10/01/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050746.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 21.7 | | 2.7 | 5.1 | 10.2 | ug/L |
| 110-86-1 | Pyridine | 18.9 | J | 6 | 12.8 | 25.5 | ug/L |
| 100-52-7 | Benzaldehyde | 34.1 | | 0.29 | 1.3 | 2.6 | ug/L |
| 62-53-3 | Aniline | 19.1 | | 3.9 | 5.1 | 10.2 | ug/L |
| 108-95-2 | Phenol | 13.1 | | 0.47 | 1.3 | 2.6 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 44.4 | | 0.36 | 1.3 | 2.6 | ug/L |
| 95-57-8 | 2-Chlorophenol | 31.4 | | 0.19 | 1.3 | 2.6 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 41.1 | | 0.26 | 1.3 | 2.6 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 40.4 | | 0.12 | 1.3 | 2.6 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 40.6 | | 0.18 | 1.3 | 2.6 | ug/L |
| 100-51-6 | Benzyl Alcohol | 29.8 | | 0.33 | 1.3 | 2.6 | ug/L |
| 95-48-7 | 2-Methylphenol | 29 | | 1.8 | 5.1 | 10.2 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 48 | | 0.36 | 1.3 | 2.6 | ug/L |
| 98-86-2 | Acetophenone | 47.1 | | 0.2 | 1.3 | 2.6 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 26.1 | | 0.59 | 1.3 | 2.6 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 45.8 | | 0.22 | 1.3 | 2.6 | ug/L |
| 67-72-1 | Hexachloroethane | 41.1 | | 0.26 | 1.3 | 2.6 | ug/L |
| 98-95-3 | Nitrobenzene | 41.8 | | 0.66 | 1.3 | 2.6 | ug/L |
| 78-59-1 | Isophorone | 41.2 | | 0.42 | 1.3 | 2.6 | ug/L |
| 88-75-5 | 2-Nitrophenol | 41.1 | | 4.5 | 5.1 | 10.2 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 30.2 | | 0.71 | 1.3 | 2.6 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 46.5 | | 1.1 | 1.3 | 2.6 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 40.5 | | 3.3 | 5.1 | 10.2 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 44.7 | | 0.14 | 1.3 | 2.6 | ug/L |
| 65-85-0 | Benzoic acid | 8.3 | J | 3.3 | 12.8 | 25.5 | ug/L |
| 91-20-3 | Naphthalene | 41.2 | | 0.19 | 1.3 | 2.6 | ug/L |
| 106-47-8 | 4-Chloroaniline | 11.4 | | 2.7 | 5.1 | 10.2 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 43.5 | | 0.17 | 1.3 | 2.6 | ug/L |
| 105-60-2 | Caprolactam | 9.8 | J | 2 | 5.1 | 10.2 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 35.6 | | 1.8 | 5.1 | 10.2 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 43 | | 0.19 | 1.3 | 2.6 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050746.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 140 | E | 1.5 | 5.1 | 10.2 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 43.8 | | 2.2 | 5.1 | 10.2 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 46.8 | | 2.3 | 5.1 | 10.2 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 47 | | 0.27 | 1.3 | 2.6 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 47.2 | | 0.15 | 1.3 | 2.6 | ug/L |
| 88-74-4 | 2-Nitroaniline | 49.4 | | 4.3 | 5.1 | 10.2 | ug/L |
| 131-11-3 | Dimethylphthalate | 52.4 | | 0.17 | 1.3 | 2.6 | ug/L |
| 208-96-8 | Acenaphthylene | 45.4 | | 0.16 | 1.3 | 2.6 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 47.3 | | 0.28 | 1.3 | 2.6 | ug/L |
| 99-09-2 | 3-Nitroaniline | 25.9 | | 2.1 | 5.1 | 10.2 | ug/L |
| 83-32-9 | Acenaphthene | 44.2 | | 0.17 | 1.3 | 2.6 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 93.3 | E | 1.9 | 12.8 | 25.5 | ug/L |
| 100-02-7 | 4-Nitrophenol | 25.1 | | 3.9 | 5.1 | 10.2 | ug/L |
| 132-64-9 | Dibenzofuran | 46.6 | | 2.2 | 5.1 | 10.2 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 48.7 | | 2.2 | 5.1 | 10.2 | ug/L |
| 84-66-2 | Diethylphthalate | 50.7 | | 0.1 | 1.3 | 2.6 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 48.5 | | 0.28 | 1.3 | 2.6 | ug/L |
| 86-73-7 | Fluorene | 47 | | 0.15 | 1.3 | 2.6 | ug/L |
| 100-01-6 | 4-Nitroaniline | 46.2 | | 2.5 | 1.3 | 2.6 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 39.8 | | 1.9 | 5.1 | 10.2 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 42.4 | | 0.82 | 1.3 | 2.6 | ug/L |
| 103-33-3 | Azobenzene | 46.1 | | 0.22 | 1.3 | 2.6 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 46.3 | | 0.43 | 1.3 | 2.6 | ug/L |
| 118-74-1 | Hexachlorobenzene | 48.6 | | 0.22 | 1.3 | 2.6 | ug/L |
| 1912-24-9 | Atrazine | 52 | | 0.57 | 1.3 | 2.6 | ug/L |
| 87-86-5 | Pentachlorophenol | 86.4 | E | 2.7 | 5.1 | 10.2 | ug/L |
| 85-01-8 | Phenanthrene | 45.4 | | 0.11 | 1.3 | 2.6 | ug/L |
| 120-12-7 | Anthracene | 46.3 | | 0.31 | 1.3 | 2.6 | ug/L |
| 86-74-8 | Carbazole | 48.4 | | 0.48 | 1.3 | 2.6 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 48.1 | | 0.6 | 1.3 | 2.6 | ug/L |
| 206-44-0 | Fluoranthene | 46.4 | | 0.86 | 1.3 | 2.6 | ug/L |
| 92-87-5 | Benzidine | 8.9 | U | 8.9 | 12.8 | 25.5 | ug/L |
| 129-00-0 | Pyrene | 43.9 | | 0.13 | 1.3 | 2.6 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050746.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 47.5 | | 0.22 | 1.3 | 2.6 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 18.2 | | 3.7 | 5.1 | 10.2 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 46.4 | | 0.12 | 1.3 | 2.6 | ug/L |
| 218-01-9 | Chrysene | 45.7 | | 0.24 | 1.3 | 2.6 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 46.3 | | 0.3 | 1.3 | 2.6 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 48.5 | | 0.32 | 1.3 | 2.6 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 53.4 | | 0.17 | 1.3 | 2.6 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 41.8 | | 0.29 | 1.3 | 2.6 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 48.9 | | 0.17 | 1.3 | 2.6 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 53.5 | | 0.67 | 1.3 | 2.6 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 54.2 | | 0.29 | 1.3 | 2.6 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 49 | | 0.13 | 1.3 | 2.6 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 23.6 | | 0.38 | 1.3 | 2.6 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 52.3 | | 5.1 | 5.1 | 10.2 | ug/L |
| 123-91-1 | 1,4-Dioxane | 18.5 | | 5.1 | 5.1 | 10.2 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 38.7 | | 10 - 160 | | 39% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 23.7 | | 10 - 161 | | 24% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 85 | | 25 - 124 | | 85% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 91.1 | | 20 - 129 | | 91% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 96.2 | | 10 - 140 | | 96% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 84.6 | | 14 - 155 | | 85% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 108144 | 6.67 | | | | |
| 1146-65-2 | Naphthalene-d8 | 415323 | 8.54 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 223122 | 11.21 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 386418 | 13.95 | | | | |
| 1719-03-5 | Chrysene-d12 | 331653 | 19.53 | | | | |
| 1520-96-3 | Perylene-d12 | 208757 | 22.49 | | | | |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MS | SDG No.: | E3854 |
| Lab Sample ID: | E3854-04MS | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 980 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050746.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050747.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| **TARGETS** | | | | | | | |
| 62-75-9 | n-Nitrosodimethylamine | 22.6 | | 2.7 | 5.1 | 10.1 | ug/L |
| 110-86-1 | Pyridine | 20.4 | J | 5.9 | 12.6 | 25.3 | ug/L |
| 100-52-7 | Benzaldehyde | 34.1 | | 0.28 | 1.3 | 2.5 | ug/L |
| 62-53-3 | Aniline | 20.1 | | 3.9 | 5.1 | 10.1 | ug/L |
| 108-95-2 | Phenol | 13 | | 0.46 | 1.3 | 2.5 | ug/L |
| 111-44-4 | bis(2-Chloroethyl)ether | 47.5 | | 0.35 | 1.3 | 2.5 | ug/L |
| 95-57-8 | 2-Chlorophenol | 33.5 | | 0.19 | 1.3 | 2.5 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | 44.7 | | 0.25 | 1.3 | 2.5 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | 43.8 | | 0.12 | 1.3 | 2.5 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | 43.8 | | 0.18 | 1.3 | 2.5 | ug/L |
| 100-51-6 | Benzyl Alcohol | 32.3 | | 0.32 | 1.3 | 2.5 | ug/L |
| 95-48-7 | 2-Methylphenol | 30.5 | | 1.8 | 5.1 | 10.1 | ug/L |
| 108-60-1 | 2,2-oxybis(1-Chloropropane) | 51.1 | | 0.35 | 1.3 | 2.5 | ug/L |
| 98-86-2 | Acetophenone | 49.3 | | 0.2 | 1.3 | 2.5 | ug/L |
| 65794-96-9 | 3+4-Methylphenols | 27.6 | | 0.59 | 1.3 | 2.5 | ug/L |
| 621-64-7 | n-Nitroso-di-n-propylamine | 50.7 | | 0.22 | 1.3 | 2.5 | ug/L |
| 67-72-1 | Hexachloroethane | 44.7 | | 0.25 | 1.3 | 2.5 | ug/L |
| 98-95-3 | Nitrobenzene | 45.1 | | 0.66 | 1.3 | 2.5 | ug/L |
| 78-59-1 | Isophorone | 44 | | 0.41 | 1.3 | 2.5 | ug/L |
| 88-75-5 | 2-Nitrophenol | 42.7 | | 4.4 | 5.1 | 10.1 | ug/L |
| 105-67-9 | 2,4-Dimethylphenol | 32.4 | | 0.71 | 1.3 | 2.5 | ug/L |
| 111-91-1 | bis(2-Chloroethoxy)methane | 48.7 | | 1.1 | 1.3 | 2.5 | ug/L |
| 120-83-2 | 2,4-Dichlorophenol | 43.3 | | 3.2 | 5.1 | 10.1 | ug/L |
| 120-82-1 | 1,2,4-Trichlorobenzene | 46.7 | | 0.14 | 1.3 | 2.5 | ug/L |
| 65-85-0 | Benzoic acid | 11.1 | J | 3.3 | 12.6 | 25.3 | ug/L |
| 91-20-3 | Naphthalene | 44.2 | | 0.19 | 1.3 | 2.5 | ug/L |
| 106-47-8 | 4-Chloroaniline | 9.5 | J | 2.7 | 5.1 | 10.1 | ug/L |
| 87-68-3 | Hexachlorobutadiene | 45.3 | | 0.17 | 1.3 | 2.5 | ug/L |
| 105-60-2 | Caprolactam | 8.4 | J | 2 | 5.1 | 10.1 | ug/L |
| 59-50-7 | 4-Chloro-3-methylphenol | 39.4 | | 1.7 | 5.1 | 10.1 | ug/L |
| 91-57-6 | 2-Methylnaphthalene | 46.3 | | 0.19 | 1.3 | 2.5 | ug/L |

# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050747.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 77-47-4 | Hexachlorocyclopentadiene | 160 | E | 1.5 | 5.1 | 10.1 | ug/L |
| 88-06-2 | 2,4,6-Trichlorophenol | 45.6 | | 2.1 | 5.1 | 10.1 | ug/L |
| 95-95-4 | 2,4,5-Trichlorophenol | 52.6 | | 2.3 | 5.1 | 10.1 | ug/L |
| 92-52-4 | 1,1-Biphenyl | 47.5 | | 0.26 | 1.3 | 2.5 | ug/L |
| 91-58-7 | 2-Chloronaphthalene | 48.5 | | 0.15 | 1.3 | 2.5 | ug/L |
| 88-74-4 | 2-Nitroaniline | 51.3 | | 4.3 | 5.1 | 10.1 | ug/L |
| 131-11-3 | Dimethylphthalate | 53.3 | | 0.17 | 1.3 | 2.5 | ug/L |
| 208-96-8 | Acenaphthylene | 46.7 | | 0.16 | 1.3 | 2.5 | ug/L |
| 606-20-2 | 2,6-Dinitrotoluene | 50.5 | | 0.27 | 1.3 | 2.5 | ug/L |
| 99-09-2 | 3-Nitroaniline | 23.4 | | 2 | 5.1 | 10.1 | ug/L |
| 83-32-9 | Acenaphthene | 45.4 | | 0.17 | 1.3 | 2.5 | ug/L |
| 51-28-5 | 2,4-Dinitrophenol | 110 | E | 1.9 | 12.6 | 25.3 | ug/L |
| 100-02-7 | 4-Nitrophenol | 25.4 | | 3.9 | 5.1 | 10.1 | ug/L |
| 132-64-9 | Dibenzofuran | 48.5 | | 2.1 | 5.1 | 10.1 | ug/L |
| 121-14-2 | 2,4-Dinitrotoluene | 51.2 | | 2.1 | 5.1 | 10.1 | ug/L |
| 84-66-2 | Diethylphthalate | 53.8 | | 0.1 | 1.3 | 2.5 | ug/L |
| 7005-72-3 | 4-Chlorophenyl-phenylether | 50.1 | | 0.27 | 1.3 | 2.5 | ug/L |
| 86-73-7 | Fluorene | 48.1 | | 0.15 | 1.3 | 2.5 | ug/L |
| 100-01-6 | 4-Nitroaniline | 45.8 | | 2.5 | 1.3 | 2.5 | ug/L |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | 44.8 | | 1.9 | 5.1 | 10.1 | ug/L |
| 86-30-6 | n-Nitrosodiphenylamine | 46.3 | | 0.81 | 1.3 | 2.5 | ug/L |
| 103-33-3 | Azobenzene | 52.4 | | 0.22 | 1.3 | 2.5 | ug/L |
| 101-55-3 | 4-Bromophenyl-phenylether | 50 | | 0.42 | 1.3 | 2.5 | ug/L |
| 118-74-1 | Hexachlorobenzene | 52.1 | | 0.22 | 1.3 | 2.5 | ug/L |
| 1912-24-9 | Atrazine | 53.6 | | 0.57 | 1.3 | 2.5 | ug/L |
| 87-86-5 | Pentachlorophenol | 97.7 | E | 2.7 | 5.1 | 10.1 | ug/L |
| 85-01-8 | Phenanthrene | 47.8 | | 0.11 | 1.3 | 2.5 | ug/L |
| 120-12-7 | Anthracene | 49.7 | | 0.3 | 1.3 | 2.5 | ug/L |
| 86-74-8 | Carbazole | 50 | | 0.47 | 1.3 | 2.5 | ug/L |
| 84-74-2 | Di-n-butylphthalate | 50.6 | | 0.6 | 1.3 | 2.5 | ug/L |
| 206-44-0 | Fluoranthene | 47.6 | | 0.85 | 1.3 | 2.5 | ug/L |
| 92-87-5 | Benzidine | 8.8 | U | 8.8 | 12.6 | 25.3 | ug/L |
| 129-00-0 | Pyrene | 47.5 | | 0.13 | 1.3 | 2.5 | ug/L |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050747.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|
| 85-68-7 | Butylbenzylphthalate | 50.8 | | 0.22 | 1.3 | 2.5 | ug/L |
| 91-94-1 | 3,3-Dichlorobenzidine | 18.9 | | 3.6 | 5.1 | 10.1 | ug/L |
| 56-55-3 | Benzo(a)anthracene | 49.3 | | 0.12 | 1.3 | 2.5 | ug/L |
| 218-01-9 | Chrysene | 49.7 | | 0.24 | 1.3 | 2.5 | ug/L |
| 117-81-7 | Bis(2-ethylhexyl)phthalate | 49.8 | | 0.29 | 1.3 | 2.5 | ug/L |
| 117-84-0 | Di-n-octyl phthalate | 51.3 | | 0.31 | 1.3 | 2.5 | ug/L |
| 205-99-2 | Benzo(b)fluoranthene | 55.4 | | 0.17 | 1.3 | 2.5 | ug/L |
| 207-08-9 | Benzo(k)fluoranthene | 50.9 | | 0.28 | 1.3 | 2.5 | ug/L |
| 50-32-8 | Benzo(a)pyrene | 53.8 | | 0.17 | 1.3 | 2.5 | ug/L |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 50.7 | | 0.67 | 1.3 | 2.5 | ug/L |
| 53-70-3 | Dibenzo(a,h)anthracene | 55.8 | | 0.28 | 1.3 | 2.5 | ug/L |
| 191-24-2 | Benzo(g,h,i)perylene | 49.4 | | 0.13 | 1.3 | 2.5 | ug/L |
| 95-94-3 | 1,2,4,5-Tetrachlorobenzene | 46.3 | | 0.37 | 1.3 | 2.5 | ug/L |
| 58-90-2 | 2,3,4,6-Tetrachlorophenol | 37.4 | | 5.1 | 5.1 | 10.1 | ug/L |
| 123-91-1 | 1,4-Dioxane | 18.9 | | 5.1 | 5.1 | 10.1 | ug/L |
| **SURROGATES** | | | | | | | |
| 367-12-4 | 2-Fluorophenol | 37.3 | | 10 - 160 | | 37% | SPK: 100 |
| 13127-88-3 | Phenol-d6 | 23 | | 10 - 161 | | 23% | SPK: 100 |
| 4165-60-0 | Nitrobenzene-d5 | 87.6 | | 25 - 124 | | 88% | SPK: 100 |
| 321-60-8 | 2-Fluorobiphenyl | 89.9 | | 20 - 129 | | 90% | SPK: 100 |
| 118-79-6 | 2,4,6-Tribromophenol | 97 | | 10 - 140 | | 97% | SPK: 100 |
| 1718-51-0 | Terphenyl-d14 | 91.6 | | 14 - 155 | | 92% | SPK: 100 |
| **INTERNAL STANDARDS** | | | | | | | |
| 3855-82-1 | 1,4-Dichlorobenzene-d4 | 107857 | 6.68 | | | | |
| 1146-65-2 | Naphthalene-d8 | 432220 | 8.55 | | | | |
| 15067-26-2 | Acenaphthene-d10 | 251512 | 11.21 | | | | |
| 1517-22-2 | Phenanthrene-d10 | 420294 | 13.95 | | | | |
| 1719-03-5 | Chrysene-d12 | 334884 | 19.54 | | | | |
| 1520-96-3 | Perylene-d12 | 193669 | 22.48 | | | | |

