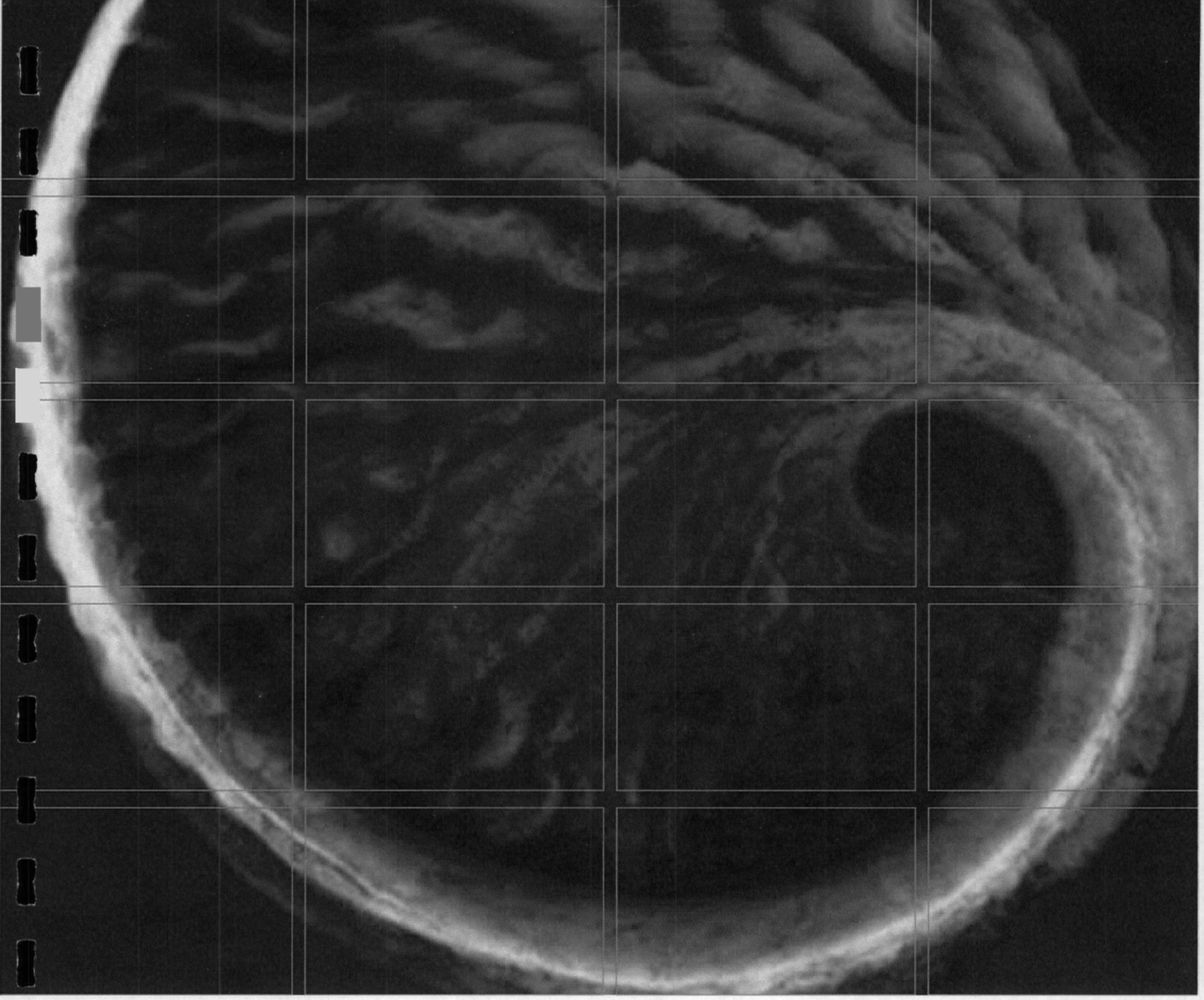

# Ground Water Monitoring 2012 Biennial Report

**Sullivan Landfill - Sullivan, Missouri**

December 17, 2012

ERM Project W.O. # 0171492

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## 1.0 *INTRODUCTION*

This report is being submitted to the Missouri Department of Natural Resources (MDNR) to satisfy the biennial reporting requirements in the closure plat for the former Sullivan Landfill site located off Emma Lane in Sullivan, Missouri. The report summarizes the ground water monitoring activities, which took place at the closed Sullivan Landfill on March 5-9, and 13-14, 2012 and June 18-22, 2012. A Site Location Map is included as Figure 1 and a Site Layout Map is included as Figure 2. ARCADIS of Lenexa, Kansas, performed the ground water sampling activities and Environmental Resources Management (ERM) of St. Louis, Missouri compiled this report. This report also serves as documentation of the landfill inspection activities for the period from the First Quarter 2008 through the Second Quarter 2012, which were performed by City of Sullivan Water Department personnel.

## 2.0 *GROUND WATER SAMPLING*

This section describes the sampling procedures used to collect the ground water samples as documented by ARCADIS. It describes the monitoring well purging activities, decontamination procedures, sample collection procedures, and quality control samples.

In a letter dated February 29, 2000, that outlined post-closure ground water monitoring requirements for the landfill, the MDNR requested some alterations to the historical sampling program in anticipation of the approval of the post-closure monitoring program for the landfill. The post-closure ground water monitoring requirements indicated that sampling frequency for the wells could be reduced from annual to biennial. The analyte lead was added to the parameter list, and inorganic samples were to be analyzed for dissolved parameters. The monitoring wells MW102A, MW102B, and B201 were no longer required to be sampled, and MW104 was included as a sampling point. This biennial ground water monitoring program was included with the landfill closure plan that was filed with the Franklin County Recorder of Deeds on September 6, 2000.

During March and June 2012, in association with the Oak Grove Village Superfund Site-Operable Unit 2 (OU2), ARCADIS performed sampling activities at the wells associated with the landfill closure plat (MW-101, MW-103, MW-104, MW-105, and the Voss Well), as well as additional wells at the landfill associated with the Oak Grove Superfund Site-OU2 investigation activities (MW-1, MW-1A, MW-102A, MW-102B, MW-107S, MW-107D, MW-108S, and MW-108D).

## 2.1 *WELL PURGING ACTIVITIES*

There are currently sixteen (16) ground water wells surrounding the landfill. They are as follows:

| | | |
|---|---|---|
| MW-1 | MW-1A | MW-101 |
| MW-102A | MW-102B | MW-103 |
| MW-104 | MW-105 | MW-107S |
| MW-107D | MW-108S | MW-108D |
| B-201 | B-202 | B-203 |
| Voss | | |

The B-series wells were not sampled during the March or June 2012 sampling events conducted by ARCADIS. Historically, water levels were collected from B-201 and used to construct the ground water contour map for the Site. Water levels were not collected by ARCADIS during the March and June 2012 sampling events from B-201. Water levels from B-201 were deemed not necessary, since water levels were collected from six (6) additional wells (MW-1, MW-1A, MW-107S, MW-107D, MW-108S, and MW-108D) that have not generally been part of the landfill biennial ground water sampling activities, providing sufficient information to evaluate the ground water gradient at the Site.

There is also a ground water production well located near the landfill designated as the "Voss Well". The locations of these wells are shown on Figure 2. Table 1 displays a summary of the wells and known applicable physical measurements/information.

Ground water sampling activities were generally conducted in accordance with methodologies presented in the March 1994 Ground Water Monitoring Plan (the Work Plan) prepared by ABB Environmental Services, Inc. (ABB) of Portland, Maine, and approved by the MDNR.

Monitoring wells, prior to sampling, were generally purged using a Grundfos™ Redi Flo II submersible pump. Prior to well purging, depth to water measurements were collected from the monitoring wells (Table 1) and the casing volume of each well to be sampled was calculated and documented on the Field Data Sheets contained in Appendix A. The Voss Well has a permanent pump and is sealed, so no water level reading was collected from this well. The Voss Well is fitted with an automatic chlorination device, therefore, prior to purging, the chlorinator was turned off. The well was then purged until approximately 200 and 250 gallons of water was removed during the March and June event, respectively.

In general, approximately three (3) well casing volumes were removed prior to sampling at each well location during the March and June sampling events. Ground water from the monitoring wells was tested for stabilization, after the removal of approximately two full casing volumes, for the following field-measured parameters: pH, temperature, specific conductance, turbidity, dissolved oxygen, and ORP. These readings were recorded on Field Data Sheets, which are included as Appendix A. As described in the Work Plan, if two well volumes have been removed and field-measured parameters (except turbidity) have stabilized within 10%, the well is considered purged and may be sampled. As shown in the Field Data Sheets, the field-measured parameters for all of the monitoring wells were generally stable after two casing volumes had been removed; however, three casing volumes were generally removed before sampling.

According to the Work Plan, the Voss Well is considered to be purged after its pump is allowed to run for a minimum of 10 minutes. During the sampling events, because the pump was allowed to purge at a slow rate, it ran for approximately 85 and 45 minutes during the March and June events, respectively, prior to sample collection. The purge rate was set low to minimize the potential for volatilization of Volatile Organic Compounds (VOCs). Field-measured parameters were collected from the Voss Well and are also included on the Field Data Sheet for the well (see Appendix A).

Purge water from all the wells was disposed in the City of Sullivan sanitary sewer via an on-site manhole, which is routed to the city's public owned treatment works (POTW), as approved by the MDNR project manager for this Site.

## 2.2 *DECONTAMINATION PROCEDURES*

A Grundfos™ Redi Flo II submersible pump was used to sample all of the monitoring wells. Prior to and in between each well to be sampled the pump was decontaminated as follows:

- The outside of the pump and tubing were rinsed with deionized (DI) water and dried with paper towels;
- The pump and tubing was then flushed with a potable water and Liquinox solution;
- Followed by a flush with potable water;
- Then some methanol was added to the potable water rinse and allowed to circulate through the pump and tubing; and
- Finally, the pump and tubing were flushed with DI water and then dried with compressed air.

Decontamination fluid was disposed of in the City of Sullivan sanitary sewer via an on-site manhole, which is routed to the city's POTW, as approved by the MDNR project manager for this Site.

## 2.3 *SAMPLE COLLECTION PROCEDURES*

In accordance with the landfill closure plat, samples from wells required to be sampled for the closure plat (MW-101, MW-103, MW-104, MW-105, and the Voss Well) were collected for VOCs and dissolved barium, chromium, and lead. In addition to these parameters, the landfill closure wells as well

as the Oak Grove Oak Grove Village Superfund Site - OU2 wells (MW-1, MW-1A, MW-102A, MW-102B, MW-107S, MW-107D, MW-108S, and MW-108D) also had samples collected for the following parameters:

| | | |
|---|---|---|
| Dissolved Boron | Dissolved Calcium | Dissolved Iron |
| Dissolved Potassium | Dissolved Magnesium | Dissolved Manganese |
| Dissolved Sodium | Dissolved Nickel | Dissolved Zinc |
| Dissolved Strontium | Dissolved Lithium | Dissolved $SiO^2$, Silica |
| Dissolved Chloride | Dissolved Nitrite (N) | Dissolved Fluoride |
| Dissolved Nitrate (N) | Dissolved Bromide | Dissolved Orthophosphate |
| Dissolved Sulfate | Dissolved Ammonia | Dissolved Phosphate ($PO^4$) |
| Bicarbonate Alkalinity | Carbonate Alkalinity | |

Laboratory-supplied containers that had been pre-preserved were used for sample collection. Following sample collection, the containers were stored on ice in an insulated cooler.

Samples from the monitoring wells were collected directly from the tubing used to purge the wells. Samples collected for dissolved inorganic analysis were filtered by the laboratory prior to analysis.

At the Voss Well, the ground water samples were collected directly from the well spigot.

## 2.4 *QUALITY ASSURANCE/QUALITY CONTROL SAMPLES*

The following quality assurance/quality control (QA/QC) samples were collected during both the March and June 2012 sampling events:

- Trip Blanks
- Equipment Blanks
- Duplicate Samples

A trip blank was included with each shipping cooler containing samples for VOC analysis. The trip blank consisted of a laboratory-supplied sample, which accompanied the sample containers to the field, during storage, and during delivery to the analytical laboratory. A total of three (3) trip blanks were submitted with sample shipments during both the March and June 2012 sampling events.

The equipment blank consisted of rinse water collected from the decontaminated sample pump and tubing used at the site for well purging activities. One equipment blank was collected during both the March and June 2012 sampling events.

The duplicate sample consisted of collecting a second sample at one of the monitoring wells sampled during each sampling event. One duplicate sample was collected during both the March and June 2012 sampling events.

The laboratory also prepared and analyzed method blanks, laboratory control sample (LCS), and matrix spike/matrix spike duplicates (MS/MSDs) for QA/QC purposes. See the laboratory reports and the case narratives for each sampling event in Appendix B to review the performance of laboratory QA/QC samples.

## 3.0 *GROUND WATER GRADIENT*

For the June 2012 sampling event a round of water level measurements was collected from the all of the monitoring wells at the site except for the B-series wells and the Voss Well. The depth-to-water measurements and ground water elevations for June are shown in Table 1.

Based on the evaluation of ground water elevation data from the March and June 2012 sampling events, the predominant direction of ground water flow is downward. In each of the four (4) well pairs (MW-1/1A, MW-102A/102B, MW-107S/107D, and MW-108S/108D) at the site, the head in the shallow well is significantly higher than the head in the deeper wells. This indicates that the gradient is negative (downward) at all four (4) well pairs. The degree of magnitude of the gradient had a range of -0.224 to -0.127 ft/ft during the March 2012 sampling event and a range of -0.217 to -0.115 ft/ft during the June 2012 sampling event, indicating that the downward gradient range was nearly identical during the two sampling events.

## 4.0 *ANALYTICAL RESULTS*

During both the March and June 2012 sampling events, the ground water samples were shipped to the Test America (TA) laboratory in North Canton, Ohio for analysis. The samples were held, transported, and delivered following strict chain-of-custody procedures.

The collected samples were analyzed for the following parameters:

- VOCs by Method SW8260B,
- Dissolved metals by Method SW6010B/6020
- Anions by Method SW9065A
- Alkalinity by Method 2320B
- Total Phosphates, and
- Ammonia Phosphorus

The laboratory analytical report and completed chain-of-custody forms for each event are included as Appendix B.

A summary of detected VOCs and inorganic analytes for the March and June 2012 events are attached as Table 2A and 2B, respectively.

A total of thirteen (13) VOCs were found above laboratory reporting limits (RL), but below maximum contaminant levels (MCLs) promulgated by the U.S. Environmental Protection Agency (USEPA) during the March and/or June 2012 sampling events. These VOC parameters were as follows:

- 1,1,1-trichloroethane;
- 1,1-dichloroethane;
- 1,1-dichloroethene;
- 1,2,3-trichlorobenzene;
- chloroform;
- cis-1,2-dichloroethene;
- dichlorodifluoromethane;
- dichlorofluoromethane;
- naphthalene;
- tetrachloroethene;
- toluene;
- trichloroethene; and
- trichlorofluoromethane.

Dissolved barium, chromium and lead concentrations were either not detected, detected below their respective laboratory RLs, or detected below their respective MCL. All other inorganic analytes were either not detected, detected below their respective laboratory RLs, or detected below their respective MCL.

Refer to Table 2A and Table 2B for a summary of specific concentrations detected in specific wells during the March and June 2012 sampling events, respectively. Table 3 contains a summary of historical sample results from the landfill closure plat wells, as well as the March and June 2012 sample results for the additional wells monitored by ARCADIS associated with the Oak Grove Village Superfund Site-OU2.

## 5.0 *LANDFILL INSPECTION INFORMATION*

According to the post-closure monitoring requirements for the Sullivan Landfill as set forth by the MDNR and contained on the closure plat for the landfill filed with the Franklin County, Missouri Recorder of Deeds on September 6, 2000, semiannual visual inspections and maintenance, as necessary, are to be performed on the landfill. The landfill is typically mowed twice per year depending upon vegetation growth. Presently, personnel from the City of Sullivan Water Department perform these inspection and maintenance activities. Although the landfill is only required to be inspected twice per year, the City of Sullivan generally performs quarterly inspections of the landfill, noting any need for maintenance and scheduling the completion of the maintenance activities, usually prior to the next quarter's inspection. City personnel complete a checklist to document their quarterly inspection and any maintenance activities. Enclosed in Appendix C are copies of the landfill inspection reports from First Quarter 2008 through Second Quarter 2012. As can be seen in these inspection reports, only routine maintenance activities have been necessary at the landfill since First Quarter 2008.

On August 28, 2012, ERM performed an inspection of the landfill to assess the following:

- condition of the landfill cap,
- condition of site monitoring wells,
- condition of gas vents,
- adequacy of routine maintenance activities performed by the City of Sullivan Water Department, and
- the general condition of site features such as fencing, drainage ways, leachate collection system, etc.

Generally, based on ERM's inspection activities, the landfill features are well maintained and are in good condition with a few minor item of concern to note as follows:

- The perimeter fence was intact, however a few locations where the fence was damaged was noted along the western side of the landfill, along the northern side bordering Emma Lane, and along the eastern edge south of MW-102A/102B. These areas should be repaired so that the integrity of the fence does not deteriorate further.

- A large rodent burrow was noted in the landfill cap immediately to the south of MW-108S/108D. This burrow should be repaired so that the landfill cap integrity is maintained.

- Woody vegetation was noted immediately adjacent to MW-105. This vegetation should be removed, so as not to jeopardize the integrity of this monitoring well.

- The concrete around a number of the manhole covers associated with the leachate collection system manholes along the northern boundary of the landfill is deteriorated and in need of repair.

## 6.0 *SUMMARY*

In March and June 2012, ground water samples were collected for VOCs, metals, anions, total phosphate, and ammonia phosphorus from thirteen (13) wells around the Sullivan Landfill located in Sullivan, Missouri. As described in Section 4.0 of this report, the analytes that were found at levels above respective laboratory RLs were all less than applicable USEPA MCLs. These analytes were found in several monitoring wells at varied concentrations as shown in Table 2A and 2B. Methylene chloride was also detected in trip and equipment blanks collected, however it was not observed above the RL in the samples collected from the wells monitored.

In order to provide a comparison to previous sampling results, a historical summary of detected VOCs, as well as inorganic analytes from all previous sampling events has been included as Table 3. As shown in this table, the measurements in all of the wells have remained relatively consistent over time since sampling activities began.

Comparison of the depths to water readings in the monitoring well pairs from the March and June sampling events at MW-1/1A, MW-102A/102B, MW-107S/107D, and MW-108S/108B suggest that a vertical gradient is apparent at the site.

The four (4) sets of monitoring wells listed above are completed to different depths at the same areal location, which enable vertical hydraulic gradients to be evaluated. The MW-1 series wells are located near the toe of the slope of a hill present to the south of the landfill, while the MW-107 and MW-108 series wells are constructed through the landfill cap, and the MW-102 series wells are located to the east of the landfill (See Figure 2).

Based on the evaluation of ground water elevation data from these wells for the March and June 2012 sampling events, a vertical component to ground water flow is evident at all four (4) well pairs, and indicates that the gradient is negative (downward) at all four (4) well pairs. The magnitude of the gradient ranges from -0.224 to -0.127 ft/ft during the March 2012 sampling event, and from -0.217 to -0.115 ft/ft during the June 2012 sampling event, indicating that the downward gradient range was nearly identical during the two sampling events.

Except as indicated in Section 5.0, no major outstanding inspection or maintenance issues appear to be present at the landfill in association with the quarterly inspection activities performed by the City of Sullivan. Additionally, during the performance of the 2012 biennial ground water sampling events, ARCADIS did not note any areas of concern associated with excessive vegetation, site security, site access, condition of the landfill cover, monitoring wells, or gas vents. In general, the landfill appears to be well maintained.

Figures

# *Figures*

MISSOURI

SECTION 3
T.40N./R.2W.
MERAMEC TOWNSHIP
FRANKLIN COUNTY, MISSOURI

0 2000
SCALE (IN FEET)

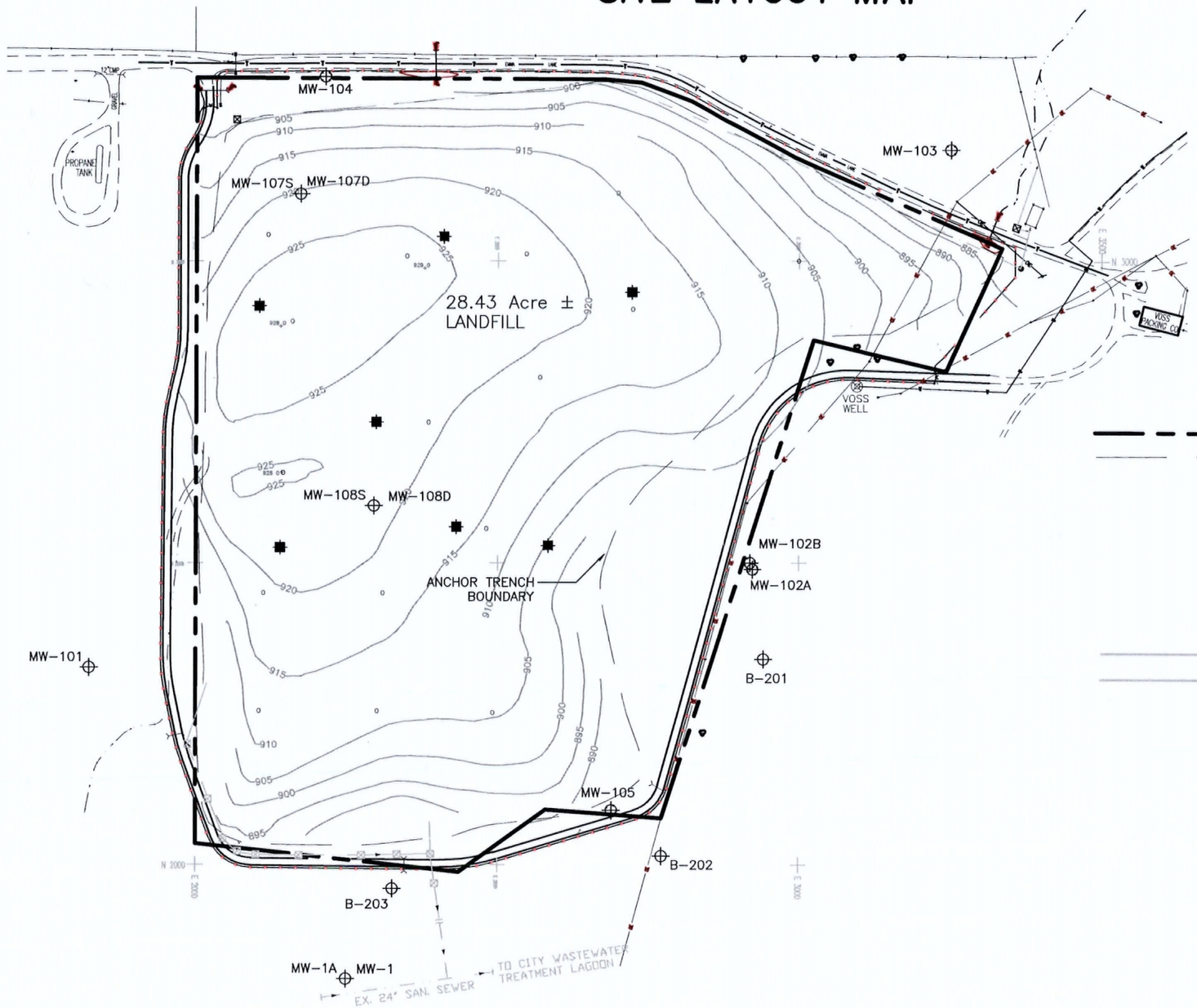
# SITE LOCATION MAP

ADAPTED FROM USGS
SULLIVAN QUAD, 1969/PR 1980

REVISIONS ARE TO BE MADE ON THE CADD FILE ONLY

| | | |
|---|---|---|
| ERM | **SULLIVAN LANDFILL**<br>EMMA LANE<br>SULLIVAN, MISSOURI | CADD Review GML<br>CHK'D DW-StC<br>0046760 |
| Drawn By<br>RMK 08/01/06 | Environmental Resources Management | FIGURE 1 |

# SITE LAYOUT MAP




N

0 200 400

SCALE (IN FEET)

## LEGEND

- PROPERTY BOUNDARY
- GEOMEMBRANE ANCHOR TRENCH BOUNDARY
- CULVERT PIPE
- DITCH CENTERLINE
- CHAIN LINK FENCE
- CHAIN LINK FENCE GATE
- FINISH GRADE CONTOUR
- STONE RIPRAP INLET/OUTLET PROTECTION
- PERIMETER DRAIN OUTLET
- 4" PERFORATED HDPE TRENCH DRAIN
- 4" PVC TRENCH DRAIN
- GAS VENT LOCATION (16 TOTAL)
- MANHOLE
- UTILITY POLE
- OVERHEAD ELECTRIC
- CHECK VALVE PIT
- CLEANOUT
- BUMPER POSTS @ GROUNDWATER MONITORING WELLS
- SETTLEMENT PLATFORM LOCATION (7 TOTAL)

THIS DRAWING WAS ORIGINALLY DEVELOPED BY ABB ENVIRONMENTAL SERVICES, INC., 9-11-96, DWG. NO.: 6974C120.

| | | | |
|---|---|---|---|
| Drawn By GML | ERM | SULLIVAN LANDFILL<br>EMMA LANE<br>SULLIVAN, MISSOURI | CHK'D MDB-AC |
| CADD Review RMK | | | 0171492 |
| Date Drawn/Rev'd 5/8/08-12/11/12 | | Environmental Resources Management | FIGURE 2 |

R:\Cadd\ClntQ-T\TRW\0171492\0171492-01.dwg, SITE LAYOUT MAP, 12/11/2012 1:33:49 PM, GML

# Tables

Tables

# *Tables*

## TABLE 1

### WELL SUMMARY SULLIVAN LANDFILL SAMPLING [1]
### JUNE 2012
### SULLIVAN, MISSOURI

| Well | TOC Elevation [2] | Depth-to-Water from TOC [3] | Ground Water Elevation [2] | Total Well Depth from TOC | Total Boring Depth from Ground Surface | Base of Well Elevation [2] | Formation Screened |
|---|---|---|---|---|---|---|---|
| MW-1 | 859.50 | 165.08 | 694.42 | 505 | NC | 354.5 | NC |
| MW-1A [4] | 860.64 | 141.45 | 719.19 | 280 | NC | 580.64 | NC |
| MW-101 [4] | 886.47 | 160.93 | 725.54 | 185.5 | 243 | 700.97 | Gasconade |
| MW-102A | 894.78 | 187.8 | 706.98 | 275.9 | 283 | 618.88 | Gasconade |
| MW-102B [4] | 895.23 | 178.18 | 717.05 | 209.7 | 214 | 685.53 | Gasconade |
| MW-103 [4] | 877.73 | 180.69 | 697.04 | 207.1 | 243 | 670.63 | Gasconade |
| MW-104 [4] | 898.2 | 176.89 | 721.31 | 200.6 | 205 | 697.6 | NC |
| MW-105 [4] | 880.89 | 150.75 | 730.14 | 176.8 | 203 | 704.09 | Gasconade |
| MW-107S [4] | 922.24 | 204.64 | 717.6 | 223.3 | 406 | 698.94 | Eminence |
| MW-107D | 922.24 | 230.09 | 692.15 | 377.8 | 406 | 544.44 | Eminence |
| MW-108S [4] | 923.79 | 194.62 | 729.17 | 215.7 | 408 | 708.09 | Eminence |
| MW-108D | 923.8 | 231.36 | 692.44 | 385.3 | 408 | 538.5 | Eminence |
| Voss | NC | NC | NC | NC | NC | NC | NC |

**NOTES:** [1] All measurements are expressed in feet.

[2] Elevations are based on the North American Vertical Datum of 1988.

[3] Depth-to-Water from TOC was measured on June 18, 2012.

[4] Wells used to develop the apparent ground water potentiometric surface gradient map for June 2012 contained in Figure 2.

Denotes the deeper of the well pair

**KEY:** TOC = Top of casing.

NC = Not collected.