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# Report of Analysis

| | | | |
|---|---|---|---|
| Client: | Cardno ATC | Date Collected: | 09/24/13 |
| Project: | Avalon- WP9 | Date Received: | 09/25/13 |
| Client Sample ID: | MW-11R-Q3-2013MSD | SDG No.: | E3854 |
| Lab Sample ID: | E3854-05MSD | Matrix: | Water |
| Analytical Method: | 625 | % Moisture: | 100 |
| Sample Wt/Vol: | 990 Units: mL | Final Vol: | 1000 uL |
| Soil Aliquot Vol: | uL | Test: | SVOC- Chemtech Full |
| Extraction Type : | Decanted : N | Level : | LOW |
| Injection Volume : | GPC Factor : 1.0 | GPC Cleanup : | N PH : |

| File ID/Qc Batch: | Dilution: | Prep Date | Date Analyzed | Prep Batch ID |
|---|---|---|---|---|
| BA050747.D | 1 | 09/26/13 | 09/27/13 | PB72483 |

| CAS Number | Parameter | Conc. | Qualifier | MDL | LOD | LOQ / CRQL | Units |
|---|---|---|---|---|---|---|---|

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
E = Value Exceeds Calibration Range
Q = indicates LCS control criteria did not meet requirements

J = Estimated Value
B = Analyte Found in Associated Method Blank
N = Presumptive Evidence of a Compound
* = Values outside of QC limits
D = Dilution

# CALIBRATION SUMMARY

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 09/27/2013 09/27/2013

Calibration Time(s): 13:05 15:38

LAB FILE ID: RRF060 = BA050735.D RRF040 = BA050736.D RRF025 = BA050737.D
RRF010 = BA050738.D RRF2.5 = BA050739.D RRF =

| COMPOUND | RRF060 | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| n-Nitrosodimethylamine | 0.686 | 0.748 | 0.758 | 0.782 | 0.785 | | 0.752 | 5.3 |
| Pyridine | 1.482 | 1.640 | 1.640 | 1.667 | 1.695 | | 1.625 | 5.1 |
| 2-Fluorophenol | 1.405 | 1.512 | 1.492 | 1.511 | 1.442 | | 1.472 | 3.2 |
| Benzaldehyde | 0.560 | 0.717 | 0.820 | 0.961 | 0.993 | | 0.810 | 22.1 |
| Aniline | 1.962 | 2.090 | 2.070 | 2.049 | 1.987 | | 2.032 | 2.7 |
| Phenol-d6 | 1.725 | 1.836 | 1.859 | 1.846 | 1.813 | | 1.816 | 2.9 |
| Phenol | 1.962 | 2.126 | 2.102 | 2.126 | 2.005 | | 2.064 | 3.7 |
| bis(2-Chloroethyl)ether | 1.535 | 1.609 | 1.610 | 1.569 | 1.610 | | 1.586 | 2.1 |
| 2-Chlorophenol | 1.794 | 1.877 | 1.847 | 1.803 | 1.755 | | 1.815 | 2.6 |
| 1,2-Dichlorobenzene | 1.593 | 1.702 | 1.671 | 1.649 | 1.671 | | 1.657 | 2.5 |
| 1,3-Dichlorobenzene | 1.693 | 1.770 | 1.743 | 1.724 | 1.715 | | 1.729 | 1.7 |
| 1,4-Dichlorobenzene | 1.729 | 1.798 | 1.764 | 1.780 | 1.775 | | 1.769 | 1.4 |
| Benzyl Alcohol | 1.052 | 1.135 | 1.157 | 1.117 | 1.056 | | 1.103 | 4.3 |
| 2-Methylphenol | 1.272 | 1.298 | 1.222 | 1.200 | 1.146 | | 1.228 | 4.9 |
| 2,2-oxybis(1-Chloropropane) | 2.524 | 2.623 | 2.617 | 2.597 | 2.622 | | 2.596 | 1.6 |
| Acetophenone | 0.465 | 0.484 | 0.490 | 0.485 | 0.480 | | 0.481 | 2.0 |
| 3+4-Methylphenols | 1.569 | 1.614 | 1.633 | 1.558 | 1.467 | | 1.568 | 4.1 |
| n-Nitroso-di-n-propylamine | 1.080 | 1.085 | 1.100 | 1.093 | 1.063 | | 1.084 | 1.3 |
| Nitrobenzene-d5 | 0.368 | 0.389 | 0.389 | 0.391 | 0.379 | | 0.383 | 2.5 |
| Hexachloroethane | 0.688 | 0.697 | 0.689 | 0.668 | 0.617 | | 0.672 | 4.8 |
| Nitrobenzene | 0.394 | 0.418 | 0.414 | 0.411 | 0.404 | | 0.408 | 2.3 |
| Isophorone | 0.798 | 0.816 | 0.823 | 0.818 | 0.806 | | 0.812 | 1.3 |
| 2-Nitrophenol | 0.283 | 0.271 | 0.267 | 0.247 | 0.223 | | 0.258 | 9.2 |
| 2,4-Dimethylphenol | 0.361 | 0.370 | 0.375 | 0.362 | 0.352 | | 0.364 | 2.5 |
| bis(2-Chloroethoxy)methane | 0.454 | 0.477 | 0.483 | 0.482 | 0.449 | | 0.469 | 3.5 |
| 2,4-Dichlorophenol | 0.349 | 0.361 | 0.365 | 0.339 | 0.298 | | 0.342 | 7.9 |
| 1,2,4-Trichlorobenzene | 0.342 | 0.358 | 0.358 | 0.349 | 0.331 | | 0.348 | 3.4 |
| Benzoic acid | 0.219 | 0.192 | 0.160 | | | | 0.190 | 15.5 |
| Naphthalene | 1.019 | 1.100 | 1.131 | 1.151 | 1.120 | | 1.104 | 4.6 |
| 4-Chloroaniline | 0.442 | 0.459 | 0.463 | 0.438 | 0.396 | | 0.439 | 6.0 |
| Hexachlorobutadiene | 0.176 | 0.180 | 0.181 | 0.182 | 0.166 | | 0.177 | 3.8 |
| Caprolactam | 0.108 | 0.106 | 0.114 | 0.128 | 0.105 | | 0.112 | 8.5 |
| 4-Chloro-3-methylphenol | 0.337 | 0.335 | 0.336 | 0.314 | 0.283 | | 0.321 | 7.2 |
| 2-Methylnaphthalene | 0.657 | 0.689 | 0.711 | 0.722 | 0.697 | | 0.695 | 3.6 |
| Hexachlorocyclopentadiene | 0.150 | 0.143 | 0.127 | 0.083 | | | 0.126 | 24.0 |
| 2,4,6-Trichlorophenol | 0.423 | 0.450 | 0.431 | 0.420 | 0.372 | | 0.419 | 6.9 |