**TABLE 2A**

**SUMMARY OF DETECTED ANALYTES**
**MARCH 2012**
**CITY OF SULLIVAN LANDFILL**
**SULLIVAN, MISSOURI**

| | | | Sample Number | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MCL[2] | MW-1 | MW-101 | MW-102A | MW-102B | MW-103 | MW-104 | MW-105 | MW-107S | MW-107D | MW-108S | MW-108D | Voss | EB-01 (Equipment Blank) | TB-01 (Trip Blank) | TB-02 (Trip Blank) | TB-03 (Trip Blank) |
| | | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) |
| **Volatile Organic Analytes [1]** | **CAS No.** | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 200 | -- | -- | -- | -- | 1 | 0.22 J | -- | 0.24 J | -- | -- | 0.22 J | 0.29 J | -- | -- | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | [3] | -- | 0.37 J | 1.4 | 0.96 J | 1.6 | 0.78 J | 2.9 | 0.50 J | -- | 1.6 | 1.8 | 2.5 | -- | -- | -- | -- |
| 1,1-Dichloroethene | 75-35-4 | 7 | -- | -- | 0.22 J | -- | 0.67 J | -- | -- | 0.20 J | -- | -- | 0.20 J | 0.27 J | -- | -- | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | 0.19 J,B | -- | -- | -- | -- | -- | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Acetone | 67-64-1 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | 80 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 75-15-0 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | 80 | -- | 0.18 J | -- | -- | 0.48 J | 0.32 J | 0.24 J | 0.24 J | -- | 0.33 J | 0.34 J | 0.32 J | -- | -- | -- | -- |
| cis-1,2-Dichloroethene | 156-59-2 | 70 | -- | 0.73 J | -- | -- | -- | 0.35 J | 0.28 J | -- | -- | 0.59 J | 0.58 J | -- | -- | -- | -- | -- |
| Dibromochloromethane | 124-48-1 | 80 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | [3] | -- | 2.5 | 1.6 | 1.5 | 5.9 | 3.2 | 1.7 | 3.1 | 0.34 J | 1.6 | 3.1 | 3.1 | -- | -- | -- | -- |
| Dichlorofluoromethane | 75-43-4 | [3] | -- | 24 | 21 | 27 | 150 | 51 | 45 | 67 | 7.2 | 71 | 96 | 68 | -- | -- | -- | -- |
| Methylene Chloride | 75-09-2 | 5 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.37 J | 0.39 J,B | -- | -- |
| methyl t-butyl ether | 1634-04-4 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 91-20-3 | [3] | 0.28 J | -- | -- | -- | -- | -- | -- | -- | 0.48 J,B | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 127-18-4 | 5 | -- | -- | -- | 0.37 J | 1.3 | 0.60 J | 0.42 J | 0.42 J | -- | 0.57 J | 0.89 J | 0.76 J | -- | -- | -- | -- |
| Toluene | 108-88-3 | 1,000 | 0.24 J | -- | -- | -- | | 0.15 J | -- | 0.24 J | -- | 0.18 J | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 79-01-6 | 5 | -- | 2.2 | 0.77 J | 0.52 J | 0.77 J | 3.5 | 1.1 | 2.8 | 0.49 J | 1.4 | 2.9 | 1.8 | -- | -- | -- | -- |
| Trichlorofluoromethane | 75-69-4 | [3] | -- | 22 | 11 | 12 | 130 | 34 | 8.4 | 55 | 7.7 | 10 | 38 | 40 | -- | -- | -- | -- |
| **Inorganic Analytes [1]** | **CAS No.** | | | | | | | | | | | | | | | | | |
| SiO2, Silica | 7631-86-9 | [3] | 8900 | 10000 | 9400 | 13000 | 10000 | 12000 | 12000 | 9200 | 8800 | 13000 | 10000 | 11000 | 220 J | -- | -- | -- |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | [3] | 180000 | 280000 | 170000 | 260000 | 190000 | 350000 | 320000 | 250000 | 190000 | 330000 | 260000 | 230000 | 3100 J | -- | -- | -- |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Ammonia | 7664-41-7 | [3] | 73 J | 120 J,B | 180 J,B | 170 J,B | 120 J,B | -- | 160 J,B | 190 J,B | 92 J,B | 230 B | 170 J,B | 38 J | 120 J,B | -- | -- | -- |
| Dissolved Barium | 7440-39-3 | 2000 | 300 B | 62 J | 51 J | 82 J | 69 J,B | 86 J,B | 120 J | 60 J | 150 J | 200 | 180 J | 180 J,B | 1.8 J | -- | -- | -- |
| Dissolved Boron | 7440-42-8 | [3] | -- | -- | -- | -- | -- | -- | 36 J,B | 64 J,B | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Bromide | 7726-95-6 | [3] | -- | -- | -- | -- | 160 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Calcium | 7440-70-2 | [3] | 35000 B | 58000 | 40000 | 55000 | 42000 B | 76000 B | 70000 | 57000 | 40000 | 78000 | 59000 | 51000 B | 920 J | -- | -- | -- |
| Dissolved Chloride | 16887-00-6 | 250000 | 1700 B | 6600 | 5100 | 9400 | 13000 | 22000 | 8900 | 2800 | 1300 | 8700 | 6000 | 8100 | 260 J | -- | -- | -- |
| Dissolved Chromium | 7440-47-3 | 100 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Fluoride | 16984-48-8 | 4000 | 56 J | 28 J | 41 J | 40 J | 63 J | 24 J | -- | 52 J | 44 J | -- | 39 J | 33 J | 23 J | -- | -- | -- |
| Dissolved Iron | 7439-89-6 | 300 | -- | 120 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Lead | 7439-92-1 | 15 | -- | -- | -- | 2.5 J | -- | -- | -- | 3 | 2.2 J | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Lithium | 554-13-2 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Magnesium | 7440-47-4 | [3] | 21000 B | 31000 B | 21000 B | 28000 B | 23000 B | 43000 B | 37000 B | 30000 B | 23000 B | 39000 B | 32000 B | 29000 B | 590 J,B | -- | -- | -- |
| Dissolved Manganese | 7439-96-5 | 50 | -- | -- | 1.6 J | -- | 0.87 J,B | 0.65 J,B | -- | 1.5 J | 1.1 J | 81 | 0.48 J | 0.74 J,B | -- | -- | -- | -- |
| Dissolved Nickel | 7440-02-0 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7.4 J | -- | -- | -- | -- | -- | -- |
| Dissolved Nitrate as N | 14797-55-8 | 10000 | 640 | 830 H | 1300 H | 690 H | 1900 | 850 | 2000 H | 680 H | 150 H | 330 H | 450 H | 970 | -- | -- | -- | -- |
| Dissolved Nitrite as N | 14-797-65-0 | 1000 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Orthophosphate | 14265-44-2 | [3] | 190 J | -- | -- | -- | -- | -- | -- | -- | 890 H | -- | -- | -- | -- | -- | -- | -- |
| Dissolved Potassium | 7440-07-7 | [3] | 730 J,B | 1500 J,B | 1100 J,B | 2400 J,B | 960 J,B | 2000 J,B | 3100 J,B | 1100 J,B | 1200 J,B | 2600 J,B | 1400 J,B | 1500 J, B | 210 J,B | -- | -- | -- |
| Dissolved Sodium | 7440-23-5 | [3] | 2200 J | 3900 J | 2000 J | 7800 | 4600 J | 8200 | 6400 | 2500 J | 2400 J | 6200 | 4000 J | 4900 J | -- | -- | -- | -- |
| Dissolved Strontium | 7440-24-6 | [3] | 42 B | 56 B | 40 B | 69 B | 46 B | 64 B | 96 B | 49 B | 45 B | 120 B | 58 B | 49 B | -- | -- | -- | -- |
| Dissolved Sulfate | 18785-72-3 | 250000 | 7100 | 6700 | 11000 | 7300 | 690 J | 5600 | 8400 | 17000 | 12000 | 11000 | 14000 | 11000 | -- | -- | -- | -- |
| Dissolved Zinc | 7440-66-6 | 5000 | -- | 35 | -- | -- | -- | 35 B | -- | 740 | 390 | 170 | 31 | 7.3 J,B | -- | -- | -- | -- |
| Total Phosphorus as PO4 Dissolved | 98059-61-1 | [3] | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

**NOTES:**

(1) Results expressed in ug/l.

(2) U.S. Environmental Protection Agency primary or secondary drinking water maximum contaminant level (MCL).

(3) No MCL is associated with this compound.

(4) DUP is a duplicate sample collected from MW-107S

**KEY:**

-- = Not Detected

B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.

J = Estimated value (Organics Only).

NA = Not Analyzed

* = Batch quality control exceeds the upper or lower control limits.

H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 2B**

**SUMMARY OF DETECTED ANALYTES**
**JUNE 2012**
**CITY OF SULLIVAN LANDFILL**
**SULLIVAN, MISSOURI**

| | | | Sample Number | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MCL[2] | MW-1 | MW-1A | MW-101 | MW-102A | MW-102B | MW-103 | MW-104 | MW-105 | MW-107S | MW-107D | MW-108S | MW-108D | Voss | ER (Equipment Rinsate) | Trip Blank 240-12553-4TB | Trip Blank 240-12473-4TB | Trip Blank 240-12605-4TB | Trip Blank (20120619) |
| | | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) | (ug/L) |
| **Volatile Organic Analytes[1]** | **CAS No.** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 200 | – | – | – | – | – | 0.83 J | – | – | – | – | – | – | 0.33 J | – | – | – | – | – |
| 1,1-Dichloroethane | 1717-00-6 | [3] | – | 0.65 J* | 0.32 J* | 1.3 | 0.74 J | 1.2 | 0.78 J | 2.8 | 0.53 J | – | 1.2 | 1.1 | 2.9 | – | – | – | – | – |
| 1,1-Dichloroethene | 75-35-4 | 7 | – | – | – | – | – | 0.54 J | – | – | – | – | – | – | – | – | – | – | – | – |
| 1,2-Dichloroethane | 107-06-2 | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 1,2-Dichloroethene | 540-59-0 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 1,2,3-Trichlorobenzene | 87616 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 2-Butanone (MEK) | 78-93-3 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 4-Methyl-2-pentanone (MIBK) | 108-10-1 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Acetone | 67-64-1 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Bromodichloromethane | 75-27-4 | 80 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Bromoform | 75-25-2 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Carbon disulfide | 75-15-0 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Chlorobenzene | 108-90-7 | 100 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Chloroform | 67-66-3 | 80 | – | – | – | – | – | – | 0.19 J | 0.26 J | 0.18 J | – | – | – | – | 0.3 J | – | – | – | – |
| cis-1,2-Dichloroethene | 156-59-2 | 70 | – | 0.55 J | 0.58 J | – | – | – | – | – | – | – | 0.45 J | – | – | – | – | – | – | – |
| Dibromochloromethane | 124-48-1 | 80 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dichlorodifluoromethane | 75-71-8 | [3] | – | 0.75 J | 2.8 | 1.5 | 0.91 J | 10* | 4.8* | 1.4 | 2.1 | – | 2.6* | 3.7* | 3.7 | – | – | – | – | – |
| Dichlorofluoromethane | 75-43-4 | [3] | – | 23 | 20 | 17 | 18 | 130 | 71 | 40 | 54 | 2.7 | 59 | 58 | 91 | – | – | – | – | – |
| Methylene Chloride | 75-09-2 | 5 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | 1.7 B | 0.64 J |
| methyl t-butyl ether | 1634-04-4 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Naphthalene | 91-20-3 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Tetrachloroethene | 127-18-4 | 5 | – | – | 0.33 J | – | – | 1.2 | 0.42 J | 0.37 J | 0.41 J | – | 0.64 J | 0.63 J | 0.91 J | – | – | – | – | – |
| Toluene | 108-88-3 | 1,000 | – | – | – | – | – | – | – | – | – | – | – | – | – | 0.47 J | – | – | – | – |
| Trichloroethene | 79-01-6 | 5 | – | 0.88 J | 1.8 | 0.81 J | 0.41 J | 0.69 J | 3.1 | 1.0 | 2.7 | 0.23 J | 1.7 | 2.5 | 2.0 | – | – | – | – | – |
| Trichlorofluoromethane | 75-69-4 | [3] | – | 5 | 18 | 9.4 | 5.7 | 130 | 39 | 7.6 | 46 | 3 | 12 | 32 | 43 | – | – | – | – | – |
| **Inorganic Analytes[1]** | **CAS No.** | | | | | | | | | | | | | | | | | | | |
| SiO2, Silica | 7631-86-9 | [3] | 9500 | 11000 | 9000 B | 10000 | 14000 | 11000 | 13000 | 13000 | 9800 | 9400 | 13000 | 11000 | 12000 | – | – | – | – | – |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | [3] | 160000 | 280000 | 260000 | 160000 | 250000 | 190000 | 350000 | 330000 | 230000 | 180000 | 340000 | 220000 | 240000 | 2900 J | – | – | – | – |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dissolved Ammonia | 7664-41-7 | [3] | – | – | 82 J,B | 49 J,B | – | – | – | 43 J | – | – | – | – | – | – | – | – | – | – |
| Dissolved Barium | 7440-39-3 | 2000 | 370 | 120 J | 55 J,B | 50 J | 81 J | 77 J,B | 92 J,B | 120 J,B | 54 J,B | 160 J,B | 190 J | 180 J | 190 J | 3.0 J,B | – | – | – | – |
| Dissolved Boron | 7440-42-8 | [3] | – | 43 J | – | – | – | – | – | 40 J | – | – | – | – | – | – | – | – | – | – |
| Dissolved Bromide | 7726-95-6 | [3] | – | – | 88 J | – | – | 180 J | – | – | – | – | – | – | – | – | – | – | – | – |
| Dissolved Calcium | 7440-70-2 | [3] | 35000 | 62000 | 57000 B | 39000 | 55000 | 46000 B | 80000 B | 72000 B | 55000 B | 40000 B | 73000 | 50000 | 52000 | 1000 J,B | – | – | – | – |
| Dissolved Chloride | 16887-00-6 | 250000 | 1800 | 6300 | 7400 | 5300 | 9000 | 13000 | 24000 | 8300 | 3100 | 1300 | 10000 | 5300 | 8700 | 730 J | – | – | – | – |
| Dissolved Chromium | 7440-47-3 | 100 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dissolved Fluoride | 16984-48-8 | 4000 | 45 J | 42 J | 43 J | 50 J | 37 J | 78 J | 35 J | 15 J | 64 J | 51 J | 33 J | 53 J | 45 J | – | – | – | – | – |
| Dissolved Iron | 7439-89-6 | 300 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Dissolved Lead | 7439-92-1 | 15 | – | – | – | – | 2.2 J | – | 3.2 | 2.2 J | 3.2 | 2.5 J | – | – | 2.2 J | – | – | – | – | – |
| Dissolved Lithium | 554-13-2 | [3] | – | – | 11 J | 1.8 J,B | – | – | 2.0 J | – | – | 1.9 J | – | 2.7 J,B | – | 2.0 J | – | – | – | – |
| Dissolved Magnesium | 7440-47-4 | [3] | 20000 | 32000 | 32000 B | 21000 | 30000 | 24000 B | 42000 B | 39000 B | 30000 B | 24000 B | 37000 | 29000 | 29000 | 65 J,B | – | – | – | – |
| Dissolved Manganese | 7439-96-5 | 50 | 0.44 J,B | 0.81 J,B | – | – | – | 0.85 J,B | 1.1 J,B | 0.41 J,B | 1.2 J,B | 1.5 J,B | 76 B | – | – | – | – | – | – | – |
| Dissolved Nickel | 7440-02-0 | [3] | – | – | – | – | – | – | – | – | – | – | 5.6 J | – | – | – | – | – | – | – |
| Dissolved Nitrate as N | 14797-55-8 | 10000 | 920 | 1600 H | – | 1200 H | 760 | 1800 | 890 | 1800 | 670 | 81 J | 290 | 370 | 1100 | – | – | – | – | – |
| Dissolved Nitrite as N | 14-797-65-0 | 1000 | – | – | – | – | – | – | – | – | – | – | – | – | – | 22 J | – | – | – | – |
| Dissolved Orthophosphate | 14265-44-2 | [3] | – | – | – | 54 J,H | 84 J | 180 J,H | 190 J | 140 J | – | – | 200 J | 110 J | 83 J | 160 J,H | – | – | – | – |
| Dissolved Potassium | 7440-07-7 | [3] | 450 J | 2700 J | 1900 J | 830 J | 2400 J | 880 J | 2100 J | 3300 J | 1200 J | 1200 J | 2300 J | 1300 J | 1400 J | – | – | – | – | – |
| Dissolved Sodium | 7440-23-5 | [3] | 2500 J | 5600 | 4900 J | 2800 J | 9000 | 5000 | 8800 | 7600 | 3100 J | 3300 J | 7200 | 4300 J | 5400 | – | – | – | – | – |
| Dissolved Strontium | 7440-24-6 | [3] | 39 | 91 | 52 B | 41 | 69 | 41 B | 60 B | 89 B | 44 B | 42 B | 100 | 51 | 49 | – | – | – | – | – |
| Dissolved Sulfate | 18785-72-3 | 250000 | 4400 | 6200 | 7200 | 12000 | 7400 | 820 J | 6200 | 8200 | 18000 | 14000 | 12000 | 13000 | 11000 | – | – | – | – | – |
| Dissolved Zinc | 7440-66-6 | 5000 | – | 5.5 J | 27 J,B | – | 7.6 J | 6.4 J,B | 52 B | 7.8 J,B | 410 B | 250 B | 87 | 16 J | 7.3 J | 5.2 J,B | – | – | – | – |
| Nitrate as N | 14797-55-8 | 10000 | – | – | 820 H | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Nitrite as N | 14797-65-0 | 1000 | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Orthophosphate | 14265-44-2 | [3] | – | – | 190 J,H | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Total Phosphorus as PO4 Dissolved | 98059-61-1 | [3] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

**NOTES:**
[1] Results expressed in ug/l.
[2] U.S. Environmental Protection Agency primary or secondary drinking water maximum contaminant level (MCL).
[3] No MCL is associated with this compound.
[4] DUP-1 is a duplicate sample collected from MW-105

**KEY:**
– = Not Detected
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-1**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- |
| 1,1-Dichloroethene | 75-35-4 | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | -- | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | -- | -- |
| Dichlorofluoromethane | 75-43-4 | -- | -- |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | 0.28 J | -- |
| Tetrachloroethene | 127-18-4 | -- | -- |
| Toluene | 108-88-3 | 0.24 J | -- |
| Trichloroethene | 79-01-6 | -- | -- |
| Trichlorofluoromethane | 75-69-4 | -- | -- |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 180000 | 160000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 73 J | -- |
| Barium | 7440-39-3 | 300 B | 370 |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 35000 B | 35000 |
| Chloride | 16887-00-6 | 1700 B | 1800 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 56 J | 45 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | -- | -- |
| Lithium | 554-13-2 | -- | -- |
| Magnesium | 7440-47-4 | 21000 B | 20000 |
| Manganese | 7439-96-5 | -- | 0.44 J,B |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 640 | 920 |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | 190 J | -- |
| Potassium | 7440-07-7 | 730 J,B | 450 J |
| SiO2, Silica | 7631-86-9 | 8900 | 9500 |
| Sodium | 7440-23-5 | 2200 J | 2500 J |
| Strontium | 7440-24-6 | 42 B | 39 |
| Sulfate | 18785-72-3 | 7100 | 4400 |
| Zinc | 7440-66-6 | -- | -- |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-1A**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event |
|---|---|---|
| | | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | |
| 1,1,1-Trichloroethane | 71-55-6 | -- |
| 1,1-Dichloroethane | 1717-00-6 | 0.65 J* |
| 1,1-Dichloroethene | 75-35-4 | -- |
| 1,2-Dichloroethane | 107-06-2 | -- |
| 1,2-Dichloroethene | 540-59-0 | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- |
| 2-Butanone (MEK) | 78-93-3 | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- |
| Acetone | 67-64-1 | -- |
| Bromodichloromethane | 75-27-4 | -- |
| Bromoform | 75-25-2 | -- |
| Carbon disulfide | 75-15-0 | -- |
| Chlorobenzene | 108-90-7 | -- |
| Chloroform | 67-66-3 | -- |
| cis-1,2-Dichloroethene | 156-59-2 | 0.55 J |
| Dibromochloromethane | 124-48-1 | -- |
| Dichlorodifluoromethane | 75-71-8 | 0.75 J |
| Dichlorofluoromethane | 75-43-4 | 23 |
| Methylene Chloride | 75-09-2 | -- |
| methyl t-butyl ether | 1634-04-4 | -- |
| Naphthalene | 91-20-3 | -- |
| Tetrachloroethene | 127-18-4 | -- |
| Toluene | 108-88-3 | -- |
| Trichloroethene | 79-01-6 | 0.88 J |
| Trichlorofluoromethane | 75-69-4 | 5 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | |
| Barium | 7440-39-3 | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 280000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- |
| Chromium | 7440-47-3 | NA |
| Lead | 7439-92-1 | NA |
| Nitrate as N | 14797-55-8 | -- |
| Nitrite as N | 14-797-65-0 | -- |
| Orthophosphate | 14265-44-2 | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | |
| Ammonia | 7664-41-7 | -- |
| Barium | 7440-39-3 | 120 J |
| Boron | 7440-42-8 | 43 J |
| Bromide | 7726-95-6 | -- |
| Calcium | 7440-70-2 | 62000 |
| Chloride | 16887-00-6 | 6300 |
| Chromium | 7440-47-3 | -- |
| Fluoride | 16984-48-8 | 42 J |
| Iron | 7439-89-6 | -- |
| Lead | 7439-92-1 | -- |
| Lithium | 554-13-2 | -- |
| Magnesium | 7440-47-4 | 32000 |
| Manganese | 7439-96-5 | 0.81 J,B |
| Nickel | 7440-02-0 | -- |
| Nitrate as N | 14797-55-8 | 1600 H |
| Nitrite as N | 14-797-65-0 | -- |
| Orthophosphate | 14265-44-2 | -- |
| Potassium | 7440-07-7 | 2700 J |
| Si02, Silica | 7631-86-9 | 11000 |
| Sodium | 7440-23-5 | 5600 |
| Strontium | 7440-24-6 | 91 |
| Sulfate | 18785-72-3 | 6200 |
| Zinc | 7440-66-6 | 5.5 J |
| Total Phosphorus as PO 4 | 98059-61-1 | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-101**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5/23/1992 | 7/22/1992 | 2/13/1993 | 8/30/1993 | 5/24/1994 | 9/6/1994 | 3/24/1995 | 6/28/1995 | 9/15/1995 | 12/18/1995 | 5/3/1996 | 6/23/1997 | 7/22/1998 | 6/29/1999 | 5/22/2000 | 5/14/2002 | 5/26/2004 | 4/26/2006 | 4/11/2008 | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.4 J | -- | -- | -- | -- | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.3 J | 0.4 J | -- | -- | -- | -- | 0.37 J | 0.32 J* |
| 1,1-Dichloroethene | 75-35-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 3 J | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.4 J | -- | -- | -- | -- |
| Acetone | 67-64-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 J,B | -- | -- | 1.4 J,B | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.18 J | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.3 J | -- | 0.69 J | -- | 0.73 J | 0.58 J |
| Dibromochloromethane | 124-48-1 | -- | -- | -- | 3.3 J | 2.2 | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | NA | NA | -- | -- | -- | -- | 2.1 | 1.9 | 3 | 4.9 | 4.8 | NA | NA | NA | NA | NA | NA | 2.1 * | 0.99 J | 2.5 | 2.8 |
| Dichlorofluoromethane | 75-43-4 | NA | NA | 30 | 26 | 18.6 | 23.7 | 16.3 | 19.4 | 22.5 | 39.8 | 25.5 | NA | NA | NA | NA | NA | NA | NA | NA | 24 | 20 |
| Methylene Chloride | 75-09-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 J,B | 0.2 J | -- | 0.4 J,B | -- | -- | -- | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 91-20-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.3 J | 0.4 J | -- | -- | -- | -- | -- | 0.33 J |
| Toluene | 108-88-3 | -- | -- | -- | -- | -- | -- | -- | 1.8 | -- | -- | -- | -- | -- | -- | 0.1 J | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 79-01-6 | 4 | -- | -- | 4.2 | 1.9 | 3.7 | 2.1 | 2.2 | 3.7 | 4.1 | 3.2 | -- | 3 J | 2.3 | 3.8 | 1.2 | 1.4 | 2.4 | 0.60 J | 2.2 | 1.8 |
| Trichlorofluoromethane | 75-69-4 | NA | NA | 51 | 31 | 26.2 | 43.8 | 26.8 | 24.8 | 32.4 | 42.3 | 32.9 | NA | NA | NA | NA | NA | NA | 20 * | 9.4 | 22 | 18 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Barium | 7440-39-3 | 90 | -- | NA | NA | 52 | 53 | 56 | 51 | 53 | 58 | 63 | 61.1 | 67 B | -- | NA | NA | NA | NA | NA | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 280000 | 260000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Chromium | 7440-47-3 | -- | -- | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | 4.5 B | 39 | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 10 | 8 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 820 H |
| Nitrite as N | 14797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 190 J,H |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Ammonia | 7664-41-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 120 J,B | 82 J,B |
| Barium | 7440-39-3 | NA | NA | -- | 53 | 60 | 58 | 64 | 57 | 56 | 55 | 54 | NA | NA | NA | -- | 62 B | 58 B | 53 | 60.6 B,J | 62 J | 55 J,B |
| Boron | 7440-42-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Bromide | 7726-95-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 88 J |
| Calcium | 7440-70-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 58000 | 57000 B |
| Chloride | 16887-00-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6600 | 7400 |
| Chromium | 7440-47-3 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | 2.9 B | -- | -- |
| Fluoride | 16984-48-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 28 J | 43 J |
| Iron | 7439-89-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 120 | -- |
| Lead | 7439-92-1 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- |
| Lithium | 554-13-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 11 J |
| Magnesium | 7440-47-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 31000 B | 32000 B |
| Manganese | 7439-96-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nickel | 7440-02-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 830 H | -- |
| Nitrite as N | 14-797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Potassium | 7440-09-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1500 J,B | 1900 J |
| SiO2, Silica | 7631-86-9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 10000 | 9000 B |
| Sodium | 7440-23-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3900 J | 4900 J |
| Strontium | 7440-24-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 56 B | 52 B |
| Sulfate | 18785-72-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6700 | 7200 |
| Zinc | 7440-66-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 35 | 27 J,B |
| Total Phosphorus as PO4 | 98059-61-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |

**KEY:**

-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-102A**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | 1.4 | 1.3 |
| 1,1-Dichloroethene | 75-35-4 | 0.22 J | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | -- | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 1.6 | 1.5 |
| Dichlorofluoromethane | 75-43-4 | 21 | 17 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- |
| Toluene | 108-88-3 | -- | -- |
| Trichloroethene | 79-01-6 | 0.77 J | 0.81 J |
| Trichlorofluoromethane | 75-69-4 | 11 | 9.4 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 170000 | 160000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 180 J,B | 49 J,B |
| Barium | 7440-39-3 | 51 J | 50 J |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 40000 | 39000 |
| Chloride | 16887-00-6 | 5100 | 5300 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 41 J | 50 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | -- | -- |
| Lithium | 554-13-2 | -- | 1.8 J,B |
| Magnesium | 7440-47-4 | 21000 B | 21000 |
| Manganese | 7439-96-5 | 1.6 J | -- |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 1300 H | 1200 H |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | -- | 54 J,H |
| Potassium | 7440-07-7 | 1100 J,B | 830 J |
| SiO2, Silica | 7631-86-9 | 9400 | 10000 |
| Sodium | 7440-23-5 | 2000 J | 2800 J |
| Strontium | 7440-24-6 | 40 B | 41 |
| Sulfate | 18785-72-3 | 11000 | 12000 |
| Zinc | 7440-66-6 | -- | -- |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-102B**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | 0.96 J | 0.74 J |
| 1,1-Dichloroethene | 75-35-4 | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | -- | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 1.5 | 0.91 J |
| Dichlorofluoromethane | 75-43-4 | 27 | 18 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | -- | -- |
| Tetrachloroethene | 127-18-4 | 0.37 J | -- |
| Toluene | 108-88-3 | -- | -- |
| Trichloroethene | 79-01-6 | 0.52 J | 0.41 J |
| Trichlorofluoromethane | 75-69-4 | 12 | 5.7 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 260000 | 250000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 170 J,B | -- |
| Barium | 7440-39-3 | 82 J | 81 J |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 55000 | 55000 |
| Chloride | 16887-00-6 | 9400 | 9000 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 40 J | 37 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | 2.5 J | 2.2 J |
| Lithium | 554-13-2 | -- | -- |
| Magnesium | 7440-47-4 | 28000 B | 30000 |
| Manganese | 7439-96-5 | -- | -- |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 690 H | 760 |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | -- | 84 J |
| Potassium | 7440-07-7 | 2400 J,B | 2400 J |
| SiO2, Silica | 7631-86-9 | 13000 | 14000 |
| Sodium | 7440-23-5 | 7800 | 9000 |
| Strontium | 7440-24-6 | 69 B | 69 |
| Sulfate | 18785-72-3 | 7300 | 7400 |
| Zinc | 7440-66-6 | -- | 7.6 J |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-103**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5/20/1992 | 7/22/1992 | 2/11/1993 | 8/30/1993 | 5/24/1994 | 9/6/1994 | 3/29/1995 | 6/28/1995 | 9/28/1995 | 12/18/1995 | 5/3/1996 | 6/24/1997 | 7/23/1998 | 6/30/1999 | 5/23/00 | 5/13/2002 | 5/26/2004 | 4/27/2006 | 4/11/2008 | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- | -- | -- | 1.1 | 1.4 | 1.3 | 1.1 | 1.4 | 1.9 | 1 | -- | 2 J | 2 | 0.8 J | 0.8 J | -- | -- | -- | 1 | 0.83 J |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.4 J | -- | 0.4 J | 0.35 J | 0.78 J | -- | 1.6 | 1.2 |
| 1,1-Dichloroethene | 75-35-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.3 J | -- | -- | -- | 0.57 J | -- | 0.67 J | 0.54 J |
| 1,2-Dichloroethane | 107-06-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.9 J | -- | -- | -- | -- |
| Acetone | 67-64-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 4 J,B | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon Disulfide | 75-15-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 5.4 | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.48 J | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | NA | NA | -- | -- | 4.7 | 3.6 | 7.7 | 6 | 6.1 | 7.5 | 10.1 | NA | NA | NA | NA | NA | NA | 6.7 * | 1.9 J | 5.9 | 10* |
| Dichlorofluoromethane | 75-43-4 | NA | NA | -- | 5.6 | 24.4 | 37.5 | 43.3 | 42 | 54.2 | 88.8 | 74.1 | NA | NA | NA | NA | NA | NA | NA | NA | 150 | 130 |
| Methylene Chloride | 75-09-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 35 B | 0.6 J | -- | 0.8 J,B | -- | -- | -- | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.78 J | -- | -- | -- |
| Naphthalene | 91-20-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1.2 | 0.7 J | 0.7 J | 1 | 1.5 | -- | 1.3 | 1.2 |
| Toluene | 108-88-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | | -- |
| Trichloroethene | 79-01-6 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 J | 0.5 J | -- | 0.6 J | 0.44 J | 0.63 J | -- | 0.77 J | 0.69 J |
| Trichlorofluoromethane | 75-69-4 | NA | NA | -- | 5.6 | 24.4 | 37.5 | 43.3 | 42 | 54.2 | 88.8 | 74.1 | NA | NA | NA | NA | NA | NA | 150 | 76 | 130 | 130 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Barium | 7440-39-3 | NA | -- | -- | NA | 52 | 48 | 52 | 48 | 54 | 56 | 54 | 57.1 B | 117 B | -- | NA | NA | NA | NA | NA | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 190000 | 190000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Chromium | 7440-47-3 | NA | 70 | 70 | NA | -- | -- | -- | -- | -- | -- | -- | -- | 17.4 B | 12.0 | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | NA | 10 | 160 | NA | -- | -- | 198 | 119 | 119 | 119 | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Nitrite as N | 14797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Ammonia | 7664-41-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 120 J,B | -- |
| Barium | 7440-39-3 | NA | NA | NA | 50 | 52 | 55 | 58 | 51 | 90 | 53 | 58 | NA | NA | NA | -- | 59 B | 58.6 B | 57 | 65 B,J | 69 J,B | 77 J,B |
| Boron | 7440-42-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Bromide | 7726-95-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 160 J | 180 J |
| Calcium | 7440-70-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 42000 B | 46000 B |
| Chloride | 16887-00-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 13000 | 13000 |
| Chromium | 7440-47-3 | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | 2.5 B | -- | -- |
| Fluoride | 16984-48-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 63 J | 78 J |
| Iron | 7439-89-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Lead | 7439-92-1 | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- |
| Lithium | 554-13-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Magnesium | 7440-47-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 23000 B | 24000 B |
| Manganese | 7439-96-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.87 J,B | 0.85 J,B |
| Nickel | 7440-02-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1900 | 1800 |
| Nitrite as N | 14-797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 180 J,H |
| Potassium | 7440-07-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 960 J,B | 880 J |
| SiO2, Silica | 7631-86-9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 10000 | 11000 |
| Sodium | 7440-23-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4600 J | 41 B |
| Strontium | 7440-24-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 46 B | 820 J |
| Sulfate | 18785-72-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 690 J | 6.4 J,B |
| Zinc | 7440-66-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Total Phosphorus as PO4 | 98059-61-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-104**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5/23/1992 | 7/22/1992 | 2/13/1993 | 8/30/1993 | 5/23/2000 | 5/14/2002 | 5/26/2004 | 4/27/2006 | 4/11/2008 | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- | -- | -- | 0.37 J | 0.95 J | -- | -- | 0.38 J | 0.22 J | -- |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- | -- | -- | 0.35 J | 0.82 J | 0.88 J | 1.1 | 0.77 J | 0.78 J | 0.78 J |
| 1,1-Dichloroethene | 75-35-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | 30 J | -- | -- | -- | -- | -- | 0.48 | -- | -- | -- | -- |
| Acetone | 67-64-1 | 4 J | -- | -- | -- | 0.92 J | 1.4 J,B | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon Disulfide | 75-15-0 | -- | -- | -- | -- | -- | -- | 3.50 | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | -- | -- | -- | -- | -- | 0.23 J | 0.23 J | -- | 0.42 J | 0.32 J | 0.19 J |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- | -- | -- | -- | 0.55 J | 0.51 J | 0.60 J | 0.32 J | 0.35 J | -- |
| Dibromochloromethane | 124-48-1 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | NA | NA | -- | -- | NA | NA | NA | 4.3 * | 1.5 | 3.2 | 4.8* |
| Dichlorofluoromethane | 75-43-4 | NA | NA | -- | -- | NA | NA | NA | NA | NA | 51 | 71 |
| Methylene Chloride | 75-09-2 | -- | -- | -- | -- | -- | 0.37 J,B | -- | -- | -- | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 91-20-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- | -- | -- | 0.49 | 1.1 | 1.10 | 1.3 | 0.88 J | 0.60 J | 0.42 J |
| Toluene | 108-88-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.15 J | -- |
| Trichloroethene | 79-01-6 | 4 J | -- | -- | -- | 4.3 | 6.8 | 6.60 | 6.5 | 3.4 | 3.5 | 3.1 |
| Trichlorofluoromethane | 75-69-4 | NA | NA | 89 | 58 | NA | NA | NA | 65 * | 34 | 34 | 39 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | | | | | | | | | | |
| Barium | 7440-39-3 | NA | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 350000 | 350000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Chromium | 7440-47-3 | NA | 60 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | NA | 60 | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Nitrite as N | 14797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | | | | | | | | | | |
| Ammonia | 7664-41-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Barium | 7440-39-3 | 70 | NA | -- | 56 | -- | 90.3 B | 75.1 B | 82 | 96.9 B,J | 86 J,B | 92 J,B |
| Boron | 7440-42-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Bromide | 7726-95-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Calcium | 7440-70-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 76000 B | 80000 B |
| Chloride | 16887-00-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 22000 | 24000 |
| Chromium | 7440-47-3 | -- | NA | -- | 3.1 | -- | -- | -- | -- | -- | -- | -- |
| Fluoride | 16984-48-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 24 J | 35 J |
| Iron | 7439-89-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Lead | 7439-92-1 | -- | NA | -- | 3.1 | -- | -- | -- | -- | -- | -- | 3.2 |
| Lithium | 554-13-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 2.0 J |
| Magnesium | 7440-47-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 43000 B | 42000 B |
| Manganese | 7439-96-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.65 J,B | 1.1 J,B |
| Nickel | 7440-02-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 850 | 890 |
| Nitrite as N | 14-797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 190 J |
| Potassium | 7440-07-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2000 J,B | 2100 J |
| SiO2, Silica | 7631-86-9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 12000 | 13000 |
| Sodium | 7440-23-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8200 | 8800 |
| Strontium | 7440-24-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 64 B | 60 B |
| Sulfate | 18785-72-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 5600 | 6200 |
| Zinc | 7440-66-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 35 B | 52 B |
| Total Phosphorus as PO4 | 98059-61-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |

**KEY:**
-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-105**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 5/24/1992 | 7/22/1992 | 2/2/1993 | 8/30/1993 | 5/24/1994 | 9/6/1994 | 3/29/1995 | 6/28/1995 | 9/22/1995 | 12/18/1995 | 5/3/1996 | 6/23/1997 | 7/22/1998 | 6/29/1999 | 5/23/2000 | 5/13/2002 | 5/26/2004 | 4/26/2006 | 4/11/2008 | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | 5 | -- | -- | -- | 9.4 | 9.6 | 8.9 | 7.1 | 6.2 | 3.6 | 1.7 | -- | 3 J | 2.5 | 1.1 | 0.8 J | -- | -- | 0.22 J | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | 21 | -- | 27 | -- | 8.0 | 11.7 | 11.5 | 10.1 | 12.5 | 8.1 | 17.1 | -- | 12 | 13 | 8.0 | 7.6 | 8.60 | 6.9 | 3.0 | 2.9 | 2.8 |
| 1,1-Dichloroethene | 75-35-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 J | 0.93 J | 0.24 J | -- | 0.73 J | -- | -- | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.19 J | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.47 J | -- | -- | -- | -- |
| Acetone | 67-64-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.4 B | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Carbon Disulfide | 75-15-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 7.70 | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.27 J | 0.35 J | -- | 0.28 J | 0.24 J | 0.26 J |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.47 J | 0.47 J | -- | 0.24 J | 0.28 J | -- |
| Dibromochloromethane | 124-48-1 | -- | -- | -- | 23 J | -- | -- | -- | -- | -- | -- | -- | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | NA | NA | -- | -- | 2.7 | -- | 4.4 | 2.3 | 2.8 | 3.6 | 7.7 | NA | NA | NA | NA | NA | NA | 3.2 * | 1.5 | 1.7 | 1.4 |
| Dichlorofluoromethane | 75-43-4 | NA | NA | 320 | 120 | 84.1 | 114 | 121 | 88.8 | 104 | 114 | 28.9 | NA | NA | NA | NA | NA | NA | NA | NA | 45 | 40 |
| Methylene Chloride | 75-09-2 | 3 J | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 J,B | 0.73 J | 0.4 J | 0.86 J,B | -- | -- | -- | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 91-20-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.61 J | 0.7 J | 0.59 J | 0.62 J | -- | 0.46 J | 0.42 J | 0.37 J |
| Toluene | 108-88-3 | -- | -- | -- | -- | -- | -- | -- | 1.2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 79-01-6 | 6 | -- | -- | -- | 2.5 | 4.3 | 3.6 | 2.6 | 5.4 | 2.9 | 4.8 | -- | 4 J | 3.9 | 3.0 | 2.5 | -- | 2.4 | 1.1 | 1.1 | 1.0 |
| Trichlorofluoromethane | 75-69-4 | NA | NA | 89 | -- | 31 | 50.6 | 44.2 | 29.5 | 26.7 | 25.6 | 197 | NA | NA | NA | NA | NA | NA | 18 * | 7.4 | 8.4 | 7.6 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Barium | 7440-39-3 | 300 | 120 | NA | NA | 152 | 123 | 136 | 121 | 129 | 139 | 160 | 158 B | 144 B | -- | NA | NA | NA | NA | NA | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 320000 | 330000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Chromium | 7440-47-3 | 30 | -- | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | 1.5 B | -- | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | 120 | 50 | NA | NA | -- | -- | -- | -- | -- | -- | 5.8 | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Nitrite as N | 14797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | | | |
| Ammonia | 7664-41-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 160 J,B | 43 J |
| Barium | 7440-39-3 | NA | NA | 120 | 120 | -- | 139 | 153 | 136 | 131 | 145 | 173 | NA | NA | NA | -- | 143 B | 119 B | 120 | 132 B,J | 120 J | 120 J,B |
| Boron | 7440-42-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 36 J,B | 40 J |
| Bromide | 7726-95-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Calcium | 7440-70-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 70000 | 72000 B |
| Chloride | 16887-00-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8900 | 8300 |
| Chromium | 7440-47-3 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- |
| Fluoride | 16984-48-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 15 J |
| Iron | 7439-89-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Lead | 7439-92-1 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | 2.2 J |
| Lithium | 554-13-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Magnesium | 7440-47-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 37000 B | 39000 B |
| Manganese | 7439-96-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 0.41 J,B |
| Nickel | 7440-02-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2000 H | 1800 |
| Nitrite as N | 14-797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 140 J |
| Potassium | 7440-07-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3100 J,B | 3300 J |
| SiO2, Silica | 7631-86-9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 12000 | 13000 |
| Sodium | 7440-23-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6400 | 7600 |
| Strontium | 7440-24-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 96 B | 89 B |
| Sulfate | 18785-72-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8400 | 8200 |
| Zinc | 7440-66-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 7.8 J,B |
| Total Phosphorus as PO4 | 98059-61-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |

**KEY:**

-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

**TABLE 3**

**MW-107S**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | 0.24 J | -- |
| 1,1-Dichloroethane | 1717-00-6 | 0.50 J | 0.53 J |
| 1,1-Dichloroethene | 75-35-4 | 0.20 J | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | 0.24 J | 0.18 J |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 3.1 | 2.1 |
| Dichlorofluoromethane | 75-43-4 | 67 | 54 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | -- | -- |
| Tetrachloroethene | 127-18-4 | 0.42 J | 0.41 J |
| Toluene | 108-88-3 | 0.24 J | -- |
| Trichloroethene | 79-01-6 | 2.8 | 2.7 |
| Trichlorofluoromethane | 75-69-4 | 55 | 46 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 250000 | 230000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 190 J,B | -- |
| Barium | 7440-39-3 | 60 J | 54 J,B |
| Boron | 7440-42-8 | 64 J,B | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 57000 | 55000 B |
| Chloride | 16887-00-6 | 2800 | 3100 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 52 J | 64 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | 3 | 3.2 |
| Lithium | 554-13-2 | -- | -- |
| Magnesium | 7440-47-4 | 30000 B | 30000 B |
| Manganese | 7439-96-5 | 1.5 J | 1.2 J,B |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 680 H | 670 |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | -- | -- |
| Potassium | 7440-07-7 | 1100 J,B | 1200 J |
| Si02, Silica | 7631-86-9 | 9200 | 9800 |
| Sodium | 7440-23-5 | 2500 J | 3100 J |
| Strontium | 7440-24-6 | 49 B | 44 B |
| Sulfate | 18785-72-3 | 17000 | 18000 |
| Zinc | 7440-66-6 | 740 | 410 B |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

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**TABLE 3**

**MW-107D**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- |
| 1,1-Dichloroethene | 75-35-4 | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | 0.19 J,B | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | -- | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 0.34 J | -- |
| Dichlorofluoromethane | 75-43-4 | 7.2 | 2.7 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | 0.48 J,B | -- |
| Tetrachloroethene | 127-18-4 | -- | -- |
| Toluene | 108-88-3 | -- | -- |
| Trichloroethene | 79-01-6 | 0.49 J | 0.23 J |
| Trichlorofluoromethane | 75-69-4 | 7.7 | 3 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 190000 | 180000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 92 J,B | -- |
| Barium | 7440-39-3 | 150 J | 160 J,B |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 40000 | 40000 B |
| Chloride | 16887-00-6 | 1300 | 1300 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 44 J | 51 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | 2.2 J | 2.5 J |
| Lithium | 554-13-2 | -- | 1.9 J |
| Magnesium | 7440-47-4 | 23000 B | 24000 B |
| Manganese | 7439-96-5 | 1.1 J | 1.5 J,B |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 150 H | 81 J |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | 890 H | -- |
| Potassium | 7440-07-7 | 1200 J,B | 1200 J |
| Si02, Silica | 7631-86-9 | 8800 | 9400 |
| Sodium | 7440-23-5 | 2400 J | 3300 J |
| Strontium | 7440-24-6 | 45 B | 42 B |
| Sulfate | 18785-72-3 | 12000 | 14000 |
| Zinc | 7440-66-6 | 390 | 250 B |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

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**TABLE 3**

**MW-108S**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- |
| 1,1-Dichloroethane | 1717-00-6 | 1.6 | 1.2 |
| 1,1-Dichloroethene | 75-35-4 | -- | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | 0.33 J | -- |
| cis-1,2-Dichloroethene | 156-59-2 | 0.59 J | 0.45 J |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 1.6 | 2.6* |
| Dichlorofluoromethane | 75-43-4 | 71 | 59 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | -- | -- |
| Tetrachloroethene | 127-18-4 | 0.57 J | 0.64 J |
| Toluene | 108-88-3 | 0.18 J | -- |
| Trichloroethene | 79-01-6 | 1.4 | 1.7 |
| Trichlorofluoromethane | 75-69-4 | 10 | 12 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 330000 | 340000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 230 B | -- |
| Barium | 7440-39-3 | 200 | 190 J |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 78000 | 73000 |
| Chloride | 16887-00-6 | 8700 | 10000 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | -- | 33 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | -- | -- |
| Lithium | 554-13-2 | -- | -- |
| Magnesium | 7440-47-4 | 39000 B | 37000 |
| Manganese | 7439-96-5 | 81 | 76 B |
| Nickel | 7440-02-0 | 7.4 J | 5.6 J |
| Nitrate as N | 14797-55-8 | 330 H | 290 |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | -- | 200 J |
| Potassium | 7440-07-7 | 2600 J,B | 2300 J |
| Si02, Silica | 7631-86-9 | 13000 | 13000 |
| Sodium | 7440-23-5 | 6200 | 7200 |
| Strontium | 7440-24-6 | 120 B | 100 |
| Sulfate | 18785-72-3 | 11000 | 12000 |
| Zinc | 7440-66-6 | 170 | 87 |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

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**TABLE 3**

**MW-108D**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | |
|---|---|---|---|
| | | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | |
| 1,1,1-Trichloroethane | 71-55-6 | 0.22 J | -- |
| 1,1-Dichloroethane | 1717-00-6 | 1.8 | 1.1 |
| 1,1-Dichloroethene | 75-35-4 | 0.20 J | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- |
| Acetone | 67-64-1 | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- |
| Bromoform | 75-25-2 | -- | -- |
| Carbon disulfide | 75-15-0 | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- |
| Chloroform | 67-66-3 | 0.34 J | -- |
| cis-1,2-Dichloroethene | 156-59-2 | 0.58 J | -- |
| Dibromochloromethane | 124-48-1 | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | 3.1 | 3.7* |
| Dichlorofluoromethane | 75-43-4 | 96 | 58 |
| Methylene Chloride | 75-09-2 | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- |
| Naphthalene | 91-20-3 | -- | -- |
| Tetrachloroethene | 127-18-4 | 0.89 J | 0.63 J |
| Toluene | 108-88-3 | -- | -- |
| Trichloroethene | 79-01-6 | 2.9 | 2.5 |
| Trichlorofluoromethane | 75-69-4 | 38 | 32 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | |
| Barium | 7440-39-3 | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | 260000 | 220000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | -- | -- |
| Chromium | 7440-47-3 | NA | NA |
| Lead | 7439-92-1 | NA | NA |
| Nitrate as N | 14797-55-8 | NA | -- |
| Nitrite as N | 14-797-65-0 | NA | -- |
| Orthophosphate | 14265-44-2 | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | |
| Ammonia | 7664-41-7 | 170 J,B | -- |
| Barium | 7440-39-3 | 180 J | 180 J |
| Boron | 7440-42-8 | -- | -- |
| Bromide | 7726-95-6 | -- | -- |
| Calcium | 7440-70-2 | 59000 | 50000 |
| Chloride | 16887-00-6 | 6000 | 5300 |
| Chromium | 7440-47-3 | -- | -- |
| Fluoride | 16984-48-8 | 39 J | 53 J |
| Iron | 7439-89-6 | -- | -- |
| Lead | 7439-92-1 | -- | -- |
| Lithium | 554-13-2 | -- | 2.7 J,B |
| Magnesium | 7440-47-4 | 32000 B | 29000 |
| Manganese | 7439-96-5 | 0.48 J | -- |
| Nickel | 7440-02-0 | -- | -- |
| Nitrate as N | 14797-55-8 | 450 H | 370 |
| Nitrite as N | 14-797-65-0 | -- | -- |
| Orthophosphate | 14265-44-2 | -- | 110 J |
| Potassium | 7440-07-7 | 1400 J,B | 1300 J |
| Si02, Silica | 7631-86-9 | 10000 | 11000 |
| Sodium | 7440-23-5 | 4000 J | 4300 J |
| Strontium | 7440-24-6 | 58 B | 51 |
| Sulfate | 18785-72-3 | 14000 | 13000 |
| Zinc | 7440-66-6 | 31 | 16 J |
| Total Phosphorus as PO 4 | 98059-61-1 | -- | -- |

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**TABLE 3**

**VOSS WELL**
**HISTORIC SUMMARY OF DETECTED GROUND WATER ANALYTES**
**SULLIVAN LANDFILL**

| | | Sample Event | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2/12/1993 | 8/31/1993 | 5/24/1994 | 9/6/1994 | 3/29/1995 | 6/28/1995 | 9/22/1995 | 12/18/1995 | 5/3/1996 | 6/23/1997 | 7/22/1998 | 6/30/1999 | 5/23/2000 | 5/14/2002 | 5/26/2004 | 4/26/2006 | 4/9/2008 | 3/13/2012 | 6/21/2012 |
| **Volatile Organic Compounds (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | 71-55-6 | -- | -- | 1.7 | 1.7 | 1.5 | 1.6 | 1.5 | 1.8 | 1.6 | -- | 2 J | 1.9 | 1.2 J | 1.5 | -- | -- | 0.63 J | 0.29 J | 0.33 J |
| 1,1-Dichloroethane | 1717-00-6 | -- | -- | 1.9 | 2.0 | 2.3 | 3.1 | 2.6 | 3.1 | 3.5 | -- | 4 J | 5.2 | 3.6 | 5.5 | 5.0 | 6.2 | 4.0 | 2.5 | 2.9 |
| 1,1-Dichloroethene | 75-35-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.27 J | -- |
| 1,2-Dichloroethane | 107-06-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethene | 540-59-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 1,2,3-Trichlorobenzene | 87616 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| 2-Butanone (MEK) | 78-93-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 4-Methyl-2-Pentanone (MIBK) | 108-10-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.59 J | -- | -- | -- | -- |
| Acetone | 67-64-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 6.3 B | -- | -- | -- | -- | -- |
| Bromodichloromethane | 75-27-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.38 J | -- | -- | -- | -- | -- |
| Bromoform | 75-25-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.44 J | -- | -- | -- | -- | -- |
| Carbon Disulfide | 75-15-0 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chlorobenzene | 108-90-7 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Chloroform | 67-66-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.89 J | 0.19 J | -- | 0.52 J | 0.32 J | -- |
| cis-1,2-Dichloroethene | 156-59-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.24 J | 0.28 J | -- | -- | -- | -- |
| Dibromochloromethane | 124-48-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | 0.11 J | -- | -- | -- | -- | -- | -- | -- |
| Dichlorodifluoromethane | 75-71-8 | NA | -- | 3.9 | 3.8 | 4.7 | 5.2 | 5.7 | 7 | 8.7 | NA | NA | NA | NA | NA | NA | 8.0 * | 4.0 | 3.1 | 3.7 |
| Dichlorofluoromethane | 75-43-4 | 150 | 19 J | 70 | 66.7 | 76.7 | 97.4 | 80.8 | 161 | 192 | NA | NA | NA | NA | NA | NA | -- | -- | 68 | 91 |
| Methylene Chloride | 75-09-2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 2 J,B | 0.85 J | -- | 0.99 J, B | 0.61 J | 1.2 | -- | -- | -- |
| methyl t-butyl ether | 1634-04-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Naphthalene | 91-20-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0.90 J | -- | -- |
| Tetrachloroethene | 127-18-4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 8 | 1 J | 1 | 0.9 J | 1.2 | 1.1 | 1.2 | 0.88 J | 0.76 J | 0.91 J |
| Toluene | 108-88-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| Trichloroethene | 79-01-6 | -- | -- | 2.5 | 2.4 | 2.8 | 2.7 | 2.8 | 3.1 | 3.4 | -- | 3 J | 2.6 | 1.6 J | 3.3 | 3.6 | 4.0 | 2.4 J | 1.8 | 2.0 |
| Trichlorofluoromethane | 75-69-4 | 120 | 15 J | 73.9 | -- | 70.1 | 90.3 | 81.4 | 88.7 | 92.7 | NA | NA | NA | NA | NA | NA | 93 H,* | 62 | 40 | 43 |
| **Inorganic Analytes (total) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | |
| Barium | 7440-39-3 | NA | NA | 76 | 82 | 82 | 69 | 83 | 83 | 85 | 88.2 B | 83 B | -- | NA | NA | NA | NA | NA | NA | NA |
| Bicarbonate Alkalinity as CaCO3 | 71-52-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 230000 | 240000 |
| Carbonate Alkalinity as CaCO3 | 3812-32-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Chromium | 7440-47-3 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | NA | NA | NA | NA |
| Lead | 7439-92-1 | NA | NA | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | NA | NA | NA | NA | NA | NA |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Nitrite as N | 14797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- |
| **Inorganic Analytes (dissolved) (ug/l)** | **CAS No.** | | | | | | | | | | | | | | | | | | | |
| Ammonia | 7664-41-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 38 J | -- |
| Barium | 7440-39-3 | 90 | 76 | 78 | 91 | 93 | 78 | 85 | 86 | 96 | NA | NA | NA | -- | 94.8 B | 97.7 B | 94 | 88.4 B,J | 180 J,B | 190 J |
| Boron | 7440-42-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Bromide | 7726-95-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Calcium | 7440-70-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 51000 B | 52000 |
| Chloride | 16887-00-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 8100 | 8700 |
| Chromium | 7440-47-3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | -- | -- | -- |
| Fluoride | 16984-48-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 33 J | 45 J |
| Iron | 7439-89-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Lead | 7439-92-1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | NA | NA | NA | -- | -- | -- | -- | 2.7 B | -- | 2.2 J |
| Lithium | 554-13-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Magnesium | 7440-47-4 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 29000 B | 29000 |
| Manganese | 7439-96-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 0.74 J,B | -- |
| Nickel | 7440-02-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Nitrate as N | 14797-55-8 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 970 | 1100 |
| Nitrite as N | 14-797-65-0 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |
| Orthophosphate | 14265-44-2 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | 83 J |
| Potassium | 7440-07-7 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1500 J, B | 1400 J |
| SiO2, Silica | 7631-86-9 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 11000 | 12000 |
| Sodium | 7440-23-5 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 4900 J | 5400 |
| Strontium | 7440-24-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 49 B | 49 |
| Sulfate | 18785-72-3 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 11000 | 11000 |
| Zinc | 7440-66-6 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | 7.3 J,B | 7.3 J |
| Total Phosphorus as PO4 | 98059-61-1 | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | NA | -- | -- |

**KEY:**

-- = Not Detected
B = Organic qualifier indicating that this compound was also detected in the associated laboratory method blank.
B = Inorganic qualifier indicating that this analyte was found below the instrument detection limit, but above the client-required detection limit.
J = Estimated value (Organics Only).
NA = Not Analyzed
* = Batch quality control exceeds the upper or lower control limits.
H = Batch quality control is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.

A

# *Appendix A*

## *Field Data Sheets*
## *March & June 2012*

*March 2012 Sampling Event*

03/05/12

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/05/12 |
| Site/Well No. | 107 d | Replicate No. | N/A | Code No. | N/A |
| Weather | clear / sunny 48°F | Sampling Time: Begin | 13.34 | End | / |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 375 (bottom of screen) |
| Depth to Water (ft bmp) | 1 |
| Water-Level Elevation (ft) | 229.20 |
| Water Column in Well (ft) | 145.8 |
| Casing Diameter/Type | 2" / .162 |
| Gallons in Well | 23. |
| Gallons Pumped/Bailed Prior to Sampling | 70.8 gall. |
| Sample Pump Intake Setting (ft bmp) | 250 |
| Purge Time | begin 12:25 end 13:55 |
| Pumping Rate (gpm) | 1 gl/min |
| Evacuation Method | Grundfos Rediflow II |

**Field Parameters**

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | clear | | | | | |
| Odor | none | | | | | |
| Appearance | 12:35 | 12:48 | 12:57 | 13:11 | 13:21 | 13:34 |
| pH (s.u.) | 7.49 | 7.61 | 7.61 | 7.62 | 7.66 | 7.71 |
| Conductivity (mS/cm) | .563 | .451 | .366 | .363 | .361 | .360 |
| (µmhos/cm) | | | | | | |
| Turbidity (NTU) | 1.0 | 1.7 | 2.0 | 0.7 | 0.4 | 0.0 |
| Temperature (°C) | 17.41 | 16.57 | 16.07 | 16.32 | 16.29 | 16.35 |
| Diss. Oxygen (mg/L) | 4.28 | 2.88 | 2.05 | 1.95 | 1.93 | 1.88 |
| ORP | 61 | 42 | 57 | 93 | 95 | 98 |
| Sampling Method | dis | | | | | |

Remarks: 230.51 dtw. 12:48; 230.45 13:11; 230.52 13:34

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

03/05/12

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/05/12 |
| Site/Well No. | MW 107 S | Replicate No. | ~~[illegible]~~ DUP | Code No. | |
| Weather | clear / sunny / 52°F | Sampling Time: | Begin 15:35 | End | / |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 222. |
| Depth to Water (ft bmp) | 202.83 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 19.17 |
| Casing Diameter/Type | 2" |
| Gallons in Well | 3.06 |
| Gallons Pumped/Bailed Prior to Sampling | 9.18 |
| Sample Pump Intake Setting (ft bmp) | 15:02 |
| Purge Time | begin ~~[illegible]~~ end 15:45 |
| Pumping Rate (gpm) | .6 gal./min |
| Evacuation Method | Grundfos Redi Flow 2 |

**Field Parameters** DUP (20120305)

| | | | | | |
|---|---|---|---|---|---|
| Color | Clear | | | | |
| Odor | none | | | | |
| Appearance | 15:10 | 15:15 | 15:20 | 15:25 | 15:30 |
| pH (s.u.) | 7.39 | 7.31 | 7.45 | 7.45 | 7.33 |
| Conductivity (mS/cm) | .476 | .487 | .477 | .474 | .474 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 52.3 | 71.1 | 97.5 | 93.8 | 61.5 |
| Temperature (°C) | 19.02 | 17.72 | 17.55 | 17.63 | 17.70 |
| Diss. Oxygen (mg/L) | 10.64 | 8.4 | 8.21 | 8.08 | 8.00 |
| ORP | 140 | 136 | 132 | 138 | 143 |
| Sampling Method | | | | | |

Remarks
205.51 15:05
206.11 15:10
205.99 15:15
205.94 15:20
205.81 15:30

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**
# Water Sampling Log

Dup(20120305)

03/05/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/08/12 |
| Site/Well No. | MW-107S Duplicate | Replicate No. | Dup(20120305) | Code No. | N/A |
| Weather | clear/sunny/52°F | Sampling Time: | Begin 1535 | End | / |

| Evacuation Data | | Field Parameters | |
|---|---|---|---|
| Measuring Point | Top of Casing | Color | |
| MP Elevation (ft) | | Odor | |
| Land Surface Elevation (ft) | | Appearance | |
| Sounded Well Depth (ft bmp) | | pH (s.u.) | |
| Depth to Water (ft bmp) | | Conductivity (mS/cm) | |
| Water-Level Elevation (ft) | | (µmhos/cm) | |
| Water Column in Well (ft) | | Turbidity (NTU) | |
| Casing Diameter/Type | | Temperature (°C) | |
| Gallons in Well | | Diss. Oxygen (mg/L) | |
| Gallons Pumped/Bailed Prior to Sampling | | ORP | |
| | | Sampling Method | |
| Sample Pump Intake Setting (ft bmp) | | Remarks | |
| Purge Time | begin ____ end ____ | | |
| Pumping Rate (gpm) | | | |
| Evacuation Method | | | |

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/06/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/06/12 |
| Site/Well No. | MW-108 d | Replicate No. | N/A | Code No. | N/A |
| Weather | Sunny breezy 46°F | Sampling Time: Begin | 10:20 | End | / |

190
120
70

## Evacuation Data

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 385 |
| Depth to Water (ft bmp) | 230.40 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 154.6 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 25.05 (212 equal / 383 20 feet) |
| Gallons Pumped/Bailed Prior to Sampling | 75.1 |
| Sample Pump Intake Setting (ft bmp) | 250 feet |
| Purge Time | begin 09:15 end 10:30 |
| Pumping Rate (gpm) | 1.4 gall/min |
| Evacuation Method | |

## Field Parameters

| | | | | | |
|---|---|---|---|---|---|
| Color | Clear | | | | |
| Odor | none | | | | |
| Appearance | 09:25 | 09:40 | 09:50 | 10:05 | 10:35 |
| pH (s.u.) | 7.85 | 7.61 | 7.44 | 7.43 | 7.44 |
| Conductivity (mS/cm) | .473 | .484 | .494 | .495 | .495 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 6.1 | 3.9 | 1.9 | 1.4 | 2.6 |
| Temperature (°C) | 16.51 | 16.30 | 16.35 | 16.44 | 16.47 |
| Diss. Oxygen (mg/L) | 4.08 | 3.33 | 2.78 | 2.58 | 2.39 |
| ORP | 159 | 138 | 124 | 124 | 125 |
| Water level ~~Sampling Method~~ | 231.45 | 231.62 | 231.74 | 231.89 | 231.93 |

Remarks ~~231.45~~

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/06/12 |
| Site/Well No. | MW - 108 S | Replicate No. | N/A | Code No. | |
| Weather | Sunny / breezy 50°F | Sampling Time: | Begin 12:20 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 214 |
| Depth to Water (ft bmp) | 192.15 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 21.85 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 3.5 |
| Gallons Pumped/Bailed Prior to Sampling | 10.62 |
| Sample Pump Intake Setting (ft bmp) | 202 |
| Purge Time | begin 11:50 end 12:20 |
| Pumping Rate (gpm) | .5 gal/min |
| Evacuation Method | Grundfos Rediflow II |

**Field Parameters**

| | | | | | |
|---|---|---|---|---|---|
| Color | tan | | | | |
| Odor | none | | | | |
| Appearance | 11:55 | 12:00 | 12:05 | 12:10 | 12:15 |
| pH (s.u.) | 8.36 | 7.00 | 6.99 | 7.02 | 7.04 |
| Conductivity (mS/cm) | .556 | .632 | .637 | .630 | .630 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 82.7 | 237 | 49.7 | 15.7 | 8.6 |
| Temperature (°C) | 17.26 | 18.57 | 19.11 | 19.80 | 20.02 |
| Diss. Oxygen (mg/L) | 1.88 | .64 | .58 | .57 | .44 |
| ORP | 138 | 125 | 70 | 60 | 56 |
| dtw | 192.81 | 192.92 | 193.06 | 193.18 | 193.23 |
| Sampling Method | | | | | |

Remarks: water clearing after 15 min of pumping

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/06/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/06/12 |
| Site/Well No. | MW-102A | Replicate No. | N/A | Code No. | N/A |
| Weather | overcast/ windgusts/ 56°F | Sampling Time: Begin | 15:45 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 282 |
| Depth to Water (ft bmp) | 185.32 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 96.68 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 15.66 |
| Gallons Pumped/Bailed Prior to Sampling | ~47 |
| Sample Pump Intake Setting (ft bmp) | 250 feet bloc |
| Purge Time | begin 14:45 end 15:42 |
| Pumping Rate (gpm) | 1.2 gall/min |
| Evacuation Method | Grundfos RediFlow II |

**Field Parameters**

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | clear | | | | | |
| Odor | none | | | | | |
| Appearance | 14:52 | 15:00 | 15:15 | 15:22 | 15:30 | 15[illegible] |
| pH (s.u.) | 7.64 | 7.65 | 7.72 | 7.71 | 7.76 | 7.80 |
| Conductivity (mS/cm) | .365 | .350 | .354 | .350 | .348 | .3[illegible] |
| (µmhos/cm) | | | | | | |
| Turbidity (NTU) | 4.4 | 2.9 | 1.6 | 1.5 | 1.4 | 4.3 |
| Temperature (°C) | 17.88 | 17.74 | 17.94 | 18.03 | 17.99 | 18.[illegible] |
| Diss. Oxygen (mg/L) | 4.85 | 4.92 | 4.96 | 4.91 | 5.02 | 5.[illegible] |
| ORP | 106 | 111 | 114 | 114 | 116 | 11[illegible] |
| water level Sampling Method | 219.52 | 209.28 | 209.24 | 209.68 | 208.68 | 209.31 |