All other compounds must meet a minimum RRF of 0.010.

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 09/27/2013 09/27/2013

Calibration Time(s): 13:05 15:38

LAB FILE ID: RRF060 = BA050735.D RRF040 = BA050736.D RRF025 = BA050737.D
RRF010 = BA050738.D RRF2.5 = BA050739.D RRF =

| COMPOUND | RRF060 | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| 2-Fluorobiphenyl | 1.130 | 1.268 | 1.284 | 1.381 | 1.336 | | 1.280 | 7.4 |
| 2,4,5-Trichlorophenol | 0.427 | 0.447 | 0.436 | 0.392 | 0.360 | | 0.412 | 8.6 |
| 1,1-Biphenyl | 1.329 | 1.473 | 1.483 | 1.512 | 1.477 | | 1.455 | 5.0 |
| 2-Chloronaphthalene | 1.143 | 1.228 | 1.210 | 1.230 | 1.158 | | 1.194 | 3.4 |
| 2-Nitroaniline | 0.350 | 0.352 | 0.362 | 0.349 | 0.329 | | 0.349 | 3.4 |
| Dimethylphthalate | 1.320 | 1.357 | 1.369 | 1.339 | 1.265 | | 1.330 | 3.1 |
| Acenaphthylene | 1.807 | 1.942 | 1.986 | 2.001 | 1.917 | | 1.931 | 4.0 |
| 2,6-Dinitrotoluene | 0.400 | 0.389 | 0.403 | 0.370 | 0.328 | | 0.378 | 8.2 |
| 3-Nitroaniline | 0.380 | 0.383 | 0.383 | 0.347 | 0.312 | | 0.361 | 8.7 |
| Acenaphthene | 1.089 | 1.150 | 1.172 | 1.188 | 1.200 | | 1.160 | 3.8 |
| 2,4-Dinitrophenol | 0.185 | 0.141 | 0.124 | | | | 0.150 | 21.0 |
| 4-Nitrophenol | 0.381 | 0.295 | 0.292 | 0.202 | | | 0.293 | 25.0 |
| Dibenzofuran | 1.627 | 1.715 | 1.760 | 1.769 | 1.689 | | 1.712 | 3.4 |
| 2,4-Dinitrotoluene | 0.519 | 0.510 | 0.526 | 0.476 | 0.406 | | 0.487 | 10.2 |
| Diethylphthalate | 1.298 | 1.330 | 1.388 | 1.323 | 1.253 | | 1.319 | 3.7 |
| 4-Chlorophenyl-phenylether | 0.591 | 0.636 | 0.662 | 0.632 | 0.597 | | 0.623 | 4.7 |
| Fluorene | 1.295 | 1.360 | 1.408 | 1.394 | 1.297 | | 1.351 | 3.9 |
| 4-Nitroaniline | 0.348 | 0.325 | 0.335 | 0.331 | 0.301 | | 0.328 | 5.3 |
| 4,6-Dinitro-2-methylphenol | 0.192 | 0.172 | 0.158 | 0.105 | | | 0.157 | 23.8 |
| n-Nitrosodiphenylamine | 0.660 | 0.684 | 0.673 | 0.685 | 0.661 | | 0.673 | 1.8 |
| Azobenzene | 1.501 | 1.415 | 1.459 | 1.434 | 1.419 | | 1.446 | 2.4 |
| 2,4,6-Tribromophenol | 0.173 | 0.179 | 0.184 | 0.159 | 0.122 | | 0.163 | 15.4 |
| 4-Bromophenyl-phenylether | 0.206 | 0.216 | 0.210 | 0.213 | 0.195 | | 0.208 | 3.9 |
| Hexachlorobenzene | 0.220 | 0.226 | 0.221 | 0.219 | 0.206 | | 0.218 | 3.3 |
| Atrazine | 0.144 | 0.187 | 0.206 | 0.204 | 0.193 | | 0.187 | 13.4 |
| Pentachlorophenol | 0.166 | 0.172 | 0.164 | 0.112 | | | 0.154 | 18.2 |
| Phenanthrene | 1.088 | 1.138 | 1.146 | 1.166 | 1.141 | | 1.136 | 2.5 |
| Anthracene | 1.121 | 1.167 | 1.174 | 1.178 | 1.098 | | 1.148 | 3.1 |
| Carbazole | 1.032 | 1.047 | 1.029 | 1.039 | 0.976 | | 1.025 | 2.7 |
| Di-n-butylphthalate | 1.400 | 1.475 | 1.472 | 1.457 | 1.398 | | 1.440 | 2.7 |
| Fluoranthene | 1.132 | 1.223 | 1.214 | 1.191 | 1.106 | | 1.173 | 4.4 |
| Benzidine | 0.280 | 0.318 | 0.334 | 0.295 | 0.232 | | 0.292 | 13.5 |
| Pyrene | 1.320 | 1.377 | 1.465 | 1.553 | 1.646 | | 1.472 | 8.9 |
| Terphenyl-d14 | 0.790 | 0.881 | 0.945 | 1.003 | 1.053 | | 0.934 | 11.0 |
| Butylbenzylphthalate | 0.730 | 0.757 | 0.798 | 0.829 | 0.859 | | 0.795 | 6.6 |
| 3,3-Dichlorobenzidine | 0.308 | 0.330 | 0.319 | 0.295 | 0.227 | | 0.296 | 13.7 |

All other compounds must meet a minimum RRF of 0.010.

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6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 09/27/2013 09/27/2013

Calibration Time(s): 13:05 15:38

LAB FILE ID: RRF060 = BA050735.D RRF040 = BA050736.D RRF025 = BA050737.D
RRF010 = BA050738.D RRF2.5 = BA050739.D RRF =

| COMPOUND | RRF060 | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)anthracene | 1.117 | 1.172 | 1.191 | 1.163 | 1.144 | | 1.157 | 2.5 |
| Chrysene | 1.030 | 1.076 | 1.093 | 1.078 | 1.066 | | 1.068 | 2.2 |
| Bis(2-ethylhexyl)phthalate | 1.074 | 1.148 | 1.193 | 1.243 | 1.313 | | 1.194 | 7.6 |
| Di-n-octyl phthalate | 1.682 | 1.793 | 1.884 | 1.943 | 1.969 | | 1.854 | 6.3 |
| Benzo(b)fluoranthene | 1.727 | 1.487 | 1.463 | 1.370 | 1.267 | | 1.463 | 11.7 |
| Benzo(k)fluoranthene | 1.023 | 1.312 | 1.417 | 1.354 | 1.325 | | 1.286 | 11.9 |
| Benzo(a)pyrene | 1.165 | 1.177 | 1.169 | 1.085 | 0.992 | | 1.118 | 7.1 |
| Indeno(1,2,3-cd)pyrene | 0.475 | 0.484 | 0.419 | 0.391 | 0.317 | | 0.417 | 16.3 |
| Dibenzo(a,h)anthracene | 0.632 | 0.625 | 0.572 | 0.495 | 0.380 | | 0.541 | 19.5 |
| Benzo(g,h,i)perylene | 0.568 | 0.593 | 0.574 | 0.583 | 0.540 | | 0.572 | 3.6 |
| 1,2,4,5-Tetrachlorobenzene | 0.546 | 0.593 | 0.570 | 0.505 | 0.485 | | 0.540 | 8.3 |
| 2,3,4,6-Tetrachlorophenol | 0.325 | 0.332 | 0.328 | 0.265 | 0.158 | | 0.281 | 26.5 |
| 1,4-Dioxane | 0.576 | 0.639 | 0.636 | 0.676 | 0.800 | | 0.666 | 12.5 |

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 10/01/2013 10/01/2013

Calibration Time(s): 11:34 14:45

LAB FILE ID: RRF040 = BA050759.D RRF025 = BA050760.D RRF010 = BA050761.D
RRF2.5 = BA050762.D RRF060 = BA050763.D RRF =

| COMPOUND | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF060 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| n-Nitrosodimethylamine | 0.737 | 0.781 | 0.806 | 0.878 | 0.701 | | 0.780 | 8.7 |
| Pyridine | 1.613 | 1.629 | 1.633 | 1.596 | 1.529 | | 1.600 | 2.6 |
| 2-Fluorophenol | 1.450 | 1.475 | 1.498 | 1.431 | 1.389 | | 1.449 | 2.9 |
| Benzaldehyde | 0.705 | 0.825 | 0.994 | 1.024 | 0.519 | | 0.813 | 25.8 |
| Aniline | 2.058 | 2.094 | 1.989 | 1.857 | 2.057 | | 2.011 | 4.7 |
| Phenol-d6 | 1.780 | 1.833 | 1.843 | 1.770 | 1.713 | | 1.788 | 2.9 |
| Phenol | 2.069 | 2.100 | 2.121 | 2.002 | 1.955 | | 2.050 | 3.4 |
| bis(2-Chloroethyl)ether | 1.610 | 1.635 | 1.685 | 1.572 | 1.464 | | 1.593 | 5.2 |
| 2-Chlorophenol | 1.833 | 1.861 | 1.828 | 1.686 | 1.772 | | 1.796 | 3.9 |
| 1,2-Dichlorobenzene | 1.620 | 1.671 | 1.680 | 1.648 | 1.527 | | 1.629 | 3.8 |
| 1,3-Dichlorobenzene | 1.740 | 1.762 | 1.762 | 1.698 | 1.702 | | 1.733 | 1.8 |
| 1,4-Dichlorobenzene | 1.778 | 1.822 | 1.819 | 1.761 | 1.734 | | 1.783 | 2.1 |
| Benzyl Alcohol | 1.131 | 1.173 | 1.154 | 1.087 | 1.064 | | 1.122 | 4.0 |
| 2-Methylphenol | 1.313 | 1.333 | 1.233 | 1.164 | 1.295 | | 1.268 | 5.5 |
| 2,2-oxybis(1-Chloropropane) | 2.743 | 2.788 | 2.748 | 2.667 | 2.643 | | 2.718 | 2.2 |
| Acetophenone | 0.480 | 0.494 | 0.488 | 0.483 | 0.471 | | 0.483 | 1.8 |
| 3+4-Methylphenols | 1.598 | 1.623 | 1.569 | 1.476 | 1.576 | | 1.568 | 3.6 |
| n-Nitroso-di-n-propylamine | 1.144 | 1.167 | 1.161 | 1.107 | 1.135 | | 1.143 | 2.1 |
| Nitrobenzene-d5 | 0.382 | 0.394 | 0.391 | 0.391 | 0.369 | | 0.385 | 2.6 |
| Hexachloroethane | 0.699 | 0.703 | 0.674 | 0.638 | 0.689 | | 0.681 | 3.9 |
| Nitrobenzene | 0.399 | 0.410 | 0.409 | 0.412 | 0.388 | | 0.403 | 2.5 |
| Isophorone | 0.840 | 0.837 | 0.849 | 0.837 | 0.824 | | 0.837 | 1.1 |
| 2-Nitrophenol | 0.260 | 0.261 | 0.249 | 0.218 | 0.264 | | 0.250 | 7.6 |
| 2,4-Dimethylphenol | 0.360 | 0.367 | 0.360 | 0.351 | 0.355 | | 0.359 | 1.7 |
| bis(2-Chloroethoxy)methane | 0.463 | 0.483 | 0.479 | 0.480 | 0.462 | | 0.473 | 2.1 |
| 2,4-Dichlorophenol | 0.344 | 0.356 | 0.345 | 0.302 | 0.345 | | 0.338 | 6.2 |
| 1,2,4-Trichlorobenzene | 0.343 | 0.351 | 0.345 | 0.343 | 0.337 | | 0.344 | 1.4 |
| Benzoic acid | 0.088 | 0.074 | | | 0.125 | | 0.095 | 27.6 |
| Naphthalene | 1.052 | 1.100 | 1.114 | 1.129 | 0.982 | | 1.075 | 5.6 |
| 4-Chloroaniline | 0.439 | 0.440 | 0.425 | 0.384 | 0.425 | | 0.423 | 5.4 |
| Hexachlorobutadiene | 0.174 | 0.180 | 0.178 | 0.172 | 0.168 | | 0.175 | 2.8 |
| Caprolactam | 0.108 | 0.111 | 0.128 | 0.114 | 0.116 | | 0.115 | 6.8 |
| 4-Chloro-3-methylphenol | 0.330 | 0.342 | 0.332 | 0.302 | 0.332 | | 0.328 | 4.5 |
| 2-Methylnaphthalene | 0.664 | 0.692 | 0.721 | 0.722 | 0.629 | | 0.686 | 5.8 |
| Hexachlorocyclopentadiene | 0.135 | 0.127 | 0.085 | | 0.147 | | 0.124 | 21.6 |
| 2,4,6-Trichlorophenol | 0.437 | 0.437 | 0.401 | 0.327 | 0.429 | | 0.406 | 11.4 |