Remarks 183.41

adjust pumprate to 1 gal/min after 7 min

adj at 335 on Grundfos Control

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/06/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/06/12 |
| Site/Well No. | MW-102 B | Replicate No. | N/A | Code No. | N/A |
| Weather | Overcast wind gusts / 58°F | Sampling Time: | Begin 17:35 | End | ✓ |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 216 |
| Depth to Water (ft bmp) | 173.64 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 42.36 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 6.86 |
| Gallons Pumped/Bailed Prior to Sampling | ~ ~~20.6~~ 24.5 |
| Sample Pump Intake Setting (ft bmp) | 191 bloc |
| Purge Time | begin 16:55 end 17:30 |
| Pumping Rate (gpm) | .7 gal. |
| Evacuation Method | Grundfos Rediflow II |

**Field Parameters**

| | | | | |
|---|---|---|---|---|
| Color | clear | | | |
| Odor | none | | | |
| Appearance | 17:~~07~~ | 17:10 | 17:17 | 17:25 |
| pH (s.u.) | 7.19 | 7.15 | 7.15 | 7.21 |
| Conductivity (mS/cm) | .486 | .490 | .494 | .497 |
| (µmhos/cm) | | | | |
| Turbidity (NTU) | 1.8 | 2.6 | 5.4 | 4.1 |
| Temperature (°C) | 16.68 | 16.05 | 16.13 | 16.06 |
| Diss. Oxygen (mg/L) | 6.37 | 6.11 | 5.97 | 5.85 |
| ORP | 142 | 143 | 142 | 140 |
| Water level Sampling Method | 174.49 | 174.62 | 174.71 | 174.82 |

Remarks

pump controller : 315 at 191 feet

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | mililiter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

03/07/12

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/07/12 |
| Site/Well No. | MW-105 | Replicate No. | N/A | Code No. | N/A |
| Weather | overcast, 65°F | Sampling Time: Begin | 10:05 | End | / |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 204 |
| Depth to Water (ft bmp) | 146.13 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 58.87 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 9.5 |
| Gallons Pumped/Bailed Prior to Sampling | 35 ~ 29 gall. |
| Sample Pump Intake Setting (ft bmp) | 160 feet |
| Purge Time | begin 09:30 end 10:00 |
| Pumping Rate (gpm) | ~1 gall. min |
| Evacuation Method | |

**Field Parameters**

| | | | | |
|---|---|---|---|---|
| Color | clear | | | |
| Odor | none | | | |
| Appearance | 09:37 | 09:45 | 09:52 | 10:00 |
| pH (s.u.) | 7.12 | 7.18 | 7.20 | 7.14 |
| Conductivity (mS/cm) | .609 | .616 | .614 | .613 |
| (µmhos/cm) | | | | |
| Turbidity (NTU) | 11.5 | 11.7 | 10.8 | 7.9 |
| Temperature (°C) | 16.10 | 16.06 | 16.10 | 16.01 |
| Diss. Oxygen (mg/L) | 3.33 | 3.00 | 2.99 | 3.00 |
| ORP | 156 | 144 | 140 | 138 |
| dtw Sampling Method | 147.09 | 147.12 | 147.22 | 147.34 |

Remarks: Grundfos Controll at 290 intake at 160 bmp

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

03/07/12

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/07/12 |
| Site/Well No. | MW-101 | Replicate No. | N/A | Code No. | N/A |
| Weather | Overcast 65°F | Sampling Time: Begin | 13:50 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 185 |
| Depth to Water (ft bmp) | 159.82 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 25.18 |
| Casing Diameter/Type | 2" PVC |
| Gallons in Well | 4.1 |
| Gallons Pumped/Bailed Prior to Sampling | ~ (3x 12.5) ~ 19 gall. |
| Sample Pump Intake Setting (ft bmp) | 170 |
| Purge Time | begin 13:15 end 15:05 |
| Pumping Rate (gpm) | 1 gall/min |
| Evacuation Method | Grundfos Redi-flo II |

**Field Parameters**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Color | Clear | | | | | | | |
| Odor | none | | | | | | | |
| Appearance | 13:15 | 13:20 | 13:25 | 13:30 | 13:35 | 13:40 | 13:45 | |
| pH (s.u.) | 7.52 | 7.31 | 7.32 | 7.35 | 7.38 | 7.27 | 7.17 | |
| Conductivity (mS/cm) | .483 | .470 | .478 | .497 | .497 | .497 | .487 | |
| (µmhos/cm) | | | | | | | | |
| Turbidity (NTU) | 19.9 | 21.7 | 22.3 | 86.6 | 76.4 | 64.0 | 53.6 | |
| Temperature (°C) | 16.96 | 16.33 | 16.30 | 16.77 | 16.66 | 16.59 | 16.73 | |
| Diss. Oxygen (mg/L) | 7.01 | 6.85 | 6.78 | 6.50 | 6.41 | 6.42 | 6.39 | |
| ORP | 157 | 149 | 149 | 149 | 151 | 165 | 160 | |
| Sampling Method | dtw 167.18 | 166.42 | 166.12 | 165.88 | 165.72 | 165.72 | 165.93 | |

Remarks: Split with USGS

159.32

Grundfos control @ 300 / at 170 pump

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/08/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/08/12 |
| Site/Well No. | MW - 103 | Replicate No. | N/A | Code No. | N/A |
| Weather | Overcast / Shower 40°F | Sampling Time: Begin | 14:50 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 207 |
| Depth to Water (ft bmp) | 179.61 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 25.39 |
| Casing Diameter/Type | 2" / PVC |
| Gallons in Well | 4.11 |
| Gallons Pumped/Bailed Prior to Sampling | ~12 / ~25 removed |
| Sample Pump Intake Setting (ft bmp) | 190 |
| Purge Time | begin 14:15 end 14:45 |
| Pumping Rate (gpm) | ~1.1 gal/min |
| Evacuation Method | Grundfos Rediflo II |

**Field Parameters**

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | tan / light orange | | | | | |
| Odor | none | | | | | |
| Appearance | 14:20 | 14:25 | 14:30 | 14:35 | 14:40 | 14:45 |
| pH (s.u.) | 7.94 | 7.63 | 7.59 | 7.58 | 7.57 | 7.57 |
| Conductivity (mS/cm) | .417 | .407 | .399 | .400 | .400 | .401 |
| (µmhos/cm) | | | | | | |
| Turbidity (NTU) | 121 | 185 | 541 | 285 | 231 | 223 |
| Temperature (°C) | 14.98 | 15.58 | 15.32 | 15.45 | 15.44 | 15.19 |
| Diss. Oxygen (mg/L) | 6.83 | 5.66 | 5.24 | 4.49 | 4.92 | 4.40 |
| ORP | 225 | 222 | 220 | 212 | 212 | 200 |
| ~~Sampling Method~~ dtw | 185.42 | 185.38 | 185.35 | 185.40 | 185.82 | 185.84 |

Remarks: 321 at 325 on controller / 190 per Lisa adjusted to 315 .8 gall/min after 15 min

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

Equipment rinse Blank EB-01 (20120308) 03/08/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/08/12 |
| Site/Well No. | at MW-~~[illegible]~~ Gate | Replicate No. | NA | Code No. | N/A |
| Weather | overcast 40°F | Sampling Time: | Begin 12:45 | End | / |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | N/A |
| Land Surface Elevation (ft) | N/A |
| Sounded Well Depth (ft bmp) | N/A |
| Depth to Water (ft bmp) | N/A |
| Water-Level Elevation (ft) | N/A |
| Water Column in Well (ft) | N/A |
| Casing Diameter/Type | N/A |
| Gallons in Well | N/A |
| Gallons Pumped/Bailed Prior to Sampling | N/A |
| Sample Pump Intake Setting (ft bmp) | N/A |
| Purge Time | begin / end / |
| Pumping Rate (gpm) | .5 gall min |
| Evacuation Method | Grundfos Rediflo II |

**Field Parameters**

| | |
|---|---|
| Color | DI - Water provided by |
| Odor | lab ~ 28 liter |
| Appearance | — |
| pH (s.u.) | — |
| Conductivity (mS/cm) | — |
| (µmhos/cm) | — |
| Turbidity (NTU) | — |
| Temperature (°C) | — |
| Diss. Oxygen (mg/L) | — |
| ORP | — |
| Sampling Method | — |

Remarks: 7 min rinse with Liquinox / water; 10 min clear water ; recycle; 15 min new bucket clear water with Methanol 200ml in 5 gall. bucket - then blow out

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 03/09/12 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/09/12 |
| Site/Well No. | MW - 104 | Replicate No. | N/A | Code No. | N/A |
| Weather | Overcast | Sampling Time: | Begin 09:25 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 199 (~179.80) obstruction |
| Depth to Water (ft bmp) | 176.53 |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | 22.47 |
| Casing Diameter/Type | |
| Gallons in Well | 3.6 |
| Gallons Pumped/Bailed Prior to Sampling | ~110 / ~ 14 gall. |
| Sample Pump Intake Setting (ft bmp) | 185 / not possible |
| Purge Time | begin 8:30 end 09:40 |
| Pumping Rate (gpm) | 1 liter / min (¼ gall.) |
| Evacuation Method | Grand fos Ridiflow II |

**Field Parameters**

| | | | | | |
|---|---|---|---|---|---|
| Color | clear | | | | |
| Odor | none | | | | |
| Appearance | 09:00 | 09:05 | 09:10 | 09:15 | 09:20 |
| pH (s.u.) | 7.11 | 7.12 | 7.12 | 7.14 | 7.14 |
| Conductivity (mS/cm) | .740 | .725 | .723 | .724 | .721 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 15.3 | 9.8 | 6.6 | 5.4 | 4.7 |
| Temperature (°C) | 16.15 | 16.14 | 16.10 | 16.36 | 16.68 |
| Diss. Oxygen (mg/L) | 6.94 | 6.55 | 6.33 | 6.18 | 5.82 |
| ORP | 205 | 189 | 175 | 167 | 158 |
| dtw. Sampling Method | 177.72 | 177.81 | 177.80 | 177.71 | 177.90 |

Remarks: setting of controll 295 pump at 179.5 feet on top of obstruction could be lost bailer in well

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | mililiter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

3.0 gall/foot

Paul Dean
573 308 3673

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 1 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/09/12 |
| Site/Well No. | MOSS Well | Replicate No. | N/A | Code No. | N/A |
| Weather | Sunny / Clear 45° F | Sampling Time: Begin | 11:50 | End | / |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | |
| Depth to Water (ft bmp) | |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | |
| Casing Diameter/Type | |
| Gallons in Well | |
| Gallons Pumped/Bailed Prior to Sampling | 200 |
| Sample Pump Intake Setting (ft bmp) | N/A |
| Purge Time | begin 10:25 end 11:45 |
| Pumping Rate (gpm) | 5 gall./min |
| Evacuation Method | well pump in well |

**Field Parameters**

| | | | | |
|---|---|---|---|---|
| Color | clear | | | |
| Odor | none | | | |
| Appearance | 10:45 | 11:05 | 11:25 | 11:45 |
| pH (s.u.) | 7.62 | 7.58 | 7.44 | 7.43 |
| Conductivity (mS/cm) | .459 | .446 | .457 | .457 |
| (µmhos/cm) | | | | |
| Turbidity (NTU) | 0.0 | 6.7 | 0.0 | 0.4 |
| Temperature (°C) | 15.80 | 15.15 | 13.61 | 13.56 |
| Diss. Oxygen (mg/L) | 5.50 | 5.21 | 4.96 | 4.76 |
| ORP | 199 | 203 | 204 | 209 |
| Sampling Method | | | | |

Remarks: pump rate reduced to 2.5 gall./min after 40 min. back to 4 gal/at 11:30

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/13/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 2 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/13/12 |
| Site/Well No. | MW-1 | Replicate No. | N/A | Code No. | N/A |
| Weather | Sunny / Clear 51°F | Sampling Time: | Begin 12:35 | End | |

**Evacuation Data**

| | | |
|---|---|---|
| Measuring Point | Top of Casing | |
| MP Elevation (ft) | | |
| Land Surface Elevation (ft) | | 4" |
| Sounded Well Depth (ft bmp) | 505 / 280 | |
| Depth to Water (ft bmp) | 165.48 / 114.52 | |
| Water-Level Elevation (ft) | | |
| Water Column in Well (ft) | 225 | 114.52 |
| Casing Diameter/Type | | |
| Gallons in Well | 951.75 | 74.44 |
| Gallons Pumped/Bailed Prior to Sampling | (3x = 3078.57) / 1500 } removed<br>~1000 / 430 } | 1026.19 |
| Sample Pump Intake Setting (ft bmp) | 200' btoc | |
| Purge Time | begin 10:35 end 12:30 | |
| Pumping Rate (gpm) | ~12 gal/min – 12.5 gal/min | |
| Evacuation Method | 3 inch groundfos | |

**Field Parameters**

| | | | | | |
|---|---|---|---|---|---|
| Color | clear | | | | |
| Odor | none | | | | |
| Appearance | 10:40 | 11:10 | 11:20 | 11:30 | 11:40 |
| pH (s.u.) | 6.99 | 7.82 | 7.81 | 7.81 | 7.77 |
| Conductivity (mS/cm) | .336 | .321 | .324 | .324 | .325 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Temperature (°C) | 14.27 | 14.53 | 14.58 | 14.65 | 14.59 |
| Diss. Oxygen (mg/L) | 7.86 | 5.96 | 5.33 | 6.35 | 6.63 |
| ORP | 139 | 145 | 150 | 153 | 154 |
| dtw* Sampling Method | 172.65 | 175.57 | 176.40 ~~176.40~~ | 176.44 | 176.68 |

Remarks: Start at 166.60; 174.10 after 20 min; 175.27 (11:05)
* dtw taken from base of Waterlevel foot
176.40 (11:20) 176.44 (11:30)

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | mililiter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 2 of 2 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/13/12 |
| Site/Well No. | MW-1 | Replicate No. | — | Code No. | — |
| Weather | sunny / clear 65°F | Sampling Time: Begin | 12:35 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | |
| Depth to Water (ft bmp) | |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | |
| Casing Diameter/Type | |
| Gallons in Well | |
| Gallons Pumped/Bailed Prior to Sampling | |
| Sample Pump Intake Setting (ft bmp) | 200' below |
| Purge Time | begin ____ end ____ |
| Pumping Rate (gpm) | 12.5 |
| Evacuation Method | 2 hrs to pump 1500 gall. |

**Field Parameters**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Color | | | | | | | |
| Odor | | | | | | | |
| Appearance | 11:50 | 12:00 | 12:10 | 12:15 | 12:20 | 12:25 | 12:30 |
| pH (s.u.) | 7.85 | 7.85 | 7.84 | 7.82 | 7.81 | 7.72 | 7.68 |
| Conductivity (mS/cm) | .324 | .323 | .323 | .323 | .323 | .323 | .324 |
| (µmhos/cm) | | | | | | | |
| Turbidity (NTU) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Temperature (°C) | 14.77 | 14.80 | 14.84 | 14.79 | 14.85 | 14.78 | 14.75 |
| Diss. Oxygen (mg/L) | 6.45 | 6.35 | 6.22 | 6.19 | 6.18 | 6.14 | 6.12 |
| ORP | 155 | 157 | 158 | 161 | 161 | 169 | 171 |
| Sampling Method | dtw 176.84 | 176.99 | 177.14 | 177.22 | 177.24 | 177.32 | 177.45 |
| Remarks | 176.99 | | | | | | |

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/14/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 1 of 3 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/14/12 |
| Site/Well No. | MW-1A | Replicate No. | N/A | Code No. | — |
| Weather | Sunny / 70°F | Sampling Time: | Begin | End | |

2½ schedule 80

so 40 screen

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | 280. (135.9) |
| Depth to Water (ft bmp) | 136.09 |
| Water-Level Elevation (ft) | 3.25 gall/ft. |
| Water Column in Well (ft) | 143.91 (4½) OD |
| Casing Diameter/Type | 1 10" steel / 4" inner MW-1 |
| Gallons in Well | 467.7 |
| Gallons Pumped/Bailed Prior to Sampling | (3x = 1403 gall.) |
| Sample Pump Intake Setting (ft bmp) | |
| Purge Time | begin 09:35 end 14:10 |
| Pumping Rate (gpm) | 4 gall/min |
| Evacuation Method | Grundfos Redirflow II |

**Field Parameters**

| | | | | | |
|---|---|---|---|---|---|
| Color | gray/tan at start | | | | |
| Odor | none | | | | |
| Appearance | 10:40 | 11:10 | 11:40 | 12:40 | 13:05 ~~12:40~~ |
| pH (s.u.) | 6.95 | 6.84 | 7.12 | 7.32 | 7.32 |
| Conductivity (mS/cm) | .560 | .564 | .567 | .566 | .567 |
| (µmhos/cm) | | | | | |
| Turbidity (NTU) | 450 | 652 | >1000 | 535 | 347 |
| Temperature (°C) | 16.21 | 15.86 | 16.24 | 17.53 | 17.44 |
| Diss. Oxygen (mg/L) | 8.47 | 7.14 | 7.44 | 6.82 | 6.69 |
| ORP | 157 | 168 | 156 | 164 | 168 |
| Sampling Method | | | | | |

Remarks: no water level measurement possible
indicator stuck at 119' btoc
11:40 pump rate is down to 3 gall./min
11:55 ~2.5 gall./min

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | mililiter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

03/14/12

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 2 of 3 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/14/12 |
| Site/Well No. | MW-1A | Replicate No. | — | Code No. | — |
| Weather | Sunny 80°F | Sampling Time: | Begin ____ | End | ____ |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | |
| Depth to Water (ft bmp) | |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | |
| Casing Diameter/Type | |
| Gallons in Well | |
| Gallons Pumped/Bailed Prior to Sampling | |
| Sample Pump Intake Setting (ft bmp) | |
| Purge Time | begin ____ end ____ |
| Pumping Rate (gpm) | |
| Evacuation Method | |

**Field Parameters**

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | clear after 3.5 hours | | | | | |
| Odor | none | | | | | |
| Appearance | 13:10 | 13:15 | 13:20 | 13:25 | 13:30 | 13:35 |
| pH (s.u.) | 7.32 | 7.32 | 7.32 | 7.31 | 7.31 | 7.29 |
| Conductivity (mS/cm) | .567 | .568 | .569 | .566 | .567 | .568 |
| (µmhos/cm) | | | | | | |
| Turbidity (NTU) | 318 | 303 | 273 | 264 | 275 | 229 |
| Temperature (°C) | 17.70 | 17.70 | 17.44 | 17.70 | 17.89 | 17.36 |
| Diss. Oxygen (mg/L) | 5.82 | 5.67 | 6.57 | 6.92 | 6.10 | 6.57 |
| ORP | 168 | 168 | 169 | 170 | 171 | 173 |
| Sampling Method | | | | | | |

Remarks ____

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

03/14/12

**ARCADIS**

# Water Sampling Log

| | | | | | |
|---|---|---|---|---|---|
| Project | TRW OGV OU2 | Project No. | KC001590.0003 | Page | 3 of 3 |
| Site Location | City of Sullivan Landfill - Oak grove Village, MO | | | Date | 03/14/12 |
| Site/Well No. | MW-1A | Replicate No. | — | Code No. | — |
| Weather | Overcast/Sunny 82°F | Sampling Time: | Begin 14:15 | End | |

**Evacuation Data**

| | |
|---|---|
| Measuring Point | Top of Casing |
| MP Elevation (ft) | |
| Land Surface Elevation (ft) | |
| Sounded Well Depth (ft bmp) | |
| Depth to Water (ft bmp) | |
| Water-Level Elevation (ft) | |
| Water Column in Well (ft) | |
| Casing Diameter/Type | |
| Gallons in Well | |
| Gallons Pumped/Bailed Prior to Sampling | |
| Sample Pump Intake Setting (ft bmp) | |
| Purge Time | begin ____ end ____ |
| Pumping Rate (gpm) | |
| Evacuation Method | |

**Field Parameters**

| | | | | | | |
|---|---|---|---|---|---|---|
| Color | clearing | | | | | |
| Odor | none | | | | | |
| Appearance | 13:40 | 13:45 | 13:50 | 13:55 | N:05 | 14:00 |
| pH (s.u.) | 7.29 | 7.28 | 7.28 | 7.26 | 7.22 | 7.24 |
| Conductivity (mS/cm) | .567 | .567 | .566 | .566 | .566 | .561 |
| (µmhos/cm) | | | | | | |
| Turbidity (NTU) | 230 | 221 | 213 | 192 | 193 | 172 |
| Temperature (°C) | 17.27 | 17.63 | 17.04 | 17.35 | 17.43 | 16.9 |
| Diss. Oxygen (mg/L) | 6.76 | 6.81 | 6.44 | 6.79 | 6.86 | 6.5 |
| ORP | 174 | 175 | 176 | 178 | 181 | 181 |
| Sampling Method | | | | | | |

Remarks: 1.5 well volumes = 705 gall ~720 removed by end of purging

14:10
pH 7.23
con. .567
148 NTU
16.91 °
DO 6.56
ORP 181

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40 ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9056A) | 500 ml PE | 1 | None |
| Alkalinity | 250 ml PE | 1 | None |
| | | | |

Sampling Personnel: Stephan Schmitz

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

*June 2012 Sampling Event*

06/21/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date 06/21/12

Site/Well No. MW-1 | Replicate No. N/A | Code No.

Weather: Overcast/muggy 78°F | Sampling Time: Begin 12:10 | End 12:15

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 349

Depth to Water (ft bmp): 165.08

Water-Level Elevation (ft):

Water Column in Well (ft): 183.92

Casing Diameter/Type: 4" / PVC

Gallons in Well: 119.6

Gallons Pumped/Bailed Prior to Sampling: 119.6

Sample Pump Intake Setting (ft bmp): 200' btoc

Purge Time: begin 9:35 end 12:15

Pumping Rate (gpm): 2 gall/min

Evacuation Method: 2" Grundfos Rediflo II

**Field Parameters**

Color: clear | Odor: none

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 11:55 | 12:00 | 12:05 | | |
| pH (s.u.) | 7.73 | 7.65 | 7.61 | | |
| Conductivity (mS/cm) | .329 | .321 | .321 | | |
| Turbidity (NTU) | 0.0 | 0.42 | 0.31 | | |
| Temperature (°C) | 16.83 | 16.20 | 16.41 | | |
| Diss. Oxygen (mg/L) | 6.58 | 5.77 | 5.68 | | |
| ORP | 2.8 | 2.7 | 2.9 | | |
| Other x | | | | | |

Sampling Method: Low flow

Remarks: stop pumping at 10:55 ~ 180 gall. removed (1.5x volume) restart pumping at 11:50 add. 30 gall purged before sample total of 210 gall. purged;

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~500~~ 250 ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel: St. Schmitt / Ben Doran (SS/BD)

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Milligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

06/21/12

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 06/21/12

Site/Well No.: MW-1A | Replicate No.: N/A | Code No.:

Weather: Overcast/humid 82°F | Sampling Time: Begin 17:05 | End

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 280

Depth to Water (ft bmp): 141.45

Water-Level Elevation (ft): 3.25 gall/foot

Water Column in Well (ft): 138.55

Casing Diameter/Type: 10" steel / 4" inner MW-1

Gallons in Well: 450

Gallons Pumped/Bailed Prior to Sampling: (x3 = 1350) | 1.5x volume 675

Sample Pump Intake Setting (ft bmp): 1. 160'/2. 190'

Purge Time: begin 9:35 end

Pumping Rate (gpm): 2 gall/min

Evacuation Method: Grundfos Rock Flo II

**Field Parameters**

Color: Clear/gray | Odor: none

Appearance:

| Time | pH (s.u.) | Conductivity (mS/cm) | Turbidity (NTU) | Temperature (°C) | Diss. Oxygen (mg/L) | ORP |
|---|---|---|---|---|---|---|
| 16:40 | 7.37 | .563 | 27.4 | 17.82 | 7.47 | -8.0 |
| 16:45 | 7.26 | .559 | — | 16.80 | 7.46 | -7.1 |
| 16:50 | 7.23 | .557 | 29.4 | 16.84 | 7.35 | -1.9 |
| 16:55 | 7.20 | .558 | 59.2 | 16.96 | 7.31 | 7.9 |
| 17:00 | 7.19 | .557 | 39.7 | 17.09 | 7.29 | 15.1 |

ORP jumpy

Other:

Sampling Method: Low flow

Remarks: pump shut off by itself at 10:55 ~ 180 gall. removed; could be overheated(?) / was pinched restart pump at 11:10, draw down to 160 - reset pump to 190' control unit 342 Hz

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| Alkalinity | 500 ~~250~~ ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/19/12
06/22/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date:

Site/Well No.: MW-101 | Replicate No.: | Code No.:

Weather: Sunny 90°+ F | Sampling Time: Begin — End —

| Evacuation Data | | Field Parameters | |
|---|---|---|---|
| Measuring Point | TOC | Color | not sampled |
| MP Elevation (ft) | | Appearance | not sampled |
| Land Surface Elevation (ft) | | Time | |
| Sounded Well Depth (ft bmp) | 185.5 | pH (s.u.) | |
| Depth to Water (ft bmp) | 160.93 | Conductivity (mS/cm) | |
| Water-Level Elevation (ft) | | Turbidity (NTU) | |
| Water Column in Well (ft) | 24.57 | Temperature (°C) | |
| Casing Diameter/Type | | Diss. Oxygen (mg/L) | |
| Gallons in Well | 3.98 | ORP | |
| Gallons Pumped/Bailed Prior to Sampling | ~12 | Other | |
| | | Sampling Method | |
| Sample Pump Intake Setting (ft bmp) | 175 | Remarks | Obstruction at ~154 won't let pump pass |
| Purge Time | begin ___ end ___ | | |
| Pumping Rate (gpm) | | | |
| Evacuation Method | | | |

Odor:

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| * Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| * Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | 500 250 ml PE | 1 | None |
| * Total Phosph. + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | mililiter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/22/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date:

Site/Well No.: MW-101 | Replicate No.: | Code No.:

Weather: Sunny / 71°F | Sampling Time: Begin 9:55 | End 9:15

**Evacuation Data**

Measuring Point:

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 185.50

Depth to Water (ft bmp):

Water-Level Elevation (ft): 160.93

Water Column in Well (ft): 24.57

Casing Diameter/Type: 2" / PVC

Gallons in Well: ~4

Gallons Pumped/Bailed Prior to Sampling: ~12 / 17 gall removed

Sample Pump Intake Setting (ft bmp):

Purge Time: begin 09:25 end 09:55

Pumping Rate (gpm):

Evacuation Method:

**Field Parameters**

Color: gray | Odor:

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 09:35 | 09:40 | 09:50 | | |
| pH (s.u.) | 7.14 | 6.44 | 6.57 | | |
| Conductivity (mS/cm) | .531 | .579 | 0.519 | | |
| Turbidity (NTU) | 85.2 | >1000 | | | |
| Temperature (°C) | 14.84 | 14.79 | 14.85 | | |
| Diss. Oxygen (mg/L) | 7.65 | 5.66 | 5.86 | | |
| ORP | 13.3 | 60.9 | 55.1 | | |
| Other | | | | | |

Sampling Method:

Remarks: not field filtered / full of sediment

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| Alkalinity | 500 ~~250~~ ml PE | 1 | None |
| total phosphorus + Ammonia | 500 ml PE | 1 | H2SO4 |

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Millisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

06/22/12

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 06/22/12

Site/Well No.: MW-102A | Replicate No.: | Code No.:

Weather: Sunny / 85°F | Sampling Time: Begin 12:15 | End 12:20

**Evacuation Data**

Measuring Point:

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 235.90

Depth to Water (ft bmp):

Water-Level Elevation (ft): 187.80

Water Column in Well (ft): 88.10

Casing Diameter/Type: 2" / PVC

Gallons in Well: 14.25

Gallons Pumped/Bailed Prior to Sampling: ~ 43.0 / 45.0

Sample Pump Intake Setting (ft bmp): 250'

Purge Time: begin 11:35 end 12:15

Pumping Rate (gpm): 1.3 gal/min

Evacuation Method: Grundfos Rediflow II

**Field Parameters**

Color: tan/clear after 15 min | Odor: none

Appearance:

| Time | 11:55 | 12:00 | 12:05 | 12:10 | 12:15 |
|---|---|---|---|---|---|
| pH (s.u.) | 7.62 | 7.58 | 7.56 | 7.58 | 7.58 |
| Conductivity (mS/cm) | .360 | .362 | .361 | .361 | .361 |
| Turbidity (NTU) | 33.6 | 9.08 | — | 4.10 | 4.25 |
| Temperature (°C) | 18.08 | 18.29 | 18.35 | 18.17 | 18.54 |
| Diss. Oxygen (mg/L) | 5.91 | 6.36 | 5.64 | 5.50 | 5.32 |
| ORP | 5.9 | 18.9 | 24.4 | 28.3 | 27.6 |
| Other | | | | | |

Sampling Method: low flow

Remarks: turbidity first clearing after 15 min.

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | 500 ~~250~~ ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/20/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date 06/20/12

Site/Well No. MW-102B | Replicate No. N/A | Code No.

Weather: Sunny/hot 94°F | Sampling Time: Begin 18:30 | End 18:35

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 216

Depth to Water (ft bmp):

Water-Level Elevation (ft): 178.18

Water Column in Well (ft): 37.82

Casing Diameter/Type: 2" / PVC

Gallons in Well: 6.1

Gallons Pumped/Bailed Prior to Sampling: 18.4 / ~32 (should removed)

Sample Pump Intake Setting (ft bmp): 195

Purge Time: begin 17:55 end 18:35

Pumping Rate (gpm): .8 gal/min

Evacuation Method: Grundfos Rediflow2 control unit 315 @ 195

**Field Parameters**

Color: tan / clear | Odor: none

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 18:05 | 18:10 | 18:15 | 18:20 | 18:25 |
| pH (s.u.) | 7.36 | 7.25 | 7.17 | 7.15 | 7.15 |
| Conductivity (mS/cm) | .515 | .511 | .520 | .521 | .523 |
| Turbidity (NTU) | 477 | — | 124 | 34.5 | 19.5 |
| Temperature (°C) | 20.62 | 20.68 | 21.48 | 21.29 | 21.21 |
| Diss. Oxygen (mg/L) | 5.95 | 5.36 | 5.01 | 5.03 | 5.02 |
| ORP | -23.2 | -12.1 | 5.3 | 12.1 | 10.5 |
| Other | — | — | | | |

Sampling Method: low flow

Remarks: very turbid at first but clearing after 20 min.

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~250~~ 500 ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

(* not filtered)

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/19/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date 06/19/12

Site/Well No. MW-103 | Replicate No. N/A | Code No.

Weather: Sunny / overcast 95°F | Sampling Time: Begin 17:40 End 17:45

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 207.10

Depth to Water (ft bmp): 180.69

Water-Level Elevation (ft):

Water Column in Well (ft): 26.41

Casing Diameter/Type: 2" / PVC

Gallons in Well: 4.3

Gallons Pumped/Bailed Prior to Sampling: ~ 13 gall.