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 10/01/2013 10/01/2013

Calibration Time(s): 11:34 14:45

LAB FILE ID: RRF040 = BA050759.D RRF025 = BA050760.D RRF010 = BA050761.D
RRF2.5 = BA050762.D RRF060 = BA050763.D RRF =

| COMPOUND | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF060 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| 2-Fluorobiphenyl | 1.203 | 1.263 | 1.345 | 1.355 | 1.103 | | 1.254 | 8.4 |
| 2,4,5-Trichlorophenol | 0.427 | 0.431 | 0.405 | 0.311 | 0.419 | | 0.399 | 12.5 |
| 1,1-Biphenyl | 1.415 | 1.482 | 1.537 | 1.480 | 1.301 | | 1.443 | 6.2 |
| 2-Chloronaphthalene | 1.229 | 1.242 | 1.238 | 1.191 | 1.150 | | 1.210 | 3.2 |
| 2-Nitroaniline | 0.368 | 0.367 | 0.360 | 0.339 | 0.356 | | 0.358 | 3.3 |
| Dimethylphthalate | 1.377 | 1.386 | 1.387 | 1.329 | 1.355 | | 1.367 | 1.8 |
| Acenaphthylene | 1.882 | 1.934 | 2.017 | 1.987 | 1.775 | | 1.919 | 5.0 |
| 2,6-Dinitrotoluene | 0.394 | 0.400 | 0.386 | 0.352 | 0.409 | | 0.388 | 5.7 |
| 3-Nitroaniline | 0.353 | 0.343 | 0.323 | 0.311 | 0.360 | | 0.338 | 6.0 |
| Acenaphthene | 1.157 | 1.174 | 1.231 | 1.232 | 1.059 | | 1.171 | 6.1 |
| 2,4-Dinitrophenol | 0.096 | 0.080 | | | 0.127 | | 0.101 | 23.5 |
| 4-Nitrophenol | 0.321 | 0.310 | 0.238 | | 0.186 | | 0.264 | 24.2 |
| Dibenzofuran | 1.675 | 1.712 | 1.769 | 1.757 | 1.569 | | 1.696 | 4.7 |
| 2,4-Dinitrotoluene | 0.512 | 0.507 | 0.491 | 0.450 | 0.510 | | 0.494 | 5.2 |
| Diethylphthalate | 1.324 | 1.336 | 1.359 | 1.340 | 1.236 | | 1.319 | 3.6 |
| 4-Chlorophenyl-phenylether | 0.626 | 0.651 | 0.660 | 0.639 | 0.572 | | 0.630 | 5.5 |
| Fluorene | 1.309 | 1.363 | 1.412 | 1.356 | 1.236 | | 1.335 | 5.0 |
| 4-Nitroaniline | 0.303 | 0.297 | 0.291 | 0.291 | 0.320 | | 0.300 | 4.0 |
| 4,6-Dinitro-2-methylphenol | 0.147 | 0.134 | 0.084 | | 0.172 | | 0.134 | 27.8 |
| n-Nitrosodiphenylamine | 0.697 | 0.691 | 0.694 | 0.663 | 0.668 | | 0.682 | 2.3 |
| Azobenzene | 1.525 | 1.411 | 1.438 | 1.397 | 1.435 | | 1.441 | 3.5 |
| 2,4,6-Tribromophenol | 0.108 | 0.172 | 0.155 | 0.117 | 0.162 | | 0.143 | 19.9 |
| 4-Bromophenyl-phenylether | 0.217 | 0.218 | 0.213 | 0.196 | 0.213 | | 0.212 | 4.3 |
| Hexachlorobenzene | 0.229 | 0.229 | 0.229 | 0.222 | 0.223 | | 0.227 | 1.5 |
| Atrazine | 0.180 | 0.202 | 0.207 | 0.191 | 0.127 | | 0.181 | 17.6 |
| Pentachlorophenol | 0.127 | 0.119 | 0.079 | | 0.133 | | 0.114 | 21.5 |
| Phenanthrene | 1.099 | 1.117 | 1.148 | 1.127 | 1.047 | | 1.108 | 3.5 |
| Anthracene | 1.132 | 1.157 | 1.160 | 1.103 | 1.067 | | 1.124 | 3.5 |
| Carbazole | 0.883 | 0.870 | 0.919 | 0.997 | 0.919 | | 0.917 | 5.4 |
| Di-n-butylphthalate | 1.303 | 1.349 | 1.401 | 1.393 | 1.230 | | 1.335 | 5.3 |
| Fluoranthene | 1.094 | 1.140 | 1.159 | 1.130 | 1.064 | | 1.117 | 3.4 |
| Benzidine | 0.350 | 0.390 | 0.367 | 0.229 | 0.289 | | 0.325 | 20.2 |
| Pyrene | 1.290 | 1.315 | 1.400 | 1.391 | 1.249 | | 1.329 | 4.9 |
| Terphenyl-d14 | 0.806 | 0.828 | 0.885 | 0.889 | 0.746 | | 0.831 | 7.2 |
| Butylbenzylphthalate | 0.681 | 0.686 | 0.706 | 0.694 | 0.670 | | 0.687 | 2.0 |
| 3,3-Dichlorobenzidine | 0.367 | 0.380 | 0.353 | 0.340 | 0.331 | | 0.354 | 5.6 |

All other compounds must meet a minimum RRF of 0.010.

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922



6C

SEMIVOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: CHEMTECH Contract: ATCE02

Lab Code: CHEM Case No.: E3854 SAS No.: E3854 SDG No.: E3854

Instrument ID: BNA_A Calibration Date(s): 10/01/2013 10/01/2013

Calibration Time(s): 11:34 14:45

LAB FILE ID: RRF040 = BA050759.D RRF025 = BA050760.D RRF010 = BA050761.D
RRF2.5 = BA050762.D RRF060 = BA050763.D RRF =

| COMPOUND | RRF040 | RRF025 | RRF010 | RRF2.5 | RRF060 | RRF | RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| Benzo(a)anthracene | 1.149 | 1.161 | 1.208 | 1.171 | 1.095 | | 1.156 | 3.5 |
| Chrysene | 1.072 | 1.071 | 1.093 | 1.079 | 1.042 | | 1.071 | 1.7 |
| Bis(2-ethylhexyl)phthalate | 0.997 | 1.013 | 1.036 | 0.994 | 0.984 | | 1.005 | 2.0 |
| Di-n-octyl phthalate | 1.650 | 1.696 | 1.686 | 1.570 | 1.602 | | 1.641 | 3.3 |
| Benzo(b)fluoranthene | 1.605 | 1.406 | 1.343 | 1.300 | 1.770 | | 1.485 | 13.3 |
| Benzo(k)fluoranthene | 1.087 | 1.323 | 1.298 | 1.212 | 0.909 | | 1.166 | 14.6 |
| Benzo(a)pyrene | 1.192 | 1.204 | 1.154 | 1.094 | 1.162 | | 1.161 | 3.7 |
| Indeno(1,2,3-cd)pyrene | 0.573 | 0.580 | 0.563 | 0.480 | 0.463 | | 0.532 | 10.4 |
| Dibenzo(a,h)anthracene | 0.648 | 0.660 | 0.628 | 0.542 | 0.567 | | 0.609 | 8.5 |
| Benzo(g,h,i)perylene | 0.567 | 0.581 | 0.583 | 0.525 | 0.470 | | 0.545 | 8.9 |
| 1,2,4,5-Tetrachlorobenzene | 0.596 | 0.603 | 0.598 | 0.585 | 0.576 | | 0.592 | 1.9 |
| 2,3,4,6-Tetrachlorophenol | 0.320 | 0.313 | 0.266 | 0.191 | 0.316 | | 0.281 | 19.5 |
| 1,4-Dioxane | 0.616 | 0.629 | 0.689 | 0.837 | 0.566 | | 0.667 | 15.7 |

All other compounds must meet a minimum RRF of 0.010.