Sample Pump Intake Setting (ft bmp): 190

Purge Time: begin 17:05 end 17:40

Pumping Rate (gpm):

Evacuation Method: Grundfos Redi-flo 2

**Field Parameters**

Color: clear | Odor: none

Appearance:

| Time | 17:15 | 17:20 | 17:25 | 17:30 | 17:35 |
|---|---|---|---|---|---|
| pH (s.u.) | 7.43 | 7.43 | 7.39 | 7.47 | 7.43 |
| Conductivity (mS/cm) | .408 | .407 | .408 | .409 | .411 |
| Turbidity (NTU) | 162 | 719 | — | 70.3 | 39.9 |
| Temperature (°C) | 22.26 | 22.70 | 23.07 | 22.92 | 22.18 |
| Diss. Oxygen (mg/L) | 5.03 | 4.80 | 4.57 | 4.60 | 4.49 |
| ORP | 14.1 | 3.2 | -9.2 | -2.5 | -3.0 |
| Other dtw. | 185.55 | — | 184.85 | 185.20 | ~~[illegible]~~ n/m |

Sampling Method: Low flow

Remarks: reduce flow to .6 gall. 30% on control after 10 min

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~250~~ 500 ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | H2SO4 |

not filtered

Sampling Personnel: St. Schmitz / Ben Doran (SS / BD)

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Millisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Milligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

**ARCADIS**

# Water Sampling Log

06/20/12

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 06/20/12

Site/Well No.: MW-104 | Replicate No.: N/A | Code No.:

Weather: Sunny / hot 90°F | Sampling Time: Begin 11:10 | End 11:25

**Evacuation Data**

Measuring Point: rox

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): ~184 feet abst.

Depth to Water (ft bmp): 199 / 176.89

Water-Level Elevation (ft):

Water Column in Well (ft): 22.11

Casing Diameter/Type: 2" / PVC

Gallons in Well: 3.6

Gallons Pumped/Bailed Prior to Sampling: ~11 gall

Sample Pump Intake Setting (ft bmp): 192 (ontopo/abstn)

Purge Time: begin 10:00 end 11:10

Pumping Rate (gpm): ~200 ml/min

Evacuation Method: Grundfos Redi flo II

**Field Parameters**

Color: gray | Odor: non detected

Appearance:

| Time | 10:10 | 10:15 | 10:50 | 10:55 | 11:00 |
|---|---|---|---|---|---|
| pH (s.u.) | 7.11 | 7.05 | 7.01 | 7.00 | 7.00 |
| Conductivity (mS/cm) | .706 | .704 | .709 | .712 | .712 |
| Turbidity (NTU) | 89.2 | | 13.9 | 4.20 | |
| Temperature (°C) | 23.34 | 22.49 | 27.19 | 27.40 | 27.91 |
| Diss. Oxygen (mg/L) | 5.43 | 5.12 | 4.40 | 4.60 | 4.33 |
| ORP | 37.4 | 39.7 | 65.4 | 69.0 | 69.9 |
| Other dtw | 178.02 | 178.50 | 178.5 | 178.5 | 178.5 |

Sampling Method: Low flow 178.05 @ 11:38

Remarks: control unit at 304 Hz

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | 500 ~~250~~ ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | | $H_2SO_4$ |

not filtered

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/19/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date 06/19/12

Site/Well No. MW-105 | Replicate No. DUP-01 (06192012) | Code No.

Weather: Sunny/overcast 93°F | Sampling Time: Begin 15:05 | End 15:20

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 204

Depth to Water (ft bmp): 150.75

Water-Level Elevation (ft):

Water Column in Well (ft): 53.25

Casing Diameter/Type:

Gallons in Well: 8.6

Gallons Pumped/Bailed Prior to Sampling: ~26 gal

Sample Pump Intake Setting (ft bmp): 165

Purge Time: begin 14:30 end 15:05

Pumping Rate (gpm): .8 gal

Evacuation Method: Grundfos RediFlow II

**Field Parameters**

Color: Clear | Odor: none

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 14:40 | 14:45 | 14:50 | 14:55 | 15:00 |
| pH (s.u.) | 7.22 | 7.14 | 7.10 | 7.15 | 7.07 |
| Conductivity (mS/cm) | .625 | .624 | .625 | .627 | .623 |
| Turbidity (NTU) | 7.37 | 3.96 | — | 5.48 | 1.72 |
| Temperature (°C) | 18.20 | 18.82 | 18.98 | 18.47 | 18.14 |
| Diss. Oxygen (mg/L) | 4.07 | 3.55 | 3.49 | 3.46 | 3.57 |
| ORP | -11.2 | 1.4 | 11.7 | 10.1 | 1.6 |
| Other elev. | 152.90 | 151.95 | 151.95 | 151.92 | 151.90 |

Sampling Method: Low flow Pump control 290 Hz

Remarks: there was an obstruction at 121 feet but it broke loose; pump past.

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~250~~ 500 ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel: St. Smith / Ben Doran (SS/BD)

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/19/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date 06/19/12

Site/Well No. MW-107S | Replicate No. N/A | Code No.

Weather: Sunny/windy 90°F | Sampling Time: Begin 11:40 | End 11:45

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 223.30

Depth to Water (ft bmp): 204.64

Water-Level Elevation (ft): ℄

Water Column in Well (ft): 18.66

Casing Diameter/Type: 2" / PVC

Gallons in Well: 3.0

Gallons Pumped/Bailed Prior to Sampling: ~ 9.0 / 15

Sample Pump Intake Setting (ft bmp): ~ 213 feet bmp

Purge Time: begin 11:09 end 11:40

Pumping Rate (gpm): ~ .6 gal/min

Evacuation Method: Grundfoss Rediflo II control unit on 33 Hz

**Field Parameters**

Color: tan/clear | Odor: none detected

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 11:15 | 11:20 | 11:25 | 11:30 | 11:35 |
| pH (s.u.) | 7.45 | 7.35 | 7.41 | 7.43 | 7.45 |
| Conductivity (mS/cm) | .492 | .499 | .474 | .470 | .469 |
| Turbidity (NTU) | 91.2 | 63.1 | 47.0 | — | 20.6 |
| Temperature (°C) | 21.82 | 21.66 | 21.88 | 22.19 | 21.71 |
| Diss. Oxygen (mg/L) | 6.64 | 6.43 | 6.39 | 6.29 | 6.45 |
| ORP | -2.7 | 10.1 | 16.8 | 17.4 | 19.3 |
| Other dtw. | 206.75 | 207.50 | 208.50 | 209.0 | 209.42 |

Sampling Method: low flow

Remarks:

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| Alkalinity | 500 250 ml PE | 1 | None |
| Total Phosphorus + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel: Sh Schmitt / Ben Doran (SS/BD)

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/18/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 06/18/12

Site/Well No.: MW-107d | Replicate No.: | Code No.:

Weather: Sunny/sunny 93°F | Sampling Time: Begin 17:55 | End

**Evacuation Data**

Measuring Point: Top of casing

MP Elevation (ft): 922.24

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 544.2

Depth to Water (ft bmp): 230.09

Water-Level Elevation (ft):

Water Column in Well (ft): 147.71

Casing Diameter/Type: 2" / PVC

Gallons in Well: ~ 24

Gallons Pumped/Bailed Prior to Sampling: ~ 72 gall.

Sample Pump Intake Setting (ft bmp): 250 feet

Purge Time: begin 17:00 end

Pumping Rate (gpm): 1.5 gall./min

Evacuation Method: pump

**Field Parameters**

Color: clear | Odor: none

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 17:30 | 17:35 | 17:40 | 17:45 | 17:50 |
| pH (s.u.) | 7.17 | 7.35 | 7.59 | 7.57 | 7.58 |
| Conductivity (mS/cm) | .370 | .369 | .370 | .368 | .368 |
| Turbidity (NTU) | 1.41 | — | 1.40 | 1.31 | 0.31 |
| Temperature (°C) | 17.95 | 17.92 | 17.93 | 18.00 | 18.20 |
| Diss. Oxygen (mg/L) | 1.56 | 1.51 | 1.37 | 1.43 | 1.42 |
| ORP | 28.7 | 17.8 | 8.1 | 7.0 | 7.2 |
| Other | | | | | |

Sampling Method: Low flow / Grundfos Rediflo II

Remarks: pump controller setting LOC 5.0A 400.0612

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~250~~ ml PE | 1 | None |
| not filtered Total Phosphorus/Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

Sampling Personnel: St. Schmitz / Ben Doran (SS/BD)

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Millisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/20/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 06/20/12

Site/Well No.: MW - 108S | Replicate No.: N/A | Code No.:

Weather: Sunny/breezy 96°F | Sampling Time: Begin 16:35 | End 16:40

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 214.00

Depth to Water (ft bmp): 194.62

Water-Level Elevation (ft):

Water Column in Well (ft): 19.38

Casing Diameter/Type: 2" / PVC

Gallons in Well: 3.1

Gallons Pumped/Bailed Prior to Sampling: 5 gal / removed ~ 9.5 / ~ 20 gall

Sample Pump Intake Setting (ft bmp): 205

Purge Time: begin 16:05 end 16:35

Pumping Rate (gpm): 1 gall./min / dulled back to ½ gall. min after 10 min

Evacuation Method: Grundfos RediFlo II control unit 320 Hz

**Field Parameters**

Color: brown/tan later | Odor: none

Appearance:

| Time | 16:10 | 16:15 | 16:20 | 16:25 | 16:30 |
|---|---|---|---|---|---|
| pH (s.u.) | 7.64 | 7.00 | 6.84 | 6.85 | 6.90 |
| Conductivity (mS/cm) | .656 | .651 | .652 | .653 | .655 |
| Turbidity (NTU) | 142 | 95.5 | 46.6 | – | 9.5 |
| Temperature (°C) | 22.08 | 20.66 | 21.97 | 22.63 | 22.74 |
| Diss. Oxygen (mg/L) | 4.67 | .96 | .79 | .74 | .74 |
| ORP | -56.0 | -40.1 | [illegible] | 3.1 | -9.9 |
| Other dtw. | M/m | – | – | – | – |

ORP not

Sampling Method: Low flow

Remarks: brown turbid first 5 min of pumping >850 NTUs but clearing fast

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| Alkalinity | ~~500~~ ~~250~~ ml PE | 1 | None |
| Phosphorus + Ammonia | 500ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel: St. Schmitz / Ben Doran (SS/BD)

**Well Casing Volumes**

| Gal./Ft. | | | | | |
|---|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/20/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No. KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO N/A | Date 06/20/12

Site/Well No. MW-108d | Replicate No. N/A | Code No.

Weather: Sunny/hot 96°F | Sampling Time: Begin 14:55 | End 15:20

**Evacuation Data**

Measuring Point: TOC

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp): 385.30

Depth to Water (ft bmp): 231.36

Water-Level Elevation (ft):

Water Column in Well (ft): 153.94

Casing Diameter/Type: 2" PVC

Gallons in Well: 24.9

Gallons Pumped/Bailed Prior to Sampling: ~75 gall.

Sample Pump Intake Setting (ft bmp): 285 feet

Purge Time: begin 14:00 end 14:55

Pumping Rate (gpm): 1.5 gall./min

Evacuation Method: RediFlo II

**Field Parameters** first turbidity after start pump 4.01

Color: clear | Odor: none

Appearance:

| Time | pH (s.u.) | Conductivity (mS/cm) | Turbidity (NTU) | Temperature (°C) | Diss. Oxygen (mg/L) | ORP | Other |
|---|---|---|---|---|---|---|---|
| 14:25 | 7.36 | .452 | 1.56 | 19.09 | 2.54 | -13.8 | — |
| 14:30 | 7.30 | .451 | - | 19.22 | 2.52 | -8.0 | — |
| 14:35 | 7.18 | .453 | — | 19.37 | 2.43 | 0.8 | — |
| 14:40 | 7.33 | .454 | 2.06 | 18.84 | 2.59 | -10.1 | — |
| 14:45 | 7.25 | .455 | 1.50 | 18.54 | 2.58 | 9.5 | — |
| 14:50 | 7.22 | .454 | 4.05 | 18.84 | 2.53 | 13.2 | |

Sampling Method: low flow

Remarks: control unit 389 Hz

ORP not stable

~80 gall. removed

Sample

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| Alkalinity | ~~250~~ 500 ml PE | 1 | None |
| Total Phosphorous + Ammonia | 500 ml PE | 1 | $H_2SO_4$ |

not filtered

Sampling Personnel: Stephan Schmit / Ben Doran (SS / BD)

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| | 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| | 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

06/21/12

**ARCADIS**

# Water Sampling Log

Project: TRW OGV OU2 | Project No.: KC001590.00003.0008 | Page 1 of 1

Site Location: City of Sullivan Landfill - Oak Grove, MO | Date: 6-21-12

Site/Well No.: Voss well | Replicate No.: | Code No.:

Weather: | Sampling Time: Begin 1105 End 1110

**Evacuation Data**

Measuring Point:

MP Elevation (ft):

Land Surface Elevation (ft):

Sounded Well Depth (ft bmp):

Depth to Water (ft bmp):

Water-Level Elevation (ft):

Water Column in Well (ft):

Casing Diameter/Type:

Gallons in Well:

Gallons Pumped/Bailed Prior to Sampling: 250gal

Sample Pump Intake Setting (ft bmp):

Purge Time: begin 1020 end 1105

Pumping Rate (gpm): 10gpm/5gpm

Evacuation Method: well Pump

**Field Parameters**

Color: Clear | Odor: None

Appearance:

| | | | | | |
|---|---|---|---|---|---|
| Time | 1040 | 1045 | 1050 | 1055 | 1100 |
| pH (s.u.) | 7.04 | 7.02 | 7.15 | 7.11 | 7.16 |
| Conductivity (mS/cm) | 0.375 | .392 | .372 | .377 | .384 |
| Turbidity (NTU) | 3.2 | 2.9 | 3.0 | 2.6 | 2.8 |
| Temperature (°C) | 14.35 | 14.42 | 14.34 | 14.39 | 14.34 |
| Diss. Oxygen (mg/L) | 5.68 | 5.59 | 5.59 | 5.59 | 5.57 |
| ORP | 6.1 | 10.6 | 7.7 | 8.9 | 9.2 |
| Other | | | | | |

Sampling Method:

Remarks: pumped 10gpm for 10min then backed down to 5gpm for the rest

| Constituents Sampled | Container Description | Number | Preservative |
|---|---|---|---|
| * VOCs (8260B) | 40ml VOAs | 3 | HCl |
| Metals (6010B/6020) | 500 ml PE | 2 | HNO3 |
| Anions (9065A) | 500 ml PE | 1 | None |
| * Alkalinity | ~~250~~ 500 ml PE | 1 | None |
| Total Phosphorus | 500 ml | 1 | H2SO4 |

not filtered

Sampling Personnel:

**Well Casing Volumes**

| Gal./Ft. | | | | |
|---|---|---|---|---|
| 1-¼" = 0.06 | 2" = 0.16 | 3" = 0.37 | 4" = 0.65 | 8" = 2.61 |
| 1-½" = 0.09 | 2-½" = 0.26 | 3-½" = 0.50 | 6" = 1.47 | 10" = 4.08 |

| | | | | | |
|---|---|---|---|---|---|
| bmp | below measuring point | ml | milliliter | NTU | Nephelometric Turbidity Units |
| °C | Degrees Celsius | mS/cm | Milisiemens per centimeter | PVC | Polyvinyl chloride |
| ft | feet | msl | mean sea-level | s.u. | Standard units |
| gpm | Gallons per minute | N/A | Not Applicable | umhos/cm | Micromhos per centimeter |
| mg/L | Miligrams per liter | NM | Not Measured | VOC | Volatile Organic Compounds |

B

*Appendix B*

*Laboratory Reports*
*March & June 2012*

*March 2012 Sampling Event*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

Job Number: 240-9136-1

Job Description: TRW OGV OU2

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
3/30/2012 3:50 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
03/30/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
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## CASE NARRATIVE

**Client: TRW Automotive**

**Project: TRW OGV OU2**

**Report Number: 240-9136-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required

The 6020 Strontium and 6010B Silica and Lithium analyses were performed at the TestAmerica Pittsburgh Laboratory.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 03/10/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.4 C

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-104(20120309) (240-9136-1), VOSS(20120309) (240-9136-2) and TB-02(20120309) (240-9136-3) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B The samples were analyzed on 03/16/2012 and 03/19/2012.

cis-1,3-Dichloropropene failed the recovery criteria high for LCS 240-37167/4. Refer to the QC report for details.

Naphthalene failed the recovery criteria low for the MS/MSDsample 240-9206-1 in batch 240-37167.

Refer to the QC report for details.

Samples MW-104(20120309) (240-9136-1)[2X] and VOSS(20120309) (240-9136-2)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: The laboratory control sample (LCS) for batch 37167 exceeded control limits for the following analytes: cis-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**

Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 03/13/2012 and 03/16/2012 and analyzed on 03/19/2012 and 03/27/2012

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

Several analytes were detected in method blank MB 240-37001/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged

Refer to the QC report for details.

Calcium, Potassium and Sodium failed the recovery criteria low for the MSD of sample 240-9206-1 in batch 240-37273.

Refer to the QC report for details.

**DISSOLVED METALS (ICPMS)**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 03/14/2012 and analyzed on 03/28/2012

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits

**ALKALINITY**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 03/13/2012

Alkalinity and Carbonate Alkalinity as CaCO3 were detected in method blank MB 240-36734/3 at levels that were above the method detection limit but below the reporting limit The values should be considered estimates, and have been flagged "J" If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

No other difficulties were encountered during the alkalinity analyses.

All other quality control parameters were within the acceptance limits.

**AMMONIA BY ION SELECTIVE ELECTRODE**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for ammonia by ion selective electrode in accordance with SM 4500 NH3 F The samples were analyzed on 03/14/2012 and 03/15/2012.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

Ammonia was detected in method blank MB 240-36778/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

**DISSOLVED PHOSPHORUS**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for dissolved phosphorus in accordance with SM 4500 P E. The samples were prepared and analyzed on 03/13/2012.

No difficulties were encountered during the phosphorus analyses.

All quality control parameters were within the acceptance limits.

**ANIONS**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/10/2012.

Orthophosphate failed the recovery criteria low for the MS of sample 240-9083-8 in batch 240-36415



Refer to the QC report for details.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

**ANIONS**
Samples MW-104(20120309) (240-9136-1) and VOSS(20120309) (240-9136-2) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/10/2012.

No difficulties were encountered during the anions analyses

All quality control parameters were within the acceptance limits

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9136-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9136-1** | **MW-104(20120309)** | | | | | |
| Chloroform | | 0.32 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.35 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 3.2 | | 1 0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.78 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 51 | | 4.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.60 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.15 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0.22 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 3 5 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 34 | | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 350 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 12000 | | 1100 | ug/L | 6010B |
| Barium | | 86 | J B | 200 | ug/L | 6010B |
| Calcium | | 76000 | B | 5000 | ug/L | 6010B |
| Potassium | | 2000 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 43000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0 65 | J B | 15 | ug/L | 6010B |
| Sodium | | 8200 | | 5000 | ug/L | 6010B |
| Zinc | | 35 | B | 20 | ug/L | 6010B |
| Strontium | | 64 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 22 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.85 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.024 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 5.6 | | 1.0 | mg/L | 9056A |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9136-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9136-2** | **VOSS(20120309)** | | | | | |
| Chloroform | | 0.32 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 3.1 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 2.5 | | 1 0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.27 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 68 | | 5.0 | ug/L | 8260B |
| Tetrachloroethene | | 0 76 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0.29 | J | 1 0 | ug/L | 8260B |
| Trichloroethene | | 1 8 | | 1 0 | ug/L | 8260B |
| Trichlorofluoromethane | | 40 | | 2.5 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 230 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 11000 | | 1100 | ug/L | 6010B |
| Barium | | 180 | J B | 200 | ug/L | 6010B |
| Calcium | | 51000 | B | 5000 | ug/L | 6010B |
| Potassium | | 1500 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 29000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0.74 | J B | 15 | ug/L | 6010B |
| Sodium | | 4900 | J | 5000 | ug/L | 6010B |
| Zinc | | 7 3 | J B | 20 | ug/L | 6010B |
| Strontium | | 49 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 8.1 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.97 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.033 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 11 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.038 | J | 0 20 | mg/L | SM4500 NH3 -F |

## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-9136-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365 2/365 3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP) | TAL PIT | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL PIT | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica North Canton

TAL PIT = TestAmerica Pittsburgh

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.



## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-9136-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Evans, Laura | LE |
| SW846 6010B | Davies, Brian | BD |
| SW846 6010B | Ryan, Jessica | JR |
| SW846 6020 | Rosenbaum, Ron | RR |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 4500 P E | Kuhle, Julie | JK |
| SM18 SM4500 NH3 -F | Grossman, Lucas | LG |

## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-9136-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-9136-1 | MW-104(20120309) | Water | 03/09/2012 0925 | 03/10/2012 0930 |
| 240-9136-2 | VOSS(20120309) | Water | 03/09/2012 1150 | 03/10/2012 0930 |
| 240-9136-3TB | TB-02(20120309) | Water | 03/09/2012 0000 | 03/10/2012 0930 |



# SAMPLE RESULTS

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** MW-104(20120309)

Lab Sample ID: 240-9136-1
Client Matrix: Water

Date Sampled: 03/09/2012 0925
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/16/2012 1748
Prep Date: 03/16/2012 1748

Analysis Batch: 240-37026
Prep Batch: N/A

Instrument ID: A3UX15
Lab File ID: UXC1928.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.32 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.35 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.2 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.78 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.60 | J | 0.29 | 1.0 |
| Toluene | 0.15 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** MW-104(20120309)

Lab Sample ID: 240-9136-1
Client Matrix: Water

Date Sampled: 03/09/2012 0925
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/16/2012 1748
Prep Date: 03/16/2012 1748

Analysis Batch: 240-37026
Prep Batch: N/A

Instrument ID: A3UX15
Lab File ID: UXC1928.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.22 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 3.5 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 34 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 85 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 63 - 129 |
| Toluene-d8 (Surr) | 91 | | 74 - 115 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** MW-104(20120309)

Lab Sample ID: 240-9136-1
Client Matrix: Water

Date Sampled: 03/09/2012 0925
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1942.D |
| Dilution: | 2.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1329 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1329 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 51 | | 0.84 | 4.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 89 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** VOSS(20120309)

Lab Sample ID: 240-9136-2
Client Matrix: Water

Date Sampled: 03/09/2012 1150
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1929.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1810 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1810 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.32 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.1 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 2.5 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.27 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.76 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** VOSS(20120309)

Lab Sample ID: 240-9136-2
Client Matrix: Water

Date Sampled: 03/09/2012 1150
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1929.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1810 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1810 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.29 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.8 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 88 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 88 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 102 | | 63 - 129 |
| Toluene-d8 (Surr) | 93 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** VOSS(20120309)

Lab Sample ID: 240-9136-2
Client Matrix: Water

Date Sampled: 03/09/2012 1150
Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1943.D |
| Dilution: | 2.5 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1351 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1351 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 68 | | 1.1 | 5.0 |
| Trichlorofluoromethane | 40 | | 0.53 | 2.5 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 92 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** TB-02(20120309)

Lab Sample ID: 240-9136-3TB

Client Matrix: Water

Date Sampled: 03/09/2012 0000

Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1930.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1832 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1832 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** TB-02(20120309)

Lab Sample ID: 240-9136-3TB

Client Matrix: Water

Date Sampled: 03/09/2012 0000

Date Received: 03/10/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1930.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1832 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1832 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 89 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 102 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** MW-104(20120309)

Lab Sample ID: 240-9136-1
Client Matrix: Water

Date Sampled: 03/09/2012 0925
Date Received: 03/10/2012 0930

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Prep Method: | 3005A | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1708 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 86 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 76000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2000 | J B | 72 | 5000 |
| Magnesium | 43000 | B | 34 | 5000 |
| Manganese | 0 65 | J B | 0 41 | 15 |
| Sodium | 8200 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 35 | B | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B asc |
| Dilution: | 1 0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1921 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 12000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1 0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1649 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 64 | B | 0 018 | 10 |





Client: TRW Automotive

Job Number: 240-9136-1

**Client Sample ID:** VOSS(20120309)

Lab Sample ID: 240-9136-2
Client Matrix: Water

Date Sampled: 03/09/2012 1150
Date Received: 03/10/2012 0930

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Prep Method: | 3005A | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1712 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 180 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 51000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2 2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1500 | J B | 72 | 5000 |
| Magnesium | 29000 | B | 34 | 5000 |
| Manganese | 0 74 | J B | 0.41 | 15 |
| Sodium | 4900 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 7.3 | J B | 5.0 | 20 |
| Lead | 3 0 | U | 1 9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1926 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 11000 | | 29 | 1100 |
| Lithium | 50 | U | 2 8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1653 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 49 | B | 0 018 | 10 |

**General Chemistry**

**Client Sample ID:** MW-104(20120309)

Lab Sample ID: 240-9136-1
Client Matrix: Water

Date Sampled: 03/09/2012 0925
Date Received: 03/10/2012 0930

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 22 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Nitrite as N-Dissolved | 0 10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Fluoride-Dissolved | 0.024 | J | mg/L | 0 015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Nitrate as N-Dissolved | 0.85 | | mg/L | 0 023 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U | mg/L | 0 044 | 0.50 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Sulfate-Dissolved | 5 6 | | mg/L | 0 12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1856 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 350 | | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1727 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2 7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1727 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0 033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36657 | Analysis Date: 03/13/2012 1335 | | | | | | |
| Prep Batch: 240-36580 | Prep Date: 03/13/2012 0830 | | | | | | |
| Ammonia-Dissolved | 0 20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36778 | Analysis Date: 03/14/2012 0916 | | | | | | |





**General Chemistry**

**Client Sample ID:** VOSS(20120309)

Lab Sample ID: 240-9136-2
Client Matrix: Water

Date Sampled: 03/09/2012 1150
Date Received: 03/10/2012 0930

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.1 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0 012 | 0.10 | 1.0 | 9056A |
| Analysis Batch 240-36415 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Fluoride-Dissolved | 0.033 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Nitrate as N-Dissolved | 0.97 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0 081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U | mg/L | 0 044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Sulfate-Dissolved | 11 | | mg/L | 0 12 | 1.0 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1912 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 230 | | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1818 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5 0 | U | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1818 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0 033 | 0.10 | 1 0 | SM 4500 P E |
| Analysis Batch: 240-36657 | Analysis Date: 03/13/2012 1335 | | | | | | |
| Prep Batch: 240-36580 | Prep Date: 03/13/2012 0830 | | | | | | |
| Ammonia-Dissolved | 0.038 | J | mg/L | 0 035 | 0.20 | 1 0 | SM4500 NH3 -F |
| Analysis Batch: 240-36927 | Analysis Date: 03/15/2012 1019 | | | | | | |

## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-9136-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | U | Indicates the analyte was analyzed for but not detected. |
| | * | LCS or LCSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| General Chemistry | | |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |



# QUALITY CONTROL RESULTS

Client: TRW Automotive

Job Number: 240-9136-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-37026** | | | | | |
| LCS 240-37026/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-37026/5 | Method Blank | T | Water | 8260B | |
| 240-9136-1 | MW-104(20120309) | T | Water | 8260B | |
| 240-9136-2 | VOSS(20120309) | T | Water | 8260B | |
| 240-9136-3TB | TB-02(20120309) | T | Water | 8260B | |
| **Analysis Batch:240-37167** | | | | | |
| LCS 240-37167/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-37167/5 | Method Blank | T | Water | 8260B | |
| 240-9136-1 | MW-104(20120309) | T | Water | 8260B | |
| 240-9136-2 | VOSS(20120309) | T | Water | 8260B | |

**Report Basis**
T = Total





Client: TRW Automotive

Job Number: 240-9136-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 180-30593** | | | | | |
| LCS 180-30593/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-30593/1-A | Method Blank | R | Water | 3005A | |
| 240-9136-1 | MW-104(20120309) | D | Water | 3005A | |
| 240-9136-2 | VOSS(20120309) | D | Water | 3005A | |
| **Prep Batch: 180-30667** | | | | | |
| LCS 180-30667/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-30667/1-A | Method Blank | R | Water | 3005A | |
| 240-9136-1 | MW-104(20120309) | D | Water | 3005A | |
| 240-9136-2 | VOSS(20120309) | D | Water | 3005A | |
| **Analysis Batch:180-31781** | | | | | |
| LCS 180-30593/2-A | Lab Control Sample | R | Water | 6010B | 180-30593 |
| MB 180-30593/1-A | Method Blank | R | Water | 6010B | 180-30593 |
| 240-9136-1 | MW-104(20120309) | D | Water | 6010B | 180-30593 |
| 240-9136-2 | VOSS(20120309) | D | Water | 6010B | 180-30593 |
| **Analysis Batch:180-31887** | | | | | |
| LCS 180-30667/2-A | Lab Control Sample | R | Water | 6020 | 180-30667 |
| MB 180-30667/1-A | Method Blank | R | Water | 6020 | 180-30667 |
| 240-9136-1 | MW-104(20120309) | D | Water | 6020 | 180-30667 |
| 240-9136-2 | VOSS(20120309) | D | Water | 6020 | 180-30667 |
| **Prep Batch: 240-37001** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-37001/1-A | Method Blank | R | Water | 3005A | |
| 240-9136-1 | MW-104(20120309) | D | Water | 3005A | |
| 240-9136-2 | VOSS(20120309) | D | Water | 3005A | |
| **Analysis Batch:240-37273** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 6010B | 240-37001 |
| MB 240-37001/1-A | Method Blank | R | Water | 6010B | 240-37001 |
| 240-9136-1 | MW-104(20120309) | D | Water | 6010B | 240-37001 |
| 240-9136-2 | VOSS(20120309) | D | Water | 6010B | 240-37001 |

**Report Basis**
D = Dissolved
R = Total Recoverable

Client: TRW Automotive

Job Number: 240-9136-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-36414** | | | | | |
| LCS 240-36414/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36414/5 | Method Blank | T | Water | 9056A | |
| 240-9136-1 | MW-104(20120309) | D | Water | 9056A | |
| 240-9136-2 | VOSS(20120309) | D | Water | 9056A | |
| **Analysis Batch:240-36415** | | | | | |
| LCS 240-36415/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36415/5 | Method Blank | T | Water | 9056A | |
| 240-9136-1 | MW-104(20120309) | D | Water | 9056A | |
| 240-9136-2 | VOSS(20120309) | D | Water | 9056A | |
| **Prep Batch: 240-36580** | | | | | |
| LCS 240-36580/11-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-36580/10-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-9136-1 | MW-104(20120309) | D | Water | 365.2/365.3/365 | |
| 240-9136-2 | VOSS(20120309) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-36657** | | | | | |
| LCS 240-36580/11-A | Lab Control Sample | T | Water | SM 4500 P E | 240-36580 |
| MB 240-36580/10-A | Method Blank | T | Water | SM 4500 P E | 240-36580 |
| 240-9136-1 | MW-104(20120309) | D | Water | SM 4500 P E | 240-36580 |
| 240-9136-2 | VOSS(20120309) | D | Water | SM 4500 P E | 240-36580 |
| **Analysis Batch:240-36734** | | | | | |
| LCS 240-36734/2 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-36734/3 | Method Blank | T | Water | SM 2320B | |
| 240-9136-1 | MW-104(20120309) | T | Water | SM 2320B | |
| 240-9136-1MS | Matrix Spike | T | Water | SM 2320B | |
| 240-9136-1MSD | Matrix Spike Duplicate | T | Water | SM 2320B | |
| 240-9136-2 | VOSS(20120309) | T | Water | SM 2320B | |
| 240-9136-2DU | Duplicate | T | Water | SM 2320B | |
| **Analysis Batch:240-36778** | | | | | |
| LCS 240-36778/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-36778/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-9136-1 | MW-104(20120309) | D | Water | SM4500 NH3 -F | |
| **Analysis Batch:240-36927** | | | | | |
| LCS 240-36927/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-36927/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-9136-2 | VOSS(20120309) | D | Water | SM4500 NH3 -F | |