# SHIPPING DOCUMENTS

# CHEMTECH
## CHAIN OF CUSTODY RECORD

284 Sheffield Street, Mountainside, NJ 07092
(908) 789-8900 Fax (908) 789-8922
www.chemtech.net

Chemtech Project Number: E3854
COC Number:

6.1

### CLIENT INFORMATION

Report to be sent to
COMPANY: CARANO ATC
ADDRESS: 104 EAST 25 Street
CITY: New York STATE: NY ZIP: 10010
ATTENTION: John Masciolli
PHONE: FAX:

### PROJECT INFORMATION

PROJECT NAME: Avalon Bay MW9
PROJECT #: 15739420-0016 LOCATION: LIC
PROJECT MANAGER: JT MASCIOLLI
E-MAIL: John.masciolli@carano.com
PHONE: FAX:

### BILLING INFORMATION

BILL TO: Carano ATC PO#
ADDRESS:
CITY: STATE: ZIP:
ATTENTION:
PHONE:

### DATA TURNAROUND INFORMATION

FAX: DAYS*
HARD COPY: STD DAYS*
EDD DAYS*
* TO BE APPROVED BY CHEMTECH
STANDARD TURNAROUND TIME IS 10 BUSINESS DAYS

### DATA DELIVERABLE INFORMATION

- ☐ RESEULTS ONLY
- ☐ RESULTS * QC
- ☐ New Jersey REDUCED
- ✈ New Jersey CLP
- ☐ USEPA CLP
- ☒ New York State ASP "B"
- ☐ New York State ASP "A"
- ☐ Other
- ☒ EDD FORMAT NYSDEC

### ANALYSIS

1 VOCs Low Level 2 SVOCs 3 4 5 6 7 8 9

| CHEMTECH SAMPLE ID | PROJECT SAMPLE IDENTIFICATION | SAMPLE MATRIX | SAMPLE TYPE COMP | SAMPLE TYPE GRAB | SAMPLE COLLECTION DATE | SAMPLE COLLECTION TIME | # of Bottles | PRESERVATIVES 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | MW-2 Q3 2013 | GW | | X | 9/24/13 | 14:20 | 3 | X | X | | | | | | | | |
| 2. | MW-8 Q3 2013 | | | X | | 13:40 | 3 | X | X | | | | | | | | |
| 3. | MW-11R Q3 2013 | | | X | | 10:55 | 9 | X | X | | | | | | | | MS/MSD |
| 4. | MW-12R Q3 2013 | | | X | | 9:40 | 3 | X | X | | | | | | | | |
| 5. | MW-14 Q3 2013 | | | X | | 12:05 | 3 | X | X | | | | | | | | |
| 6. | MW-15 Q3 2013 | | | X | | 13:10 | 3 | X | X | | | | | | | | |
| 7. | MW-16 Q3 2013 | | | X | | 08:40 | 3 | X | X | | | | | | | | |
| 8. | FB Q3 2013 | | | X | | 12:00 | 3 | X | X | | | | | | | | |
| 9. | DUP Q3 2013 | | | X | | 12:05 | 3 | X | X | | | | | | | | |
| 10. | TB Q3 2013 | | | | | — | 2 | X | | | | | | | | | |

PRESERVATIVES: A/E, E

COMMENTS: <-- Specify Preservatives
A-HCl B-HNO4 C-H2SO13 D-NaOH E-ICE F-OTHER

### SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE PROSSESSION INCLUDING COURIER DELIVERY

| | DATE/TIME | | |
|---|---|---|---|
| RELINQUISHED BY SAMPLER 1. | 9/25/13 1445 | RECEIVED BY 1. | |
| RELINQUISHED BY 2. | DATE/TIME | RECEIVED BY 2. | |
| RELINQUISHED BY 3. | DATE/TIME 9.25.13 1645 | RECEIVED FOR LAB BY 3. | |

Conditions of bottles or coilers at receipt: ✈ COMPLIANT ✈ NON COMPLIANT ✈ COOLER TEMP 5°
MeOH extraction requires an additional 4oz. Jar for percent solid
**Comments:**

Page 1 of 1

CLIENT: ✈ Hand Delivered ✈ Overnight
CHEMTECH: ✈ Picked Up ✈

Shipment Complete ☐ YES ✈ NO #

10/18/2004

WHITE - CHEMTECH COPYFOR RETURN TO CLIENT YELLOW - CHEMTECH COPY PINK - SAMPLER COPY

HI John,

Just as a fyi for MW-12R-Q3-2013 & MW-15-Q3-2013 1/2 vial received with crack in bottom thus no sample in one of the vials (we can still run the sample with the one vial). Rest are good

Regards,

Chris Wolski

Phone: 908-728-3149

Fax: 908-789-8514 or 908-789-8922

Description: untitled2

CHEMTECH 284 Sheffield Street Mountainside NJ 07092 Tel. 908-7898900

# Laboratory Certification

| State | License No. |
|---|---|
| | |
| New Jersey | 20012 |
| | |
| New York | 11376 |
| | |
| Connecticut | PH-0649 |
| | |
| Florida | E87935 |
| | |
| Louisiana | 5035 |
| | |
| Maryland | 296 |
| | |
| Massachusetts | M-NJ503 |
| | |
| Pennsylvania | 68-548 |
| | |
| Rhode Island | LAO00259 |
| | |
| Virginia | 460220 |
| | |
| Texas | T10470448-10-1 |

Other :

| | |
|---|---|
| DOD ELAP Certified (L-A-B Accredited), ISO/IEC 17025 | L2219 |
| | |
| Soil Permit | P330-11-00012 |
| | |
| CLP Inorganic Contract | EPW09038 |
| | |
| CLP Organic Contract | EPW11030 |

QA Control Code: A2070148

# Appendix E - Site-wide Inspection Log

**SITE WIDE INSPECTION FORM**
**QUEENS WEST PARCEL 9**
**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

**Inspector:** JOHN MASCIOLI

**Date:** DECEMBER 31, 2013

## 1. Site Use Restrictions

No on-site vegetable gardens?

NONE

No groundwater withdrawal for potable/non-potable use?

NONE

Restricted residential maintained (single owner, or common ownership)?

YES

## 2. Site Cap

Note the date that the annual site cap inspection was performed:

12/31/13

Repairs made as noted during inspection?

N/A

## 3. Soil Management

Note the date(s) of any soil disturbance activities conducted during the past year:

NONE

Proper soil management procedures implemented (cite appropriate close out reports)?

N/A

## 4. Groundwater Monitoring

Monitoring being conducted on a quarterly basis (note the dates of sampling conducted)?

3/28/13 and 9/24/13

All on-site monitoring wells in working condition (note any repairs/replacement)?

YES

## 5. Vapor Discharge Monitoring

Monitoring being conducted on a quarterly basis (note the dates of sampling conducted)?

N/A

All vapor monitoring points in working condition (note any repairs/replacement)?

N/A

**SITE WIDE INSPECTION FORM**
**QUEENS WEST PARCEL 9**
**48th AVE. AND CENTER BLVD., LONG ISLAND CITY, NEW YORK**

## 6. Permits

Do vapor emissions meet NYSDEC regulatory standards?

N/A

## 7. Vapor mitigation system O&M

Are routine system check logs being completed by on-site representative?

YES

Are Periodic Inspections being conducted as scheduled (note the dates of all inspections)?

YES 1/15/13, 2/27/13, 3/28/13, 4/19/13, 5/30/13, 6/26/13, 7/29/13, 8/16/13, 9/24/13, 10/31/13, 11/18/13, 12/12/13

## 8. Recordkeeping

Check that the following records/reports are being maintained/completed (note report/log dates as appropriate):

1) Annual site cap inspection log

YES, 12/31/13

2) Close-out report(s) for soil disburbance activities (including manifests for soil disposal)

N/A

3) Annual groundwater monitoring reports (including laboratory analytical data reports/groundwater contours)

YES, included in 2013 PRR.

4) Annual vapor discharge monitoring reports

N/A

5) Routine System Check Log for vapor mitigation system

YES

6) Periodic Inspection Log for vapor mitigation system

YES

7) Annual vapor mitigation system O&M reports

YES

## 9. Comments

(Note any deficiencies and recommendations for corrective actions.)

NONE

# Appendix F - Institutional and Engineering Control Certification Form

**Enclosure 2**
**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION**
**Site Management Periodic Review Report Notice**
**Institutional and Engineering Controls Certification Form**

**Site Details** **Box 1**

**Site No.** **C241049**

**Site Name** **Queens West (Hunter's Point) Parcel 9**

Site Address: Center Blvd. and 47th Rd. and 48th Ave. Zip Code: 11101
City/Town: Long Island City
County: Queens
Site Acreage: 1.8

Reporting Period: January 01, 2013 to December 31, 2013

| | YES | NO |
|---|---|---|
| 1. Is the information above correct? | ☒ | ☐ |
| If NO, include handwritten above or on a separate sheet. | | |
| 2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period? | ☐ | ☒ |
| 3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? | ☐ | ☒ |
| 4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period? | ☐ | ☒ |
| **If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.** | | |
| 5. Is the site currently undergoing development? | ☐ | ☒ |

**Box 2**

| | YES | NO |
|---|---|---|
| 6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial | ☒ | ☐ |
| 7. Are all ICs/ECs in place and functioning as designed? | ☒ | ☐ |

**IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

**Box 2A**

| | YES | NO |
|---|---|---|
| 8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid? | ☐ | ☒ |
| 9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years) | ☒ | ☐ |

**If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.**

**If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.**

**SITE NO. C241049** **Box 3**

**Description of Institutional Controls**

| Parcel | Owner | Institutional Control |
|---|---|---|
| **19-1** | Queens West Development Corporation | Ground Water Use Restriction<br>Landuse Restriction<br><br>Site Management Plan |

The Controlled Property may be used for restricted residential use as long as the following long-term engineering and institutional controls are employed:

a) All engineering controls (including the site cover and sub-slab vapor depressurization system and active venting system) must be operated and maintained as specified in the NYSDEC-approved Site Management Plan (SMP). No Engineering or Institutional Controls may be discontinued without a NYSDEC-approved amendment or extinguishment of the Environmental Easement;
b) Annual inspections of the Site, certifications of Institutional and Engineering Controls and Site usage of the controlled property, and Site Management Reporting to the Department must be conducted in accordance with the NYSDEC-approved SMP;
c) all future soil disturbance activities on the Site that will impact residual contaminated material, including, but not limited to, building construction or expansion, subgrade utility line construction or repair, must be conducted in accordance with the Soil Management provisions in the NYSDEC-approved SMP;
d) Operation Monitoring and Maintenance (OM&M) of the sub-slab depressurization system must be performed in a manner specified in the NYSDEC-approved SMP;
e) Groundwater and other environmental or public health monitoring required by the NYSDEC-approved SMP must be performed in a manner specified in that Plan;
f) Onsite environmental monitoring devices, including but not limited to, groundwater monitoring wells and soil vapor probes, must be protected and replaced as necessary to ensure continued functioning in the manner specified in the NYSDEC-approved SMP;
g) The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose; and
h) Vegetable gardens are prohibited.

The Controlled Property may not be used for a higher level of use such as unrestricted residential without proper notification of NYSDEC of the change of, approval of that use by the NYSDEC, and an amendment of the SMP approved by NYSDEC.

| | | |
|---|---|---|
| **19-19** | Queens West Development Corporation | Ground Water Use Restriction<br>Site Management Plan<br>Landuse Restriction |

The Controlled Property may be used for restricted residential use as long as the following long-term engineering and institutional controls are employed:

a) All engineering controls (including the site cover and sub-slab vapor depressurization system and active venting system) must be operated and maintained as specified in the NYSDEC-approved Site Management Plan (SMP). No Engineering or Institutional Controls may be discontinued without a NYSDEC-approved amendment or extinguishment of the Environmental Easement;
b) Annual inspections of the Site, certifications of Institutional and Engineering Controls and Site usage of the controlled property, and Site Management Reporting to the Department must be conducted in accordance with the NYSDEC-approved SMP;
c) all future soil disturbance activities on the Site that will impact residual contaminated material, including, but not limited to, building construction or expansion, subgrade utility line construction or repair, must be conducted in accordance with the Soil Management provisions in the NYSDEC-approved SMP;
d) Operation Monitoring and Maintenance (OM&M) of the sub-slab depressurization system must be performed in a manner specified in the NYSDEC-approved SMP;
e) Groundwater and other environmental or public health monitoring required by the NYSDEC-approved SMP must be performed in a manner specified in that Plan;
f) Onsite environmental monitoring devices, including but not limited to, groundwater monitoring wells and soil vapor probes, must be protected and replaced as necessary to ensure continued functioning in the manner specified in the NYSDEC-approved SMP;
g) The use of the groundwater underlying the Controlled Property is prohibited without treatment

rendering it safe for intended purpose; and
h) Vegetable gardens are prohibited.

The Controlled Property may not be used for a higher level of use such as unrestricted residential without proper notification of NYSDEC of the change of, approval of that use by the NYSDEC, and an amendment of the SMP approved by NYSDEC.

**19-5** Queens West Development Corporation

Site Management Plan
Landuse Restriction
Ground Water Use Restriction

The Controlled Property may be used for restricted residential use as long as the following long-term engineering and institutional controls are employed:

a) All engineering controls (including the site cover and sub-slab vapor depressurization system and active venting system) must be operated and maintained as specified in the NYSDEC-approved Site Management Plan (SMP). No Engineering or Institutional Controls may be discontinued without a NYSDEC-approved amendment or extinguishment of the Environmental Easement;
b) Annual inspections of the Site, certifications of Institutional and Engineering Controls and Site usage of the controlled property, and Site Management Reporting to the Department must be conducted in accordance with the NYSDEC-approved SMP;
c) all future soil disturbance activities on the Site that will impact residual contaminated material, including, but not limited to, building construction or expansion, subgrade utility line construction or repair, must be conducted in accordance with the Soil Management provisions in the NYSDEC-approved SMP;
d) Operation Monitoring and Maintenance (OM&M) of the sub-slab depressurization system must be performed in a manner specified in the NYSDEC-approved SMP;
e) Groundwater and other environmental or public health monitoring required by the NYSDEC-approved SMP must be performed in a manner specified in that Plan;
f) Onsite environmental monitoring devices, including but not limited to, groundwater monitoring wells and soil vapor probes, must be protected and replaced as necessary to ensure continued functioning in the manner specified in the NYSDEC-approved SMP;
g) The use of the groundwater underlying the Controlled Property is prohibited without treatment rendering it safe for intended purpose; and
h) Vegetable gardens are prohibited.

The Controlled Property may not be used for a higher level of use such as unrestricted residential without proper notification of NYSDEC of the change of, approval of that use by the NYSDEC, and an amendment of the SMP approved by NYSDEC.

**Box 4**

**Description of Engineering Controls**

| Parcel | Engineering Control |
|---|---|
| **19-1** | Vapor Mitigation<br>Cover System<br>Subsurface Barriers |
| **19-19** | Vapor Mitigation<br>Cover System<br>Subsurface Barriers |
| **19-5** | Vapor Mitigation<br>Cover System<br>Subsurface Barriers |

**Box 5**

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

| YES | NO |
|---|---|
| ☒ | ☐ |

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

| YES | NO |
|---|---|
| ☒ | ☐ |

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

_____ _____

Signature of Owner, Remedial Party or Designated Representative — Date

**IC CERTIFICATIONS**
**SITE NO. C241049**

**Box 6**

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I DAVID LEWIS at 671 N. GLEBE RD. SUITE 800 ARLINGTON VA 22203,
print name print business address

am certifying as OWNER REPRESENTATIVE (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

4/28/2014
Date

## IC/EC CERTIFICATIONS

**Box 7**

**Qualified Environmental Professional Signature**

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Gilbert Gedeon at 104 E. 25th St, New York, NY 10010
print name print business address

am certifying as a Qualified Environmental Professional for the Avalon Bay Communities
(Owner or Remedial Party)




Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

5/2/14
Date