Client: TRW Automotive

Job Number: 240-9136-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|

**Report Basis**

D = Dissolved

T = Total

## Surrogate Recovery Report

**8260B Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-9136-1 | MW-104(20120309) | 84 | 85 | 101 | 91 |
| 240-9136-1 | MW-104(20120309) | 84 | 89 | 105 | 94 |
| 240-9136-2 | VOSS(20120309) | 86 | 88 | 102 | 93 |
| 240-9136-2 | VOSS(20120309) | 86 | 92 | 105 | 94 |
| 240-9136-3 | TB-02(20120309) | 87 | 89 | 102 | 94 |
| MB 240-37026/5 | | 86 | 86 | 98 | 96 |
| MB 240-37167/5 | | 87 | 92 | 105 | 89 |
| LCS 240-37026/4 | | 90 | 93 | 99 | 96 |
| LCS 240-37167/4 | | 87 | 95 | 99 | 90 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |





**Method Blank - Batch: 240-37026**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37026/5 | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1910 D |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1046 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1046 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0 13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1 0 | U | 0.64 | 1.0 |
| Bromomethane | 1 0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1 0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1 0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1 0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1 0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1 0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1 0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0 31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0 15 | 1 0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2 0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1 0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1 0 |
| Styrene | 1.0 | U | 0.11 | 1 0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1 0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-37026**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37026/5 | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1910 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1046 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1046 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | 66 - 117 |
| Dibromofluoromethane (Surr) | 86 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | 63 - 129 |
| Toluene-d8 (Surr) | 96 | 74 - 115 |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-9136-1

**Lab Control Sample - Batch: 240-37026**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37026/4 | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1909.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1024 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1024 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.2 | 102 | 83 - 112 | |
| Bromobenzene | 10.0 | 10.2 | 102 | 76 - 115 | |
| Bromoform | 10.0 | 9.02 | 90 | 40 - 131 | |
| Bromomethane | 10.0 | 5.91 | 59 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 8.68 | 87 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.78 | 98 | 85 - 110 | |
| Chloroethane | 10.0 | 6.62 | 66 | 25 - 153 | |
| Chloroform | 10.0 | 9.33 | 93 | 79 - 117 | |
| Chloromethane | 10.0 | 6.79 | 68 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9.85 | 99 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.71 | 97 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.26 | 93 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 10.6 | 106 | 81 - 115 | |
| Dibromomethane | 10.0 | 11.1 | 111 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.55 | 96 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.79 | 98 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.57 | 96 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.2 | 102 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 6.11 | 61 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 9.15 | 92 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 10.7 | 107 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 8.61 | 86 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.6 | 106 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 11.0 | 110 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 7.72 | 77 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.82 | 98 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.32 | 93 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.72 | 87 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 8.74 | 87 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 10.1 | 101 | 74 - 120 | |
| Methylene Chloride | 10.0 | 9.97 | 100 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 18.4 | 92 | 83 - 113 | |
| Naphthalene | 10.0 | 9.36 | 94 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.53 | 95 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 10.2 | 102 | 74 - 121 | |
| o-Xylene | 10.0 | 8.71 | 87 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.69 | 97 | 70 - 117 | |
| Styrene | 10.0 | 9.57 | 96 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 10.2 | 102 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 8.49 | 85 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.6 | 106 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-9136-1

**Lab Control Sample - Batch: 240-37026**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37026/4 | Analysis Batch: | 240-37026 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1909.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/16/2012 1024 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/16/2012 1024 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.71 | 97 | 79 - 114 | |
| Toluene | 10.0 | 9.57 | 96 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.07 | 91 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 10.1 | 101 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 9.65 | 97 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 9.19 | 92 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 8.43 | 84 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.6 | 106 | 80 - 112 | |
| Trichloroethene | 10.0 | 10.4 | 104 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 8.74 | 87 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.5 | 105 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 9.51 | 95 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 9.71 | 97 | 72 - 118 | |
| Vinyl chloride | 10.0 | 7.24 | 72 | 53 - 127 | |
| Bromochloromethane | 10.0 | 9.52 | 95 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.5 | 105 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 90 | 66 - 117 |
| Dibromofluoromethane (Surr) | 93 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 99 | 63 - 129 |
| Toluene-d8 (Surr) | 96 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37167/5 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1937.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1121 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1121 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37167/5 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1937.D |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1121 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1121 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0 19 | 1.0 |
| trans-1,3-Dichloropropene | 1 0 | U | 0 19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0 17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1 0 |
| Trichloroethene | 1.0 | U | 0.17 | 1 0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1 0 |
| 1,2,3-Trichloropropane | 1 0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0 12 | 1 0 |
| 1,3,5-Trimethylbenzene | 1 0 | U | 0 096 | 1 0 |
| Vinyl chloride | 1 0 | U | 0.22 | 1 0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1 0 |
| 1,2-Dibromoethane | 1 0 | U | 0.24 | 1 0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | 66 - 117 |
| Dibromofluoromethane (Surr) | 92 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | 63 - 129 |
| Toluene-d8 (Surr) | 89 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9136-1

**Lab Control Sample - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37167/4 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1936.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10 0 | 10.5 | 105 | 83 - 112 | |
| Bromobenzene | 10 0 | 9 40 | 94 | 76 - 115 | |
| Bromoform | 10 0 | 9 36 | 94 | 40 - 131 | |
| Bromomethane | 10 0 | 7 19 | 72 | 11 - 185 | |
| Carbon tetrachloride | 10 0 | 9.33 | 93 | 66 - 128 | |
| Chlorobenzene | 10 0 | 9 61 | 96 | 85 - 110 | |
| Chloroethane | 10.0 | 7.79 | 78 | 25 - 153 | |
| Chloroform | 10 0 | 9.68 | 97 | 79 - 117 | |
| Chloromethane | 10.0 | 7.64 | 76 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9 22 | 92 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 8.93 | 89 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10 0 | 9.72 | 97 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 11 6 | 116 | 61 - 115 | * |
| Dibromomethane | 10.0 | 11 5 | 115 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.08 | 91 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10 0 | 9.10 | 91 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 8.96 | 90 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.7 | 107 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 7.60 | 76 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 9.66 | 97 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 11.0 | 110 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 9.13 | 91 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 11.1 | 111 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.7 | 107 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 8.25 | 83 | 50 - 129 | |
| 1,1-Dichloropropene | 10 0 | 10.4 | 104 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.15 | 92 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.68 | 87 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 8 50 | 85 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.36 | 94 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10 3 | 103 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 17.6 | 88 | 83 - 113 | |
| Naphthalene | 10.0 | 10.1 | 101 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9 04 | 90 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.23 | 92 | 74 - 121 | |
| o-Xylene | 10.0 | 8 57 | 86 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9 00 | 90 | 70 - 117 | |
| Styrene | 10.0 | 9 27 | 93 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 9.29 | 93 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 8.25 | 83 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 9.90 | 99 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-9136-1

**Lab Control Sample - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37167/4 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1936.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.27 | 93 | 79 - 114 | |
| Toluene | 10.0 | 9.12 | 91 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.85 | 99 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 10.0 | 100 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 10.1 | 101 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 9.33 | 93 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.06 | 91 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.2 | 102 | 80 - 112 | |
| Trichloroethene | 10.0 | 11.0 | 110 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 9.56 | 96 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 9.89 | 99 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 8.89 | 89 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 8.98 | 90 | 72 - 118 | |
| Vinyl chloride | 10.0 | 8.19 | 82 | 53 - 127 | |
| Bromochloromethane | 10.0 | 10.1 | 101 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.5 | 105 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | 66 - 117 |
| Dibromofluoromethane (Surr) | 95 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 99 | 63 - 129 |
| Toluene-d8 (Surr) | 90 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 180-30593**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-30593/1-A | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1751 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 1100 | U | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**Lab Control Sample - Batch: 180-30593**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-30593/2-A | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1756 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| SiO2, Silica | 21400 | 20800 | 97 | 80 - 120 | |
| Lithium | 1000 | 1060 | 106 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37001/1-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 0724 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 1 60 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 502 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5 0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 207 | J | 72 | 5000 |
| Magnesium | 106 | J | 34 | 5000 |
| Manganese | 1.15 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 9 46 | J | 5.0 | 20 |
| Lead | 3 0 | U | 1.9 | 3.0 |

**Lab Control Sample - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37001/2-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1632 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2010 | 100 | 80 - 120 | |
| Boron | 1000 | 951 | 95 | 80 - 120 | |
| Calcium | 50000 | 52500 | 105 | 80 - 120 | |
| Chromium | 200 | 204 | 102 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 50400 | 101 | 80 - 120 | |
| Magnesium | 50000 | 52900 | 106 | 80 - 120 | |
| Manganese | 500 | 539 | 108 | 80 - 120 | |
| Sodium | 50000 | 49300 | 99 | 80 - 120 | |
| Nickel | 500 | 506 | 101 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lead | 500 | 500 | 100 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 180-30667**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-30667/1-A | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1923 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.018 | 10 |

**Lab Control Sample - Batch: 180-30667**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-30667/2-A | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1531 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 935 | 94 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36414/5 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008152-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1433 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36414/6 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008152-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1450 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 49.1 | 98 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.28 | 91 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.28 | 93 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 46.4 | 93 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36415/5 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008152-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1433 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36415/6 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008152-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1450 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.28 | 91 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.31 | 92 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.49 | 100 | 90 - 110 | |

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36734/3 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1555 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 4.16 | J | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 2.75 | J | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36734/2 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1549 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 33.1 | 36.7 | 111 | 90 - 127 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-9136-1 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1748 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-9136-1 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1808 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| | % Rec. | | | | | | |
|---|---|---|---|---|---|---|---|
| Analyte | MS | MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
| Alkalinity | 85 | 82 | 10 - 160 | 2 | 24 | | |





Client: TRW Automotive

Job Number: 240-9136-1

**Duplicate - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9136-2 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1829 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Result | RPD | Limit | Qual |
|---|---|---|---|---|---|---|
| Bicarbonate Alkalinity as CaCO3 | 230 | | 235 | 3 | 20 | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 5.0 | NC | 20 | U |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9138-1

**Method Blank - Batch: 240-36580**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36580/10-A | Analysis Batch: | 240-36657 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36580 | Lab File ID: | TP04031312.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1331 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 0830 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-36580**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36580/11-A | Analysis Batch: | 240-36657 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36580 | Lab File ID: | TP04031312.xls |
| Dilution: | 10 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1357 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 0830 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 6.84 | 6.97 | 102 | 53 - 134 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-36778**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36778/7 | Analysis Batch: | 240-36778 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031412.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/14/2012 0750 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.0352 | J | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-36778**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36778/8 | Analysis Batch: | 240-36778 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031412.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/14/2012 0754 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 12.6 | 11.9 | 94 | 85 - 114 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9136-1

**Method Blank - Batch: 240-36927**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36927/7 | Analysis Batch: | 240-36927 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031512.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/15/2012 0811 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.20 | U | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-36927**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36927/8 | Analysis Batch: | 240-36927 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031512.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/15/2012 0820 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 12.6 | 12.6 | 100 | 85 - 114 | |



TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# Chain of Custody Record

TestAmerica Laboratory location: NORTH CANTON, OH (4101 Shuffel Drive) 44720
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

COC No: 022310
1 of 1 COCs

Client Contact
Company Name: ARCADIS
Address: 8725 Rosehill - Suite 350
City/State/Zip: Lenexa, KS 66215
Phone: (913) 492-0900
Project Name: TRW OGV OUZ
Project Number: KC001590.0003.00002
PO #

Client Project Manager: John Shonfelt
Telephone: (913) 492-0900 x11
Email: John.Shonfelt@arcadis-us.com
Method of Shipment/Carrier: FedEx
Shipping/Tracking No: 8762 6303 3259

Site Contact: Stephen Schmitz
Telephone: (913) 608-2808

Lab Contact: Denis Pohl
Telephone: (330) 966-9789

Analysis Turnaround Time (in BUS days)
TAT (different from below)
☐ 3 weeks
☒ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Analyses

| Sample Identification | Sample Date | Sample Time | Matrix: Air | Aqueous | Sediment | Solid | Other | Containers & Preservatives: H2SO4 | HNO3 | HCl | NaOH | ZnAc/NaOH | Unpres | Other | Filtered Sample (Y/N) | Composite-C / Grab-G | Vocs 8260B | Metals 6010B/6020 | Metals 6010B | Anions 9056A | Alkalinity 2320B | Sample Specific Notes / Special Instructions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-104 (20120309) | 03/09 | 09:25 | X | | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| VOSS (20120309) | 03/09 | 11:50 | X | | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| TB-02 (20120309) | 03/09 | — | X | | | | | | 2 | | | | | | | | X | | | | | |

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown
Special Instructions/QC Requirements & Comments:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☒ Disposal By Lab ☐ Archive For ____ Months

Relinquished by: [signature] Company: ARCADIS Date/Time: 03/09/12 12:50 Received by: Company: Date/Time:
Relinquished by: Company: Date/Time: Received by: Company: Date/Time:
Relinquished by: Company: Date/Time: Received in Laboratory by: [signature] Company: TA/NC Date/Time: 3/10/12 9:30am

TAL 0018-1 (04/10)

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**TestAmerica North Canton Sample Receipt Form/Narrative** Login # : 9136

Client Arcadis Site Name _____ By: [signature] (Signature)

Cooler Received on 3/10/12 Opened on 3/10/12

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Multiple on Back Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF -2°C) Sample Temp ____ °C Corrected Temp ____ °C
   - IR GUN# 4G (CF -1°C) Sample Temp 1.4 °C Corrected Temp 0.4 °C
   - IR GUN# 5G (CF -1°C) Sample Temp ____ °C Corrected Temp ____ °C
   - IR GUN# 6Y (CF -2°C) Sample Temp ____ °C Corrected Temp ____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   - Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**

**15. SAMPLE CONDITION**

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)



**16. SAMPLE PRESERVATION**

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 - NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| MW-104 | <2 <2 | 3/10/12 | AM |
| VOSS | <2 <2 | | |

| Cooler # | Temp. °C | IR # | Coolant |
|---|---|---|---|
| | | | |

## Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9136-1

**Login Number: 9136**

**List Source: TestAmerica North Canton**

**List Number: 1**

**Creator: Maddux, Ann**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 0.4 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided | True | |
| Appropriate sample containers are used | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |



## Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9136-1

**Login Number: 9136**

**List Source: TestAmerica Pittsburgh**

**List Number: 1**

**List Creation: 03/13/12 10:53 AM**

**Creator: O'Donnell, Brandon R**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | N/A | |
| Multiphasic samples are not present | True | |
| Samples do not require splitting or compositing | True | |
| Residual Chlorine Checked | N/A | |

TestAmerica
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# ANALYTICAL REPORT

Job Number: 240-9083-1

Job Description: TRW OGV OU2

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
3/30/2012 5:33 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
03/30/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: TRW OGV OU2**

**Report Number: 240-9083-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted For diluted samples, the reporting limits are adjusted relative to the dilution required.

The 6020 Strontium and 6010B Silica and Lithium analyses were performed at the TestAmerica Pittsburgh Laboratory

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 03/09/2012; the samples arrived in good condition, properly preserved and on ice. The temperatures of the coolers at receipt were 1.2, 1.4 and 1.6C

Method(s) 9056A: The following sample(s) was received outside of holding time: DUP(20120305), MW102A(20120306), MW102B(20120306), MW107D(20120305), MW107S(20120305), MW108D(20120306), MW108S(20120306).

Method(s) 9056A: The following sample was received outside of holding time: MW105(20120307

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10), MW103(20120308) (240-9083-11) and TB-01(20120308) (240-9083-12) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/13/2012 and 03/14/2012.

1,2,3-Trichlorobenzene was detected in method blank MB 240-36681/5 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Several analytes were detected in method blank MB 240-36681/5 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Several analytes were detected in method blank MB 240-36821/5 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

1,2-Dichlorobenzene and 1,4-Dichlorobenzene failed the recovery criteria low for the MS of sample 240-9126-6 in batch 240-36821.

1,2-Dichlorobenzene failed the recovery criteria low for the MSD of sample 240-9126-6 in batch 240-36821.

Samples MW107S(20120305) (240-9083-1)[2.22X], DUP(20120305) (240-9083-3)[2X], MW108D(20120306) (240-9083-4)[3.33X], MW108S(20120306) (240-9083-5)[2.22X], MW105(20120307) (240-9083-8)[1 43X] and MW103(20120308) (240-9083-11)[6.67X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 03/13/2012, 03/14/2012 and 03/16/2012 and analyzed on 03/15/2012, 03/19/2012, 03/20/2012 and 03/27/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

Boron, Magnesium and Potassium were detected in method blank MB 240-36692/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Several analytes were detected in method blank MB 240-37001/1-A at levels that were above the method detection limit but below the reporting limit The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged

Refer to the QC report for details.

Calcium, Potassium and Sodium failed the recovery criteria low for the MSD of sample 240-9206-1 in batch 240-37273.

Refer to the QC report for details.

**DISSOLVED METALS (ICPMS)**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 03/14/2012 and analyzed on 03/28/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

**ALKALINITY**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 03/12/2012 and 03/13/2012

Alkalinity and Carbonate Alkalinity as CaCO3 were detected in method blank MB 240-36734/3 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J" If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

Sample MW108S(20120306) (240-9083-5)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly

Method(s) SM 2320B: Elevated reporting limits are provided for the following alkalinity sample due to insufficient sample due to multiple analysis: MW108S(20120306).



No other difficulties were encountered during the alkalinity analyses.

All other quality control parameters were within the acceptance limits.

**AMMONIA BY ION SELECTIVE ELECTRODE**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for ammonia by ion selective electrode in accordance with SM 4500 NH3 F. The samples were analyzed on 03/13/2012.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

Ammonia was detected in method blank MB 240-36654/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

**DISSOLVED PHOSPHORUS**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for dissolved phosphorus in accordance with SM 4500 P E. The samples were prepared and analyzed on 03/14/2012 and 03/15/2012.

No difficulties were encountered during the phosphorus analyses

All quality control parameters were within the acceptance limits

**ANIONS**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/09/2012, 03/10/2012 and 03/12/2012.

Orthophosphate failed the recovery criteria high for the MS of sample MW107S(20120305)MS (240-9083-1) in batch 240-36415.

Orthophosphate failed the recovery criteria high for LCS 240-36353/6. Refer to the QC report for details.

Orthophosphate failed the recovery criteria low for the MS of sample 240-9091-3 in batch 240-36494.

Method(s) 9056A: Due to failing QC reanalysis of the following samples was performed outside of the analytical holding time: EB-01(20120308), MW103(20120308). Both sets of data are reported.

Refer to the QC report for details.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

**ANIONS**
Samples MW107S(20120305) (240-9083-1), MW107D(20120305) (240-9083-2), DUP(20120305) (240-9083-3), MW108D(20120306) (240-9083-4), MW108S(20120306) (240-9083-5), MW102A(20120306) (240-9083-6), MW102B(20120306) (240-9083-7), MW105(20120307) (240-9083-8), MW101(20120307) (240-9083-9), EB-01(20120308) (240-9083-10) and MW103(20120308) (240-9083-11) were analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/09/2012 and 03/10/2012.

Method(s) 9056A: The following sample analyzed for nitrate, nitrite, and phosphate by IC was received with greater than 50% of holding time expired: MW101(20120307). As such, the laboratory had insufficient time remaining to perform the analysis within holding time.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-1 | MW107S(20120305) | | | | | |
| Chloroform | | 0.24 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 3.1 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.50 | J | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.20 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 67 | | 4.4 | ug/L | 8260B |
| Tetrachloroethene | | 0 42 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.24 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0.24 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 2.8 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 55 | | 2.2 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 250 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 9200 | | 1100 | ug/L | 6010B |
| Barium | | 60 | J | 200 | ug/L | 6010B |
| Boron | | 64 | J B | 200 | ug/L | 6010B |
| Calcium | | 57000 | | 5000 | ug/L | 6010B |
| Potassium | | 1100 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 30000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.5 | J | 15 | ug/L | 6010B |
| Sodium | | 2500 | J | 5000 | ug/L | 6010B |
| Zinc | | 740 | | 20 | ug/L | 6010B |
| Lead | | 3.0 | | 3.0 | ug/L | 6010B |
| Strontium | | 49 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 2.8 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.68 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.052 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 17 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0 19 | J B | 0.20 | mg/L | SM4500 NH3 -F |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-2 | MW107D(20120305) | | | | | |
| Dichlorodifluoromethane | | 0.34 | J | 1 0 | ug/L | 8260B |
| Dichlorofluoromethane | | 7.2 | | 2.0 | ug/L | 8260B |
| Naphthalene | | 0.48 | J B | 1.0 | ug/L | 8260B |
| 1,2,3-Trichlorobenzene | | 0.19 | J B | 1.0 | ug/L | 8260B |
| Trichloroethene | | 0.49 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 7.7 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 190 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 8800 | | 1100 | ug/L | 6010B |
| Barium | | 150 | J | 200 | ug/L | 6010B |
| Calcium | | 40000 | | 5000 | ug/L | 6010B |
| Potassium | | 1200 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 23000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1 1 | J | 15 | ug/L | 6010B |
| Sodium | | 2400 | J | 5000 | ug/L | 6010B |
| Zinc | | 390 | | 20 | ug/L | 6010B |
| Lead | | 2.2 | J | 3.0 | ug/L | 6010B |
| Strontium | | 45 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 1.3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.15 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 044 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0 89 | H | 0 50 | mg/L | 9056A |
| Sulfate-Dissolved | | 12 | | 1 0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.092 | J B | 0 20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-3FD | DUP(20120305) | | | | | |
| Chloroform | | 0.28 | J | 1 0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 3.2 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0 52 | J | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.24 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 65 | | 4.0 | ug/L | 8260B |
| Methylene Chloride | | 0.35 | J B | 1.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.41 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.25 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0 25 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 3 0 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 58 | | 2 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 240 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 9200 | | 1100 | ug/L | 6010B |
| Barium | | 58 | J | 200 | ug/L | 6010B |
| Calcium | | 56000 | | 5000 | ug/L | 6010B |
| Potassium | | 980 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 29000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.6 | J | 15 | ug/L | 6010B |
| Sodium | | 2200 | J | 5000 | ug/L | 6010B |
| Zinc | | 720 | | 20 | ug/L | 6010B |
| Lead | | 3.8 | | 3 0 | ug/L | 6010B |
| Strontium | | 47 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 2.9 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.71 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.062 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 17 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.26 | B | 0.20 | mg/L | SM4500 NH3 -F |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-4 | MW108D(20120306) | | | | | |
| Chloroform | | 0 34 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.58 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 3.1 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.8 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0 20 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 96 | | 6 7 | ug/L | 8260B |
| Tetrachloroethene | | 0 89 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0.22 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 2.9 | | 1 0 | ug/L | 8260B |
| Trichlorofluoromethane | | 38 | | 3 3 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 260 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 10000 | | 1100 | ug/L | 6010B |
| Barium | | 180 | J | 200 | ug/L | 6010B |
| Calcium | | 59000 | | 5000 | ug/L | 6010B |
| Potassium | | 1400 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 32000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0.48 | J | 15 | ug/L | 6010B |
| Sodium | | 4000 | J | 5000 | ug/L | 6010B |
| Zinc | | 31 | | 20 | ug/L | 6010B |
| Strontium | | 58 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 6 0 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.45 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.039 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 14 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.17 | J B | 0.20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-5 | MW108S(20120306) | | | | | |
| Chloroform | | 0.33 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.59 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 1.6 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1 6 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 71 | | 4 4 | ug/L | 8260B |
| Tetrachloroethene | | 0.57 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.18 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 1 4 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 10 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 330 | | 10 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Barium | | 200 | | 200 | ug/L | 6010B |
| Calcium | | 78000 | | 5000 | ug/L | 6010B |
| Potassium | | 2600 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 39000 | B | 5000 | ug/L | 6010B |
| Manganese | | 81 | | 15 | ug/L | 6010B |
| Sodium | | 6200 | | 5000 | ug/L | 6010B |
| Nickel | | 7.4 | J | 40 | ug/L | 6010B |
| Zinc | | 170 | | 20 | ug/L | 6010B |
| Strontium | | 120 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 8 7 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.33 | H | 0.10 | mg/L | 9056A |
| Sulfate-Dissolved | | 11 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0 23 | B | 0.20 | mg/L | SM4500 NH3 -F |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-6 | MW102A(20120306) | | | | | |
| Dichlorodifluoromethane | | 1 6 | | 1 0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.4 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.22 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 21 | | 2.0 | ug/L | 8260B |
| Trichloroethene | | 0.77 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 11 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 170 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 9400 | | 1100 | ug/L | 6010B |
| Barium | | 51 | J | 200 | ug/L | 6010B |
| Calcium | | 40000 | | 5000 | ug/L | 6010B |
| Potassium | | 1100 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 21000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.6 | J | 15 | ug/L | 6010B |
| Sodium | | 2000 | J | 5000 | ug/L | 6010B |
| Strontium | | 40 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 5.1 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1.3 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 041 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 11 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.18 | J B | 0 20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-9083-7 | MW102B(20120306) | | | | | |
| Dichlorodifluoromethane | | 1.5 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.96 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 27 | | 2 0 | ug/L | 8260B |
| Tetrachloroethene | | 0.37 | J | 1 0 | ug/L | 8260B |
| Trichloroethene | | 0.52 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 12 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 260 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Barium | | 82 | J | 200 | ug/L | 6010B |
| Calcium | | 55000 | | 5000 | ug/L | 6010B |
| Potassium | | 2400 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 28000 | B | 5000 | ug/L | 6010B |
| Sodium | | 7800 | | 5000 | ug/L | 6010B |
| Lead | | 2.5 | J | 3.0 | ug/L | 6010B |
| Strontium | | 69 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 9 4 | | 1 0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.69 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.040 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 7.3 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0 17 | J B | 0.20 | mg/L | SM4500 NH3 -F |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9083-8** | **MW105(20120307)** | | | | | |
| Chloroform | | 0 24 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.28 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 1.7 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 2.9 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 45 | | 2.9 | ug/L | 8260B |
| Tetrachloroethene | | 0.42 | J | 1 0 | ug/L | 8260B |
| Trichloroethene | | 1.1 | | 1 0 | ug/L | 8260B |
| Trichlorofluoromethane | | 8.4 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 320 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 12000 | | 1100 | ug/L | 6010B |
| Barium | | 120 | J | 200 | ug/L | 6010B |
| Boron | | 36 | J B | 200 | ug/L | 6010B |
| Calcium | | 70000 | | 5000 | ug/L | 6010B |
| Potassium | | 3100 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 37000 | B | 5000 | ug/L | 6010B |
| Sodium | | 6400 | | 5000 | ug/L | 6010B |
| Strontium | | 96 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 8.9 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 2.0 | H | 0.10 | mg/L | 9056A |
| Sulfate-Dissolved | | 8.4 | | 1 0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.16 | J B | 0.20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client. TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9083-9** | **MW101(20120307)** | | | | | |
| Chloroform | | 0.18 | J | 1.0 | ug/L | 8260B |
| cis-1,2-Dichloroethene | | 0.73 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 2 5 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0 37 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 24 | | 2.0 | ug/L | 8260B |
| Trichloroethene | | 2.2 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 22 | | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 280 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 10000 | | 1100 | ug/L | 6010B |
| Barium | | 62 | J | 200 | ug/L | 6010B |
| Calcium | | 58000 | | 5000 | ug/L | 6010B |
| Iron | | 120 | | 100 | ug/L | 6010B |
| Potassium | | 1500 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 31000 | B | 5000 | ug/L | 6010B |
| Sodium | | 3900 | J | 5000 | ug/L | 6010B |
| Zinc | | 35 | | 20 | ug/L | 6010B |
| Strontium | | 56 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 6 6 | | 1 0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.83 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.028 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 6.7 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.12 | J B | 0.20 | mg/L | SM4500 NH3 -F |
| **240-9083-10** | **EB-01(20120308)** | | | | | |
| Methylene Chloride | | 0.37 | J B | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 3.1 | J | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 220 | J | 1100 | ug/L | 6010B |
| Barium | | 1.8 | J | 200 | ug/L | 6010B |
| Calcium | | 920 | J | 5000 | ug/L | 6010B |
| Potassium | | 210 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 590 | J B | 5000 | ug/L | 6010B |
| Chloride-Dissolved | | 0.26 | J | 1.0 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 023 | J | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.12 | J B | 0.20 | mg/L | SM4500 NH3 -F |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9083-11** | **MW103(20120308)** | | | | | |
| Chloroform | | 0.48 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 5 9 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1 6 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.67 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 150 | | 13 | ug/L | 8260B |
| Tetrachloroethene | | 1 3 | | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 1 0 | | 1.0 | ug/L | 8260B |
| Trichloroethene | | 0.77 | J | 1 0 | ug/L | 8260B |
| Trichlorofluoromethane | | 130 | | 6 7 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 190 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| SiO2, Silica | | 10000 | | 1100 | ug/L | 6010B |
| Barium | | 69 | J B | 200 | ug/L | 6010B |
| Calcium | | 42000 | B | 5000 | ug/L | 6010B |
| Potassium | | 960 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 23000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0.87 | J B | 15 | ug/L | 6010B |
| Sodium | | 4600 | J | 5000 | ug/L | 6010B |
| Strontium | | 46 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 13 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1.9 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.063 | J | 1.0 | mg/L | 9056A |
| Bromide-Dissolved | | 0.16 | J | 0 50 | mg/L | 9056A |
| Sulfate-Dissolved | | 0.69 | J | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.12 | J B | 0 20 | mg/L | SM4500 NH3 -F |
| **240-9083-12TB** | **TB-01(20120308)** | | | | | |
| Methylene Chloride | | 0 39 | J B | 1.0 | ug/L | 8260B |



## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-9083-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365 2/365.3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP) | TAL PIT | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL PIT | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica North Canton

TAL PIT = TestAmerica Pittsburgh

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-9083-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Williams, Larry | LW |
| SW846 6010B | Counts, Karen | KC |
| SW846 6010B | Davies, Brian | BD |
| SW846 6010B | Ryan, Jessica | JR |
| SW846 6020 | Rosenbaum, Ron | RR |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 2320B | Martin, Aaron | AM |
| SM SM 4500 P E | Woodward, Bruce | BW |
| SM18 SM4500 NH3 -F | Grossman, Lucas | LG |



## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-9083-1 | MW107S(20120305) | Water | 03/05/2012 1535 | 03/09/2012 1010 |
| 240-9083-2 | MW107D(20120305) | Water | 03/05/2012 1334 | 03/09/2012 1010 |
| 240-9083-3FD | DUP(20120305) | Water | 03/05/2012 0000 | 03/09/2012 1010 |
| 240-9083-4 | MW108D(20120306) | Water | 03/06/2012 1020 | 03/09/2012 1010 |
| 240-9083-5 | MW108S(20120306) | Water | 03/06/2012 1220 | 03/09/2012 1010 |
| 240-9083-6 | MW102A(20120306) | Water | 03/06/2012 1545 | 03/09/2012 1010 |
| 240-9083-7 | MW102B(20120306) | Water | 03/06/2012 1735 | 03/09/2012 1010 |
| 240-9083-8 | MW105(20120307) | Water | 03/07/2012 1005 | 03/09/2012 1010 |
| 240-9083-9 | MW101(20120307) | Water | 03/07/2012 1350 | 03/09/2012 1010 |
| 240-9083-10 | EB-01(20120308) | Water | 03/08/2012 1245 | 03/09/2012 1010 |
| 240-9083-11 | MW103(20120308) | Water | 03/08/2012 1450 | 03/09/2012 1010 |
| 240-9083-12TB | TB-01(20120308) | Water | 03/08/2012 0000 | 03/09/2012 1010 |

# SAMPLE RESULTS





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** **MW107S(20120305)**

Lab Sample ID: 240-9083-1

Client Matrix: Water

Date Sampled: 03/05/2012 1535

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0213.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2133 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2133 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.24 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.1 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.50 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.20 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.42 | J | 0.29 | 1.0 |
| Toluene | 0.24 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107S(20120305)

Lab Sample ID: 240-9083-1
Client Matrix: Water

Date Sampled: 03/05/2012 1535
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0213.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2133 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2133 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.24 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.8 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 107 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 63 - 129 |
| Toluene-d8 (Surr) | 93 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107S(20120305)

Lab Sample ID: 240-9083-1
Client Matrix: Water

Date Sampled: 03/05/2012 1535
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0227.D |
| Dilution: | 2.22 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1738 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1738 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 67 | | 0.93 | 4.4 |
| Trichlorofluoromethane | 55 | | 0.47 | 2.2 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 82 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107D(20120305)

Lab Sample ID: 240-9083-2
Client Matrix: Water

Date Sampled: 03/05/2012 1334
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/13/2012 1842
Prep Date: 03/13/2012 1842

Analysis Batch: 240-36681
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0205.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1 0 | U | 0 13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1 0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1 0 |
| 4-Chlorotoluene | 1 0 | U | 0 18 | 1.0 |
| cis-1,2-Dichloroethene | 1 0 | U | 0 17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1 0 |
| Dibromomethane | 1.0 | U | 0.28 | 1 0 |
| 1,2-Dichlorobenzene | 1 0 | U | 0 13 | 1 0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 0.34 | J | 0 31 | 1.0 |
| 1,1-Dichloroethane | 1 0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0 19 | 1.0 |
| Dichlorofluoromethane | 7.2 | | 0 42 | 2.0 |
| 1,2-Dichloropropane | 1 0 | U | 0 18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0 16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1 0 |
| 1,1-Dichloropropene | 1 0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0 13 | 1 0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0 33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 0.48 | J B | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1 0 | U | 0 13 | 1 0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0 23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0 18 | 1 0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1 0 |
| Toluene | 1 0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1 0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107D(20120305)

Lab Sample ID: 240-9083-2
Client Matrix: Water

Date Sampled: 03/05/2012 1334
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/13/2012 1842
Prep Date: 03/13/2012 1842

Analysis Batch: 240-36681
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0205.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 0 19 | J B | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1 0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.49 | J | 0.17 | 1 0 |
| Trichlorofluoromethane | 7 7 | | 0.21 | 1 0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1 0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1 0 |
| 1,2-Dibromoethane | 1 0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 89 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** DUP(20120305)

Lab Sample ID: 240-9083-3FD

Client Matrix: Water

Date Sampled: 03/05/2012 0000

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0214.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2155 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2155 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.28 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.2 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.52 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.24 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.35 | J B | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.41 | J | 0.29 | 1.0 |
| Toluene | 0.25 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** DUP(20120305)

Lab Sample ID: 240-9083-3FD

Client Matrix: Water

Date Sampled: 03/05/2012 0000

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0214.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2155 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2155 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.25 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 3.0 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 107 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** DUP(20120306)

Lab Sample ID: 240-9083-3FD

Client Matrix: Water

Date Sampled: 03/05/2012 0000

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0228.D |
| Dilution: | 2.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1759 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1759 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 65 | | 0.84 | 4.0 |
| Trichlorofluoromethane | 58 | | 0.42 | 2.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 82 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 106 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108D(20120306)

Lab Sample ID: 240-9083-4

Client Matrix: Water

Date Sampled: 03/06/2012 1020

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0215.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2216 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2216 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.34 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.58 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.1 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.8 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.20 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.89 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108D(20120306)

Lab Sample ID: 240-9083-4
Client Matrix: Water

Date Sampled: 03/06/2012 1020
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0215.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2216 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2216 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.22 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.9 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 111 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108D(20120306)

Lab Sample ID: 240-9083-4
Client Matrix: Water

Date Sampled: 03/06/2012 1020
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0229.D |
| Dilution: | 3.33 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1820 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1820 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 96 | | 1.4 | 6.7 |
| Trichlorofluoromethane | 38 | | 0.70 | 3.3 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 82 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 111 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108S(20120306)

Lab Sample ID: 240-9083-5

Client Matrix: Water

Date Sampled: 03/06/2012 1220

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0206 D |
| Dilution: | 1 0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1903 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1903 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0 13 | 1 0 |
| Bromoform | 1.0 | U | 0 64 | 1 0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1 0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.33 | J | 0 16 | 1 0 |
| Chloromethane | 1 0 | U | 0.30 | 1 0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1 0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.59 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1 0 | U | 0.14 | 1.0 |
| Dibromomethane | 1 0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0 13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1 0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1 0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1 6 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.6 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1 0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1 0 | U | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1 0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1 0 | U | 0 16 | 1.0 |
| 2,2-Dichloropropane | 1 0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0 13 | 1.0 |
| Ethylbenzene | 1 0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1 0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1 0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1 0 |
| m-Xylene & p-Xylene | 2 0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1 0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1 0 |
| Styrene | 1 0 | U | 0 11 | 1.0 |
| tert-Butylbenzene | 1 0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1 0 | U | 0.23 | 1 0 |
| 1,1,2,2-Tetrachloroethane | 1 0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.57 | J | 0.29 | 1.0 |
| Toluene | 0.18 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108S(20120306)

Lab Sample ID: 240-9083-5

Client Matrix: Water

Date Sampled: 03/06/2012 1220

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0206.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1903 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1903 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1 0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1 0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1 0 |
| Trichloroethene | 1 4 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 10 | | 0.21 | 1 0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1 0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1 0 | U | 0 096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1 0 |
| Bromochloromethane | 1.0 | U | 0 29 | 1 0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 88 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 103 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW106S(20120306)

Lab Sample ID: 240-9083-5

Client Matrix: Water

Date Sampled: 03/06/2012 1220

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0230.D |
| Dilution: | 2.22 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1842 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1842 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 71 | | 0.93 | 4.4 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 85 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 110 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102A(20120306)

Lab Sample ID: 240-9083-6

Client Matrix: Water

Date Sampled: 03/06/2012 1545

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0207.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1925 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1925 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.6 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.4 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.22 | J | 0.19 | 1.0 |
| Dichlorofluoromethane | 21 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102A(20120306)

Lab Sample ID: 240-9083-6
Client Matrix: Water

Date Sampled: 03/06/2012 1545
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-38681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0207.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1925 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1925 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.77 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 11 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 102 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102B(20120306)

Lab Sample ID: 240-9083-7
Client Matrix: Water

Date Sampled: 03/06/2012 1735
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-38681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0208.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1946 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1946 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.18 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.5 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.96 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 27 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.37 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102B(20120306)

Lab Sample ID: 240-9083-7
Client Matrix: Water

Date Sampled: 03/06/2012 1735
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0208.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1946 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1946 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.52 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 12 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 105 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW105(20120307)

Lab Sample ID: 240-9083-8
Client Matrix: Water

Date Sampled: 03/07/2012 1005
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0209.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2007 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2007 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.24 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.28 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.7 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 2.9 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.42 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW106(20120307)

Lab Sample ID: 240-9083-8

Client Matrix: Water

Date Sampled: 03/07/2012 1005

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0209.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2007 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2007 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.1 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 8.4 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW105(20120307)

Lab Sample ID: 240-9083-6

Client Matrix: Water

Date Sampled: 03/07/2012 1005

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0231.D |
| Dilution: | 1.43 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1903 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1903 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 45 | | 0.60 | 2.9 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 115 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 63 - 129 |
| Toluene-d8 (Surr) | 92 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW101(20120307)

Lab Sample ID: 240-9083-9

Client Matrix: Water

Date Sampled: 03/07/2012 1350

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0210.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2029 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2029 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.18 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.73 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 2.5 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.37 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 24 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW101(20120307)

Lab Sample ID: 240-9083-9

Client Matrix: Water

Date Sampled: 03/07/2012 1350

Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0210.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2029 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2029 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.2 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 22 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 109 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** EB-01(20120308)

Lab Sample ID: 240-9083-10
Client Matrix: Water

Date Sampled: 03/08/2012 1245
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0211.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2050 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2050 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.37 | J B | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** EB-01(20120308)

Lab Sample ID: 240-9083-10
Client Matrix: Water

Date Sampled: 03/08/2012 1245
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0211.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2050 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2050 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 110 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 63 - 129 |
| Toluene-d8 (Surr) | 98 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW103(20120308)

Lab Sample ID: 240-9083-11
Client Matrix: Water

Date Sampled: 03/08/2012 1450
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/13/2012 2237
Prep Date: 03/13/2012 2237

Analysis Batch: 240-36681
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0216.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.48 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 5.9 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.6 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.67 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.3 | | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW103(20120308)

Lab Sample ID: 240-9083-11
Client Matrix: Water

Date Sampled: 03/08/2012 1450
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/13/2012 2237
Prep Date: 03/13/2012 2237

Analysis Batch: 240-36681
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0216.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.77 | J | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 85 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 110 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 63 - 129 |
| Toluene-d8 (Surr) | 91 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW103(20120308)

Lab Sample ID: 240-9083-11
Client Matrix: Water

Date Sampled: 03/08/2012 1450
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 6.67
Analysis Date: 03/14/2012 1924
Prep Date: 03/14/2012 1924

Analysis Batch: 240-36821
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0232.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 150 | | 2.8 | 13 |
| Trichlorofluoromethane | 130 | | 1.4 | 6.7 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 107 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** TB-01(20120308)

Lab Sample ID: 240-9083-12TB
Client Matrix: Water

Date Sampled: 03/08/2012 0000
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 03/13/2012 2111
Prep Date: 03/13/2012 2111

Analysis Batch: 240-36681
Prep Batch: N/A

Instrument ID: A3UX10
Lab File ID: UXX0212.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.39 | J B | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** TB-01(20120308)

Lab Sample ID: 240-9083-12TB
Client Matrix: Water

Date Sampled: 03/08/2012 0000
Date Received: 03/09/2012 1010

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXX0212.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 2111 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 2111 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 85 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 109 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107S(20120305)

Lab Sample ID: 240-9083-1
Client Matrix: Water

Date Sampled: 03/05/2012 1535
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1438 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 60 | J | 0.67 | 200 |
| Boron | 64 | J B | 34 | 200 |
| Calcium | 57000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1100 | J B | 72 | 5000 |
| Magnesium | 30000 | B | 34 | 5000 |
| Manganese | 1.5 | J | 0.41 | 15 |
| Sodium | 2500 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 740 | | 5.0 | 20 |
| Lead | 3.0 | | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1801 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 9200 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1535 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 49 | B | 0.018 | 10 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW107D(20120306)

Lab Sample ID: 240-9083-2
Client Matrix: Water

Date Sampled: 03/05/2012 1334
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/15/2012 1539
Prep Date: 03/14/2012 0645

Analysis Batch: 240-37003
Prep Batch: 240-36692

Instrument ID: I6
Lab File ID: I60315A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 150 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 40000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1200 | J B | 72 | 5000 |
| Magnesium | 23000 | B | 34 | 5000 |
| Manganese | 1 1 | J | 0.41 | 15 |
| Sodium | 2400 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 390 | | 5.0 | 20 |
| Lead | 2 2 | J | 1 9 | 3.0 |

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1 0
Analysis Date: 03/27/2012 1820
Prep Date: 03/13/2012 1501

Analysis Batch: 180-31781
Prep Batch: 180-30593

Instrument ID: Q
Lab File ID: Q20327B.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 6800 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/28/2012 1539
Prep Date: 03/14/2012 1019

Analysis Batch: 180-31887
Prep Batch: 180-30667

Instrument ID: X
Lab File ID: X20328A.xml
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 45 | B | 0 018 | 10 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** DUP(20120306)

Lab Sample ID: 240-9083-3FD
Client Matrix: Water

Date Sampled: 03/05/2012 0000
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/15/2012 1545
Prep Date: 03/14/2012 0645

Analysis Batch: 240-37003
Prep Batch: 240-36692

Instrument ID: I6
Lab File ID: I60315A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 58 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 56000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 980 | J B | 72 | 5000 |
| Magnesium | 29000 | B | 34 | 5000 |
| Manganese | 1.6 | J | 0.41 | 15 |
| Sodium | 2200 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 720 | | 5.0 | 20 |
| Lead | 3.8 | | 1.9 | 3.0 |

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/27/2012 1825
Prep Date: 03/13/2012 1501

Analysis Batch: 180-31781
Prep Batch: 180-30593

Instrument ID: Q
Lab File ID: Q20327B asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 9200 | | 29 | 1100 |
| Lithium | 50 | U | 2 8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/28/2012 1556
Prep Date: 03/14/2012 1019

Analysis Batch: 180-31887
Prep Batch: 180-30667

Instrument ID: X
Lab File ID: X20328A.xml
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 47 | B | 0 018 | 10 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108D(20120306)

Lab Sample ID: 240-9083-4
Client Matrix: Water

Date Sampled: 03/06/2012 1020
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-38692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1551 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 180 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 59000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1400 | J B | 72 | 5000 |
| Magnesium | 32000 | B | 34 | 5000 |
| Manganese | 0.48 | J | 0.41 | 15 |
| Sodium | 4000 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 31 | | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1840 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 10000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1600 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 58 | B | 0.018 | 10 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW108S(20120306)

Lab Sample ID: 240-9083-5
Client Matrix: Water

Date Sampled: 03/06/2012 1220
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-38692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1557 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 200 | | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 78000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2600 | J B | 72 | 5000 |
| Magnesium | 39000 | B | 34 | 5000 |
| Manganese | 81 | | 0.41 | 15 |
| Sodium | 6200 | | 590 | 5000 |
| Nickel | 7.4 | J | 3.2 | 40 |
| Zinc | 170 | | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1845 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 13000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1604 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 120 | B | 0.018 | 10 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102A(20120306)

Lab Sample ID: 240-9083-6
Client Matrix: Water

Date Sampled: 03/06/2012 1545
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1616 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 51 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 40000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1100 | J B | 72 | 5000 |
| Magnesium | 21000 | B | 34 | 5000 |
| Manganese | 1.6 | J | 0.41 | 15 |
| Sodium | 2000 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1850 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 9400 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1609 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 40 | B | 0.018 | 10 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW102B(20120306)

Lab Sample ID: 240-9083-7
Client Matrix: Water

Date Sampled: 03/06/2012 1735
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1622 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 82 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 55000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2400 | J B | 72 | 5000 |
| Magnesium | 28000 | B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 7800 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 2.5 | J | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1855 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 13000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1628 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 69 | B | 0.018 | 10 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW105(20120307)

Lab Sample ID: 240-9083-8
Client Matrix: Water

Date Sampled: 03/07/2012 1005
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/15/2012 1628
Prep Date: 03/14/2012 0645

Analysis Batch: 240-37003
Prep Batch: 240-36692

Instrument ID: I6
Lab File ID: I60315A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 120 | J | 0.67 | 200 |
| Boron | 36 | J B | 34 | 200 |
| Calcium | 70000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 3100 | J B | 72 | 5000 |
| Magnesium | 37000 | B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 6400 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/27/2012 1900
Prep Date: 03/13/2012 1501

Analysis Batch: 180-31781
Prep Batch: 180-30593

Instrument ID: Q
Lab File ID: Q20327B.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 12000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/28/2012 1632
Prep Date: 03/14/2012 1019

Analysis Batch: 180-31887
Prep Batch: 180-30667

Instrument ID: X
Lab File ID: X20328A.xml
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 96 | B | 0.018 | 10 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW101(20120307)

Lab Sample ID: 240-9083-9
Client Matrix: Water

Date Sampled: 03/07/2012 1350
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/15/2012 1634
Prep Date: 03/14/2012 0645

Analysis Batch: 240-37003
Prep Batch: 240-36692

Instrument ID: I6
Lab File ID: I60315A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 62 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 58000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 120 | | 81 | 100 |
| Potassium | 1500 | J B | 72 | 5000 |
| Magnesium | 31000 | B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 3900 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 35 | | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/27/2012 1905
Prep Date: 03/13/2012 1501

Analysis Batch: 180-31781
Prep Batch: 180-30593

Instrument ID: Q
Lab File ID: Q20327B.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 10000 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 03/28/2012 1636
Prep Date: 03/14/2012 1019

Analysis Batch: 180-31887
Prep Batch: 180-30667

Instrument ID: X
Lab File ID: X20328A.xml
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 56 | B | 0.018 | 10 |

Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** EB-01(20120308)

Lab Sample ID: 240-9083-10
Client Matrix: Water

Date Sampled: 03/08/2012 1245
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Prep Method: | 3005A | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1640 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 1 8 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 920 | J | 130 | 5000 |
| Chromium | 5 0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 210 | J B | 72 | 5000 |
| Magnesium | 590 | J B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3 2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1 9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1911 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 220 | J | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1640 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.018 | 10 |





Client: TRW Automotive

Job Number: 240-9083-1

**Client Sample ID:** MW103(20120308)

Lab Sample ID: 240-9083-11
Client Matrix: Water

Date Sampled: 03/08/2012 1450
Date Received: 03/09/2012 1010

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Prep Method: | 3005A | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1859 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 69 | J B | 0.67 | 200 |
| Calcium | 42000 | B | 130 | 5000 |
| Chromium | 5 0 | U | 2 2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 960 | J B | 72 | 5000 |
| Magnesium | 23000 | B | 34 | 5000 |
| Manganese | 0 87 | J B | 0.41 | 15 |
| Sodium | 4600 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5 0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Prep Method: | 3005A | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 0735 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Boron | 200 | U | 34 | 200 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30593 | Lab File ID: | Q20327B asc |
| Dilution: | 1 0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1916 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 10000 | | 29 | 1100 |
| Lithium | 50 | U | 2 8 | 50 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Prep Method: | 3005A | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1645 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 46 | B | 0 018 | 10 |

General Chemistry

**Client Sample ID:** MW107S(20120305)

Lab Sample ID: 240-9083-1
Client Matrix: Water

Date Sampled: 03/05/2012 1535
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 2 8 | | mg/L | 0.10 | 1.0 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Fluoride-Dissolved | 0.052 | J | mg/L | 0 015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Nitrate as N-Dissolved | 0.68 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Sulfate-Dissolved | 17 | | mg/L | 0.12 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1506 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 250 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1843 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2 7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1843 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0 10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1516 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.19 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1237 | | | | | | |





General Chemistry

**Client Sample ID:** MW107D(20120305)

Lab Sample ID: 240-9083-2
Client Matrix: Water

Date Sampled: 03/05/2012 1334
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 1.3 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Fluoride-Dissolved | 0.044 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Nitrate as N-Dissolved | 0.15 | H | mg/L | 0.023 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Orthophosphate-Dissolved | 0.89 | H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Sulfate-Dissolved | 12 | | mg/L | 0.12 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1539 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 190 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1852 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5 0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1852 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0 10 | U | mg/L | 0 033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1516 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0 092 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1250 | | | | | | |

**General Chemistry**

**Client Sample ID:** DUP(20120306)

Lab Sample ID: 240-9083-3FD
Client Matrix: Water

Date Sampled: 03/05/2012 0000
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 2.9 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Fluoride-Dissolved | 0.062 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Nitrate as N-Dissolved | 0 71 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Sulfate-Dissolved | 17 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1555 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 240 | | mg/L | 2 7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1902 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36645 | Analysis Date: 03/12/2012 1902 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.20 | U | mg/L | 0.066 | 0.20 | 1 0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1519 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.26 | B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1256 | | | | | | |





**General Chemistry**

**Client Sample ID:** MW108D(20120306)

Lab Sample ID: 240-9083-4
Client Matrix: Water

Date Sampled: 03/06/2012 1020
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 6.0 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Fluoride-Dissolved | 0.039 | J | mg/L | 0.015 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Nitrate as N-Dissolved | 0.45 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Orthophosphate-Dissolved | 0 50 | U H | mg/L | 0.044 | 0 50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Sulfate-Dissolved | 14 | | mg/L | 0.12 | 1 0 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1612 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 260 | | mg/L | 2.7 | 5 0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1839 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1839 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1519 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.17 | J B | mg/L | 0 035 | 0 20 | 1 0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1259 | | | | | | |

General Chemistry

**Client Sample ID:** MW108S(20120306)

Lab Sample ID: 240-9083-5
Client Matrix: Water

Date Sampled: 03/06/2012 1220
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.7 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Fluoride-Dissolved | 1.0 | U | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Nitrate as N-Dissolved | 0 33 | H | mg/L | 0.023 | 0.10 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0 081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Sulfate-Dissolved | 11 | | mg/L | 0 12 | 1 0 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1628 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 330 | | mg/L | 5.4 | 10 | 2.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1848 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 10 | U | mg/L | 5 4 | 10 | 2.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1848 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0 10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1519 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.23 | B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1303 | | | | | | |





General Chemistry

**Client Sample ID:** MW102A(20120306)

Lab Sample ID: 240-9083-6
Client Matrix: Water

Date Sampled: 03/06/2012 1545
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 5.1 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Fluoride-Dissolved | 0.041 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Nitrate as N-Dissolved | 1.3 | H | mg/L | 0 023 | 0.10 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Sulfate-Dissolved | 11 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1701 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 170 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1857 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1857 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1 0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1519 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.18 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1305 | | | | | | |

**General Chemistry**

**Client Sample ID:** **MW102B(20120306)**

Lab Sample ID: 240-9083-7 Date Sampled: 03/06/2012 1735
Client Matrix: Water Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 9.4 | | mg/L | 0 10 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Fluoride-Dissolved | 0.040 | J | mg/L | 0 015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Nitrate as N-Dissolved | 0.69 | H | mg/L | 0 023 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0 081 | 0 50 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0 044 | 0.50 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Sulfate-Dissolved | 7.3 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1750 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 260 | | mg/L | 2.7 | 5 0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1909 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5 0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1909 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0 033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1519 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.17 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1308 | | | | | | |





**General Chemistry**

**Client Sample ID:** **MW106(20120307)**

Lab Sample ID: 240-9083-8 Date Sampled: 03/07/2012 1005
Client Matrix: Water Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8 9 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Fluoride-Dissolved | 1.0 | U | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Nitrate as N-Dissolved | 2.0 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Bromide-Dissolved | 0 50 | U | mg/L | 0 081 | 0.50 | 1 0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0 044 | 0.50 | 1 0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Sulfate-Dissolved | 8.4 | | mg/L | 0.12 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1807 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 320 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1920 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5 0 | U | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1920 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0 10 | 1 0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1522 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0 16 | J B | mg/L | 0.035 | 0 20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1311 | | | | | | |

General Chemistry

**Client Sample ID:** MW101(20120307)

Lab Sample ID: 240-9083-9
Client Matrix: Water

Date Sampled: 03/07/2012 1350
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 6.6 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Fluoride-Dissolved | 0.028 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Nitrate as N-Dissolved | 0.83 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36415 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Sulfate-Dissolved | 6.7 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36414 | Analysis Date: 03/10/2012 1839 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 280 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1935 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1935 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36829 | Analysis Date: 03/14/2012 1522 | | | | | | |
| Prep Batch: 240-36731 | Prep Date: 03/14/2012 0923 | | | | | | |
| Ammonia-Dissolved | 0.12 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1312 | | | | | | |





General Chemistry

**Client Sample ID:** EB-01(20120308)

Lab Sample ID: 240-9083-10
Client Matrix: Water

Date Sampled: 03/08/2012 1245
Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 0.26 | J | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Fluoride-Dissolved | 0.023 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Nitrate as N-Dissolved | 0.10 | U | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Orthophosphate-Dissolved | 0.64 | * ^ | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36494 | Analysis Date: 03/12/2012 1623 | | | | | | |
| Sulfate-Dissolved | 1.0 | U | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1754 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 3.1 | J | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1941 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1941 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36980 | Analysis Date: 03/15/2012 1507 | | | | | | |
| Prep Batch: 240-36874 | Prep Date: 03/15/2012 0852 | | | | | | |
| Ammonia-Dissolved | 0.12 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36654 | Analysis Date: 03/13/2012 1314 | | | | | | |

General Chemistry

**Client Sample ID:** MW103(20120308)

Lab Sample ID: 240-9083-11

Client Matrix: Water

Date Sampled: 03/08/2012 1450

Date Received: 03/09/2012 1010

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 13 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Fluoride-Dissolved | 0.063 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Nitrate as N-Dissolved | 1.9 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Bromide-Dissolved | 0.16 | J | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Orthophosphate-Dissolved | 0.28 | J * ^ | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-36353 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36494 | Analysis Date: 03/12/2012 1940 | | | | | | |
| Sulfate-Dissolved | 0.69 | J | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36352 | Analysis Date: 03/09/2012 1810 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 190 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1950 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-36734 | Analysis Date: 03/13/2012 1950 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36980 | Analysis Date: 03/15/2012 1456 | | | | | | |
| Prep Batch: 240-36874 | Prep Date: 03/15/2012 0852 | | | | | | |
| Ammonia-Dissolved | 0.12 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36854 | Analysis Date: 03/13/2012 1339 | | | | | | |



## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-9083-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value |
| General Chemistry | | |
| | B | Compound was found in the blank and sample. |
| | ^ | ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | * | LCS or LCSD exceeds the control limits |
| | F | MS or MSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| | H | Sample was prepped or analyzed beyond the specified holding time |

# QUALITY CONTROL RESULTS





Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-36681** | | | | | |
| LCS 240-36681/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-36681/5 | Method Blank | T | Water | 8260B | |
| 240-9083-1 | MW107S(20120305) | T | Water | 8260B | |
| 240-9083-2 | MW107D(20120305) | T | Water | 8260B | |
| 240-9083-3FD | DUP(20120305) | T | Water | 8260B | |
| 240-9083-4 | MW108D(20120306) | T | Water | 8260B | |
| 240-9083-5 | MW108S(20120306) | T | Water | 8260B | |
| 240-9083-6 | MW102A(20120306) | T | Water | 8260B | |
| 240-9083-7 | MW102B(20120306) | T | Water | 8260B | |
| 240-9083-8 | MW105(20120307) | T | Water | 8260B | |
| 240-9083-9 | MW101(20120307) | T | Water | 8260B | |
| 240-9083-10 | EB-01(20120308) | T | Water | 8260B | |
| 240-9083-11 | MW103(20120308) | T | Water | 8260B | |
| 240-9083-12TB | TB-01(20120308) | T | Water | 8260B | |
| **Analysis Batch:240-36821** | | | | | |
| LCS 240-36821/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-36821/5 | Method Blank | T | Water | 8260B | |
| 240-9083-1 | MW107S(20120305) | T | Water | 8260B | |
| 240-9083-3FD | DUP(20120305) | T | Water | 8260B | |
| 240-9083-4 | MW108D(20120306) | T | Water | 8260B | |
| 240-9083-5 | MW108S(20120306) | T | Water | 8260B | |
| 240-9083-8 | MW105(20120307) | T | Water | 8260B | |
| 240-9083-11 | MW103(20120308) | T | Water | 8260B | |

**Report Basis**
T = Total

Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 180-30593** | | | | | |
| LCS 180-30593/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-30593/1-A | Method Blank | R | Water | 3005A | |
| 240-9083-1 | MW107S(20120305) | D | Water | 3005A | |
| 240-9083-1MS | Matrix Spike | D | Water | 3005A | |
| 240-9083-1MSD | Matrix Spike Duplicate | D | Water | 3005A | |
| 240-9083-2 | MW107D(20120305) | D | Water | 3005A | |
| 240-9083-3FD | DUP(20120305) | D | Water | 3005A | |
| 240-9083-4 | MW108D(20120306) | D | Water | 3005A | |
| 240-9083-5 | MW108S(20120306) | D | Water | 3005A | |
| 240-9083-6 | MW102A(20120306) | D | Water | 3005A | |
| 240-9083-7 | MW102B(20120306) | D | Water | 3005A | |
| 240-9083-8 | MW105(20120307) | D | Water | 3005A | |
| 240-9083-9 | MW101(20120307) | D | Water | 3005A | |
| 240-9083-10 | EB-01(20120308) | D | Water | 3005A | |
| 240-9083-11 | MW103(20120308) | D | Water | 3005A | |
| **Prep Batch: 180-30667** | | | | | |
| LCS 180-30667/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-30667/1-A | Method Blank | R | Water | 3005A | |
| 240-9083-1 | MW107S(20120305) | D | Water | 3005A | |
| 240-9083-2 | MW107D(20120305) | D | Water | 3005A | |
| 240-9083-2MS | Matrix Spike | D | Water | 3005A | |
| 240-9083-2MSD | Matrix Spike Duplicate | D | Water | 3005A | |
| 240-9083-3FD | DUP(20120305) | D | Water | 3005A | |
| 240-9083-4 | MW108D(20120306) | D | Water | 3005A | |
| 240-9083-5 | MW108S(20120306) | D | Water | 3005A | |
| 240-9083-6 | MW102A(20120306) | D | Water | 3005A | |
| 240-9083-7 | MW102B(20120306) | D | Water | 3005A | |
| 240-9083-8 | MW105(20120307) | D | Water | 3005A | |
| 240-9083-9 | MW101(20120307) | D | Water | 3005A | |
| 240-9083-10 | EB-01(20120308) | D | Water | 3005A | |
| 240-9083-11 | MW103(20120308) | D | Water | 3005A | |





Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Analysis Batch:180-31781** | | | | | |
| LCS 180-30593/2-A | Lab Control Sample | R | Water | 6010B | 180-30593 |
| MB 180-30593/1-A | Method Blank | R | Water | 6010B | 180-30593 |
| 240-9083-1 | MW107S(20120305) | D | Water | 6010B | 180-30593 |
| 240-9083-1MS | Matrix Spike | D | Water | 6010B | 180-30593 |
| 240-9083-1MSD | Matrix Spike Duplicate | D | Water | 6010B | 180-30593 |
| 240-9083-2 | MW107D(20120305) | D | Water | 6010B | 180-30593 |
| 240-9083-3FD | DUP(20120305) | D | Water | 6010B | 180-30593 |
| 240-9083-4 | MW108D(20120306) | D | Water | 6010B | 180-30593 |
| 240-9083-5 | MW108S(20120306) | D | Water | 6010B | 180-30593 |
| 240-9083-6 | MW102A(20120306) | D | Water | 6010B | 180-30593 |
| 240-9083-7 | MW102B(20120306) | D | Water | 6010B | 180-30593 |
| 240-9083-8 | MW105(20120307) | D | Water | 6010B | 180-30593 |
| 240-9083-9 | MW101(20120307) | D | Water | 6010B | 180-30593 |
| 240-9083-10 | EB-01(20120308) | D | Water | 6010B | 180-30593 |
| 240-9083-11 | MW103(20120308) | D | Water | 6010B | 180-30593 |
| **Analysis Batch:180-31887** | | | | | |
| LCS 180-30667/2-A | Lab Control Sample | R | Water | 6020 | 180-30667 |
| MB 180-30667/1-A | Method Blank | R | Water | 6020 | 180-30667 |
| 240-9083-1 | MW107S(20120305) | D | Water | 6020 | 180-30667 |
| 240-9083-2 | MW107D(20120305) | D | Water | 6020 | 180-30667 |
| 240-9083-2MS | Matrix Spike | D | Water | 6020 | 180-30667 |
| 240-9083-2MSD | Matrix Spike Duplicate | D | Water | 6020 | 180-30667 |
| 240-9083-3FD | DUP(20120305) | D | Water | 6020 | 180-30667 |
| 240-9083-4 | MW108D(20120306) | D | Water | 6020 | 180-30667 |
| 240-9083-5 | MW108S(20120306) | D | Water | 6020 | 180-30667 |
| 240-9083-6 | MW102A(20120306) | D | Water | 6020 | 180-30667 |
| 240-9083-7 | MW102B(20120306) | D | Water | 6020 | 180-30667 |
| 240-9083-8 | MW105(20120307) | D | Water | 6020 | 180-30667 |
| 240-9083-9 | MW101(20120307) | D | Water | 6020 | 180-30667 |
| 240-9083-10 | EB-01(20120308) | D | Water | 6020 | 180-30667 |
| 240-9083-11 | MW103(20120308) | D | Water | 6020 | 180-30667 |

Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 240-36692** | | | | | |
| LCS 240-36692/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-36692/1-A | Method Blank | R | Water | 3005A | |
| 240-9083-1 | MW107S(20120305) | D | Water | 3005A | |
| 240-9083-1MS | Matrix Spike | D | Water | 3005A | |
| 240-9083-1MSD | Matrix Spike Duplicate | D | Water | 3005A | |
| 240-9083-2 | MW107D(20120305) | D | Water | 3005A | |
| 240-9083-3FD | DUP(20120305) | D | Water | 3005A | |
| 240-9083-4 | MW108D(20120306) | D | Water | 3005A | |
| 240-9083-5 | MW108S(20120306) | D | Water | 3005A | |
| 240-9083-6 | MW102A(20120306) | D | Water | 3005A | |
| 240-9083-7 | MW102B(20120306) | D | Water | 3005A | |
| 240-9083-8 | MW105(20120307) | D | Water | 3005A | |
| 240-9083-9 | MW101(20120307) | D | Water | 3005A | |
| 240-9083-10 | EB-01(20120308) | D | Water | 3005A | |
| **Prep Batch: 240-37001** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-37001/1-A | Method Blank | R | Water | 3005A | |
| 240-9083-11 | MW103(20120308) | D | Water | 3005A | |
| **Analysis Batch:240-37003** | | | | | |
| LCS 240-36692/2-A | Lab Control Sample | R | Water | 6010B | 240-36692 |
| MB 240-36692/1-A | Method Blank | R | Water | 6010B | 240-36692 |
| 240-9083-1 | MW107S(20120305) | D | Water | 6010B | 240-36692 |
| 240-9083-1MS | Matrix Spike | D | Water | 6010B | 240-36692 |
| 240-9083-1MSD | Matrix Spike Duplicate | D | Water | 6010B | 240-36692 |
| 240-9083-2 | MW107D(20120305) | D | Water | 6010B | 240-36692 |
| 240-9083-3FD | DUP(20120305) | D | Water | 6010B | 240-36692 |
| 240-9083-4 | MW108D(20120306) | D | Water | 6010B | 240-36692 |
| 240-9083-5 | MW108S(20120306) | D | Water | 6010B | 240-36692 |
| 240-9083-6 | MW102A(20120306) | D | Water | 6010B | 240-36692 |
| 240-9083-7 | MW102B(20120306) | D | Water | 6010B | 240-36692 |
| 240-9083-8 | MW105(20120307) | D | Water | 6010B | 240-36692 |
| 240-9083-9 | MW101(20120307) | D | Water | 6010B | 240-36692 |
| 240-9083-10 | EB-01(20120308) | D | Water | 6010B | 240-36692 |
| **Analysis Batch:240-37273** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 6010B | 240-37001 |
| MB 240-37001/1-A | Method Blank | R | Water | 6010B | 240-37001 |
| 240-9083-11 | MW103(20120308) | D | Water | 6010B | 240-37001 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-36352** | | | | | |
| LCS 240-36352/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36352/5 | Method Blank | T | Water | 9056A | |
| 240-9083-10 | EB-01(20120308) | D | Water | 9056A | |
| 240-9083-11 | MW103(20120308) | D | Water | 9056A | |
| **Analysis Batch:240-36353** | | | | | |
| LCS 240-36353/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36353/5 | Method Blank | T | Water | 9056A | |
| 240-9083-10RA | EB-01(20120308) | D | Water | 9056A | |
| 240-9083-11RA | MW103(20120308) | D | Water | 9056A | |
| **Analysis Batch:240-36414** | | | | | |
| LCS 240-36414/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36414/5 | Method Blank | T | Water | 9056A | |
| 240-9083-1 | MW107S(20120305) | D | Water | 9056A | |
| 240-9083-1MS | Matrix Spike | D | Water | 9056A | |
| 240-9083-2 | MW107D(20120305) | D | Water | 9056A | |
| 240-9083-3FD | DUP(20120305) | D | Water | 9056A | |
| 240-9083-4 | MW108D(20120306) | D | Water | 9056A | |
| 240-9083-5 | MW108S(20120306) | D | Water | 9056A | |
| 240-9083-6 | MW102A(20120306) | D | Water | 9056A | |
| 240-9083-7 | MW102B(20120306) | D | Water | 9056A | |
| 240-9083-8 | MW105(20120307) | D | Water | 9056A | |
| 240-9083-8MS | Matrix Spike | D | Water | 9056A | |
| 240-9083-9 | MW101(20120307) | D | Water | 9056A | |
| **Analysis Batch:240-36415** | | | | | |
| LCS 240-36415/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36415/5 | Method Blank | T | Water | 9056A | |
| 240-9083-1 | MW107S(20120305) | D | Water | 9056A | |
| 240-9083-1MS | Matrix Spike | D | Water | 9056A | |
| 240-9083-2 | MW107D(20120305) | D | Water | 9056A | |
| 240-9083-3FD | DUP(20120305) | D | Water | 9056A | |
| 240-9083-4 | MW108D(20120306) | D | Water | 9056A | |
| 240-9083-5 | MW108S(20120306) | D | Water | 9056A | |
| 240-9083-6 | MW102A(20120306) | D | Water | 9056A | |
| 240-9083-7 | MW102B(20120306) | D | Water | 9056A | |
| 240-9083-8 | MW105(20120307) | D | Water | 9056A | |
| 240-9083-8MS | Matrix Spike | D | Water | 9056A | |
| 240-9083-9 | MW101(20120307) | D | Water | 9056A | |

Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-36494** | | | | | |
| LCS 240-36494/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36494/5 | Method Blank | T | Water | 9056A | |
| 240-9083-10 | EB-01(20120308) | D | Water | 9056A | |
| 240-9083-11 | MW103(20120308) | D | Water | 9056A | |
| **Analysis Batch:240-36645** | | | | | |
| LCS 240-36645/3 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-36645/4 | Method Blank | T | Water | SM 2320B | |
| 240-9083-1 | MW107S(20120305) | T | Water | SM 2320B | |
| 240-9083-2 | MW107D(20120305) | T | Water | SM 2320B | |
| 240-9083-3FD | DUP(20120305) | T | Water | SM 2320B | |
| **Analysis Batch:240-36654** | | | | | |
| LCS 240-36654/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-36654/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-9083-1 | MW107S(20120305) | D | Water | SM4500 NH3 -F | |
| 240-9083-2 | MW107D(20120305) | D | Water | SM4500 NH3 -F | |
| 240-9083-3FD | DUP(20120305) | D | Water | SM4500 NH3 -F | |
| 240-9083-4 | MW108D(20120306) | D | Water | SM4500 NH3 -F | |
| 240-9083-5 | MW108S(20120306) | D | Water | SM4500 NH3 -F | |
| 240-9083-6 | MW102A(20120306) | D | Water | SM4500 NH3 -F | |
| 240-9083-7 | MW102B(20120306) | D | Water | SM4500 NH3 -F | |
| 240-9083-8 | MW105(20120307) | D | Water | SM4500 NH3 -F | |
| 240-9083-9 | MW101(20120307) | D | Water | SM4500 NH3 -F | |
| 240-9083-10 | EB-01(20120308) | D | Water | SM4500 NH3 -F | |
| 240-9083-11 | MW103(20120308) | D | Water | SM4500 NH3 -F | |
| **Prep Batch: 240-36731** | | | | | |
| LCS 240-36731/10-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-36731/9-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-9083-1 | MW107S(20120305) | D | Water | 365.2/365.3/365 | |
| 240-9083-2 | MW107D(20120305) | D | Water | 365.2/365.3/365 | |
| 240-9083-3FD | DUP(20120305) | D | Water | 365.2/365.3/365 | |
| 240-9083-4 | MW108D(20120306) | D | Water | 365.2/365.3/365 | |
| 240-9083-5 | MW108S(20120306) | D | Water | 365.2/365.3/365 | |
| 240-9083-6 | MW102A(20120306) | D | Water | 365.2/365.3/365 | |
| 240-9083-7 | MW102B(20120306) | D | Water | 365.2/365.3/365 | |
| 240-9083-8 | MW105(20120307) | D | Water | 365.2/365.3/365 | |
| 240-9083-9 | MW101(20120307) | D | Water | 365.2/365.3/365 | |





Client: TRW Automotive

Job Number: 240-9083-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-36734** | | | | | |
| LCS 240-36734/2 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-36734/3 | Method Blank | T | Water | SM 2320B | |
| 240-9083-4 | MW108D(20120306) | T | Water | SM 2320B | |
| 240-9083-5 | MW108S(20120306) | T | Water | SM 2320B | |
| 240-9083-6 | MW102A(20120306) | T | Water | SM 2320B | |
| 240-9083-7 | MW102B(20120306) | T | Water | SM 2320B | |
| 240-9083-8 | MW105(20120307) | T | Water | SM 2320B | |
| 240-9083-9 | MW101(20120307) | T | Water | SM 2320B | |
| 240-9083-10 | EB-01(20120308) | T | Water | SM 2320B | |
| 240-9083-11 | MW103(20120308) | T | Water | SM 2320B | |
| **Analysis Batch:240-36829** | | | | | |
| LCS 240-36731/10-A | Lab Control Sample | T | Water | SM 4500 P E | 240-36731 |
| MB 240-36731/9-A | Method Blank | T | Water | SM 4500 P E | 240-36731 |
| 240-9083-1 | MW107S(20120305) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-2 | MW107D(20120305) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-3FD | DUP(20120305) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-4 | MW108D(20120306) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-5 | MW108S(20120306) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-6 | MW102A(20120306) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-7 | MW102B(20120306) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-8 | MW105(20120307) | D | Water | SM 4500 P E | 240-36731 |
| 240-9083-9 | MW101(20120307) | D | Water | SM 4500 P E | 240-36731 |
| **Prep Batch: 240-36874** | | | | | |
| LCS 240-36874/10-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-36874/9-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-9083-10 | EB-01(20120308) | D | Water | 365.2/365.3/365 | |
| 240-9083-11 | MW103(20120308) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-36980** | | | | | |
| LCS 240-36874/10-A | Lab Control Sample | T | Water | SM 4500 P E | 240-36874 |
| MB 240-36874/9-A | Method Blank | T | Water | SM 4500 P E | 240-36874 |
| 240-9083-10 | EB-01(20120308) | D | Water | SM 4500 P E | 240-36874 |
| 240-9083-11 | MW103(20120308) | D | Water | SM 4500 P E | 240-36874 |

**Report Basis**
D = Dissolved
T = Total

## Surrogate Recovery Report

**8260B Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-9083-1 | MW107S(20120305) | 84 | 107 | 96 | 93 |
| 240-9083-1 | MW107S(20120305) | 82 | 104 | 98 | 95 |
| 240-9083-2 | MW107D(20120305) | 89 | 104 | 97 | 96 |
| 240-9083-3 | DUP(20120305) | 86 | 107 | 98 | 97 |
| 240-9083-3 | DUP(20120305) | 82 | 106 | 100 | 96 |
| 240-9083-4 | MW108D(20120306) | 87 | 111 | 101 | 96 |
| 240-9083-4 | MW108D(20120306) | 82 | 111 | 103 | 96 |
| 240-9083-5 | MW108S(20120306) | 88 | 103 | 97 | 96 |
| 240-9083-5 | MW108S(20120306) | 85 | 110 | 105 | 97 |
| 240-9083-6 | MW102A(20120306) | 87 | 102 | 96 | 94 |
| 240-9083-7 | MW102B(20120306) | 86 | 105 | 98 | 96 |
| 240-9083-8 | MW105(20120307) | 86 | 104 | 96 | 95 |
| 240-9083-8 | MW105(20120307) | 86 | 115 | 106 | 92 |
| 240-9083-9 | MW101(20120307) | 87 | 109 | 100 | 96 |
| 240-9083-10 | EB-01(20120308) | 86 | 110 | 100 | 98 |
| 240-9083-11 | MW103(20120308) | 85 | 110 | 98 | 91 |
| 240-9083-11 | MW103(20120308) | 84 | 107 | 101 | 96 |
| 240-9083-12 | TB-01(20120308) | 85 | 109 | 101 | 94 |
| MB 240-36681/5 | | 87 | 100 | 95 | 96 |
| MB 240-36821/5 | | 86 | 98 | 94 | 95 |
| LCS 240-36681/4 | | 100 | 94 | 92 | 99 |
| LCS 240-36821/4 | | 104 | 97 | 92 | 104 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 68-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |





**Method Blank - Batch: 240-36681**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36681/5 | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0200 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1655 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1655 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 0.142 | J | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.561 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.568 | J | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 0.976 | J | 0.24 | 1.0 |
| n-Butylbenzene | 0.624 | J | 0.12 | 1.0 |
| N-Propylbenzene | 0.512 | J | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethene | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36681**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36681/5 | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0200.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1655 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1655 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.00 | | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.665 | J | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | 66 - 117 |
| Dibromofluoromethane (Surr) | 100 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 95 | 63 - 129 |
| Toluene-d8 (Surr) | 98 | 74 - 115 |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Lab Control Sample - Batch: 240-36681**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36681/4 | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0199.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1634 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1634 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.3 | 103 | 83 - 112 | |
| Bromobenzene | 10.0 | 9.71 | 97 | 76 - 115 | |
| Bromoform | 10.0 | 9.07 | 91 | 40 - 131 | |
| Bromomethane | 10.0 | 7.82 | 78 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 10.3 | 103 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.82 | 98 | 85 - 110 | |
| Chloroethane | 10.0 | 8.86 | 89 | 25 - 153 | |
| Chloroform | 10.0 | 9.85 | 99 | 79 - 117 | |
| Chloromethane | 10.0 | 9.09 | 91 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9.72 | 97 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.78 | 98 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.80 | 98 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 8.34 | 83 | 61 - 115 | |
| Dibromomethane | 10.0 | 10.0 | 100 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.45 | 95 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.79 | 98 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.60 | 96 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.3 | 103 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 7.67 | 77 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.0 | 100 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.99 | 100 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 10.3 | 103 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.0 | 100 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.1 | 101 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.36 | 94 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.95 | 100 | 83 - 114 | |
| Ethylbenzene | 10.0 | 10.0 | 100 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.45 | 85 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 8.86 | 89 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.43 | 94 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10.0 | 100 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 20.5 | 103 | 83 - 113 | |
| Naphthalene | 10.0 | 7.08 | 71 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.06 | 91 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.47 | 95 | 74 - 121 | |
| o-Xylene | 10.0 | 10.2 | 102 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.11 | 91 | 70 - 117 | |
| Styrene | 10.0 | 9.07 | 91 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 9.50 | 95 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 9.86 | 99 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.1 | 101 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-9083-1

**Lab Control Sample - Batch: 240-36681**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36681/4 | Analysis Batch: | 240-36681 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0199.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/13/2012 1634 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/13/2012 1634 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.42 | 94 | 79 - 114 | |
| Toluene | 10.0 | 10.2 | 102 | 84 - 111 | |
| trans-1,2-Dichloroethane | 10.0 | 9.98 | 100 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 8.44 | 84 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 7.78 | 78 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 8.33 | 83 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.65 | 97 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.2 | 102 | 80 - 112 | |
| Trichloroethene | 10.0 | 9.62 | 96 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 9.18 | 92 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.3 | 103 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 9.16 | 92 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 9.11 | 91 | 72 - 118 | |
| Vinyl chloride | 10.0 | 8.69 | 87 | 53 - 127 | |
| Bromochloromethane | 10.0 | 9.59 | 96 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 9.72 | 97 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 100 | 66 - 117 |
| Dibromofluoromethane (Surr) | 94 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | 63 - 129 |
| Toluene-d8 (Surr) | 99 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36821**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36821/5 | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0220.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1459 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1459 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.481 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.620 | J | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 0.838 | J | 0.24 | 1.0 |
| n-Butylbenzene | 0.618 | J | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36821**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36821/5 | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0220.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1459 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1459 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 0.660 | J | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 0.413 | J | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | 66 - 117 |
| Dibromofluoromethane (Surr) | 98 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 94 | 63 - 129 |
| Toluene-d8 (Surr) | 95 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Lab Control Sample - Batch: 240-36821**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36821/4 | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0219.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1437 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1437 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.2 | 102 | 83 - 112 | |
| Bromobenzene | 10.0 | 9.57 | 96 | 76 - 115 | |
| Bromoform | 10.0 | 9.29 | 93 | 40 - 131 | |
| Bromomethane | 10.0 | 10.2 | 102 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 10.6 | 106 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.93 | 99 | 85 - 110 | |
| Chloroethane | 10.0 | 9.80 | 98 | 25 - 153 | |
| Chloroform | 10.0 | 10.1 | 101 | 79 - 117 | |
| Chloromethane | 10.0 | 9.61 | 96 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9.69 | 97 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 10.1 | 101 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.92 | 99 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 8.36 | 84 | 61 - 115 | |
| Dibromomethane | 10.0 | 10.2 | 102 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.37 | 94 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.74 | 97 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.51 | 95 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.3 | 103 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 7.75 | 78 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.1 | 101 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 10.1 | 101 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 10.4 | 104 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.0 | 100 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.2 | 102 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.18 | 92 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 10.2 | 102 | 83 - 114 | |
| Ethylbenzene | 10.0 | 10.2 | 102 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.42 | 84 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 8.92 | 89 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.25 | 93 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10.4 | 104 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 20.8 | 104 | 83 - 113 | |
| Naphthalene | 10.0 | 6.18 | 62 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 8.83 | 88 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.47 | 95 | 74 - 121 | |
| o-Xylene | 10.0 | 10.3 | 103 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 8.84 | 88 | 70 - 117 | |
| Styrene | 10.0 | 9.18 | 92 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 9.13 | 91 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 9.73 | 97 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.1 | 101 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-9083-1

**Lab Control Sample - Batch: 240-36821**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36821/4 | Analysis Batch: | 240-36821 | Instrument ID: | A3UX10 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXX0219.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1437 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/14/2012 1437 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.90 | 99 | 79 - 114 | |
| Toluene | 10.0 | 10.4 | 104 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 10.1 | 101 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 8.58 | 86 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 6.97 | 70 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 7.44 | 74 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 10.1 | 101 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.4 | 104 | 80 - 112 | |
| Trichloroethene | 10.0 | 9.41 | 94 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 10.4 | 104 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.2 | 102 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 9.02 | 90 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 8.86 | 89 | 72 - 118 | |
| Vinyl chloride | 10.0 | 8.88 | 89 | 53 - 127 | |
| Bromochloromethane | 10.0 | 10.1 | 101 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.1 | 101 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 104 | 86 - 117 |
| Dibromofluoromethane (Surr) | 97 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | 63 - 129 |
| Toluene-d8 (Surr) | 104 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 180-30593**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-30593/1-A | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1751 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 1100 | U | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**Lab Control Sample - Batch: 180-30593**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-30593/2-A | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1756 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| SiO2, Silica | 21400 | 20800 | 97 | 80 - 120 | |
| Lithium | 1000 | 1060 | 106 | 80 - 120 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Raport - Batch: 180-30593**

**Method: 6010B**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-9083-1 | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1811 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-9083-1 | Analysis Batch: | 180-31781 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30593 | Lab File ID: | Q20327B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/27/2012 1815 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/13/2012 1501 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| SiO2, Silica | 98 | 99 | 75 - 125 | 0 | 20 | | |
| Lithium | 107 | 107 | 75 - 125 | 0 | 20 | | |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36692**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36692/1-A | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Client Matrix: | Water | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1426 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 200 | U | 0 67 | 200 |
| Boron | 98 2 | J | 34 | 200 |
| Calcium | 5000 | U | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 207 | J | 72 | 5000 |
| Magnesium | 165 | J | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3 0 | U | 1 9 | 3 0 |

**Lab Control Sample - Batch: 240-36692**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36692/2-A | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Client Matrix: | Water | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1432 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2220 | 111 | 80 - 120 | |
| Boron | 1000 | 1120 | 112 | 80 - 120 | |
| Calcium | 50000 | 55000 | 110 | 80 - 120 | |
| Chromium | 200 | 213 | 106 | 80 - 120 | |
| Iron | 1000 | 1050 | 105 | 80 - 120 | |
| Potassium | 50000 | 54400 | 109 | 80 - 120 | |
| Magnesium | 50000 | 53200 | 106 | 80 - 120 | |
| Manganese | 500 | 538 | 108 | 80 - 120 | |
| Sodium | 50000 | 51900 | 104 | 80 - 120 | |
| Nickel | 500 | 539 | 108 | 80 - 120 | |
| Zinc | 500 | 534 | 107 | 80 - 120 | |
| Lead | 500 | 526 | 105 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-9083-1

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 240-36692**

**Method: 6010B**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-9083-1 | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Client Matrix: | Water | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1502 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-9083-1 | Analysis Batch: | 240-37003 | Instrument ID: | I6 |
| Client Matrix: | Water | Prep Batch: | 240-36692 | Lab File ID: | I60315A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1509 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0645 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| Barium | 108 | 107 | 75 - 125 | 0 | 20 | | |
| Boron | 99 | 99 | 75 - 125 | 0 | 20 | | |
| Calcium | 103 | 102 | 75 - 125 | 1 | 20 | | |
| Chromium | 102 | 102 | 75 - 125 | 0 | 20 | | |
| Iron | 103 | 104 | 75 - 125 | 1 | 20 | | |
| Potassium | 107 | 106 | 75 - 125 | 1 | 20 | | |
| Magnesium | 106 | 105 | 75 - 125 | 1 | 20 | | |
| Manganese | 104 | 104 | 75 - 125 | 0 | 20 | | |
| Sodium | 103 | 103 | 75 - 125 | 0 | 20 | | |
| Nickel | 103 | 104 | 75 - 125 | 1 | 20 | | |
| Zinc | 100 | 99 | 75 - 125 | 0 | 20 | | |
| Lead | 101 | 100 | 75 - 125 | 0 | 20 | | |

**Method Blank - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37001/1-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 0724 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 1.60 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 502 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 207 | J | 72 | 5000 |
| Magnesium | 108 | J | 34 | 5000 |
| Manganese | 1.15 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 9.46 | J | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

**Lab Control Sample - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37001/2-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1632 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2010 | 100 | 80 - 120 | |
| Boron | 1000 | 951 | 95 | 80 - 120 | |
| Calcium | 50000 | 52500 | 105 | 80 - 120 | |
| Chromium | 200 | 204 | 102 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 50400 | 101 | 80 - 120 | |
| Magnesium | 50000 | 52900 | 106 | 80 - 120 | |
| Manganese | 500 | 539 | 108 | 80 - 120 | |
| Sodium | 50000 | 49300 | 99 | 80 - 120 | |
| Nickel | 500 | 508 | 101 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lead | 500 | 500 | 100 | 80 - 120 | |





**Method Blank - Batch: 180-30667**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-30667/1-A | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1923 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.018 | 10 |

**Lab Control Sample - Batch: 180-30667**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-30667/2-A | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1531 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 935 | 94 | 80 - 120 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 180-30667**

**Method: 6020**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-9083-2 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1548 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-9083-2 | Analysis Batch: | 180-31887 | Instrument ID: | X |
| Client Matrix: | Water | Prep Batch: | 180-30667 | Lab File ID: | X20328A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/28/2012 1552 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 1019 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| Strontium | 95 | 97 | 75 - 125 | 1 | 20 | | |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36352**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36352/5 | Analysis Batch: | 240-36352 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008134-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/09/2012 1315 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1 0 | U | 0 10 | 1.0 |
| Fluoride-Dissolved | 1 0 | U | 0 015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0 081 | 0 50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1 0 |

**Lab Control Sample - Batch: 240-36352**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36352/6 | Analysis Batch: | 240-36352 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008134-006 d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/09/2012 1331 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 52 4 | 105 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2 55 | 102 | 90 - 110 | |
| Bromide-Dissolved | 10 0 | 10 1 | 101 | 90 - 110 | |
| Sulfate-Dissolved | 50 0 | 49.8 | 100 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36353**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36353/5 | Analysis Batch: | 240-36353 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008134-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/09/2012 1315 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U ^ | 0.044 | 0 50 |

**Lab Control Sample - Batch: 240-36353**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36353/6 | Analysis Batch: | 240-36353 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008134-006.d |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/09/2012 1331 | Units: | mg/L | Final Weight/Volume: | 1 0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.49 | 100 | 90 - 110 | |
| Nitrate as N-Dissolved | 2 50 | 2.47 | 99 | 90 - 110 | |
| Orthophosphate-Dissolved | 2 50 | 2.84 | 114 | 90 - 110 | ^ * |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36414/5 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008152-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1433 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.061 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36414/6 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008152-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1450 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 49.1 | 98 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.28 | 91 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.28 | 93 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 46.4 | 93 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-9083-1

**Matrix Spike - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9083-1 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 8240-0008152-008.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1522 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 2.8 | | 50.0 | 56.9 | 108 | 80 - 120 | |
| Fluoride-Dissolved | 0.052 | J | 2.50 | 2.64 | 104 | 80 - 120 | |
| Bromide-Dissolved | 0.50 | U | 10.0 | 9.83 | 98 | 80 - 120 | |
| Sulfate-Dissolved | 17 | | 50.0 | 66.5 | 100 | 80 - 120 | |

**Matrix Spike - Batch: 240-36414**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9083-8 | Analysis Batch: | 240-36414 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 19240-0008152-019.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1823 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.9 | | 50.0 | 58.7 | 100 | 80 - 120 | |
| Fluoride-Dissolved | 1.0 | U | 2.50 | 2.29 | 92 | 80 - 120 | |
| Bromide-Dissolved | 0.50 | U | 10.0 | 8.92 | 89 | 80 - 120 | |
| Sulfate-Dissolved | 8.4 | | 50.0 | 53.8 | 91 | 80 - 120 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36415/5 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008152-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1433 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36415/6 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008152-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1450 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.28 | 91 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.31 | 92 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.49 | 100 | 90 - 110 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Matrix Spike - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9083-1 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 8240-0008152-008.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1522 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 2.50 | 2.42 | 97 | 80 - 120 | |
| Nitrate as N-Dissolved | 0.68 | | 2.50 | 3.20 | 101 | 80 - 120 | |
| Orthophosphate-Dissolved | 0.50 | U | 2.50 | 3.29 | 132 | 80 - 120 | F |

**Matrix Spike - Batch: 240-36415**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9083-8 | Analysis Batch: | 240-36415 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 19240-0008152-019.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/10/2012 1823 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 2.50 | 2.28 | 91 | 80 - 120 | |
| Nitrate as N-Dissolved | 2.0 | | 2.50 | 4.23 | 91 | 80 - 120 | |
| Orthophosphate-Dissolved | 0.50 | U | 2.50 | 0.50 | 0 | 80 - 120 | U F |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36494**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36494/5 | Analysis Batch: | 240-36494 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008167-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/12/2012 1326 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-36494**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36494/6 | Analysis Batch: | 240-36494 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008167-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/12/2012 1412 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.38 | 95 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.72 | 109 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36645**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36645/4 | Analysis Batch: | 240-36645 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031213.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/12/2012 1505 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-36645**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36645/3 | Analysis Batch: | 240-36645 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031213.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/12/2012 1458 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 33.1 | 36.9 | 112 | 90 - 127 | |

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36734/3 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1555 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 4.16 | J | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 2.75 | J | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-36734**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36734/2 | Analysis Batch: | 240-36734 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/13/2012 1549 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 33.1 | 36.7 | 111 | 90 - 127 | |





Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36731**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36731/9-A | Analysis Batch: | 240-36829 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36731 | Lab File ID: | TP031412.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/14/2012 1516 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0923 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-36731**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36731/10-A | Analysis Batch: | 240-36829 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36731 | Lab File ID: | TP031412.xls |
| Dilution: | 10 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/14/2012 1538 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/14/2012 0923 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 6.84 | 8.48 | 124 | 53 - 134 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36874**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36874/9-A | Analysis Batch: | 240-36980 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36874 | Lab File ID: | TP031512.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1506 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/15/2012 0852 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-36874**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36874/10-A | Analysis Batch: | 240-36980 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36874 | Lab File ID: | TP031512.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/15/2012 1507 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/15/2012 0852 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 6.84 | 7.40 | 108 | 53 - 134 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-9083-1

**Method Blank - Batch: 240-36654**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36654/7 | Analysis Batch: | 240-36654 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/13/2012 1035 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.0455 | J | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-36654**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36654/8 | Analysis Batch: | 240-36654 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031312.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/13/2012 1035 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 12.6 | 11.9 | 94 | 85 - 114 | |

# Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: NORTH CANTON, OH (4101 Shuffel Drive) 44720
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

| Client Contact | | | |
|---|---|---|---|
| Company Name: ARCADIS | Client Project Manager: John Shonfelt | Site Contact: Stephen Schmitz | Lab Contact: Denise Pohl |
| Address: 8725 Rosehill - Suite 350 | Telephone: (913) 492-0900 x 11 | Telephone: (913) 608-2808 | Telephone: (330) 966-9789 |
| City/State/Zip: LENEXA / KS / 66215 | Email: John.shonfelt@arcadis-us.com | | |
| Phone: (913) 492-0900 | | | |
| Project Name: TRW OGV OU2 | Method of Shipment/Carrier: FED EX | | |
| Project Number: KC001590.0003.00002 | Shipping/Tracking No: 8762 6303 3248 | | |
| PO# | | | |

COC No: 022308
1 of 2 COCs

Analysis Turnaround Time (in BUS days): TAT if different from below ☐ 3 weeks ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day

For lab use only: Walk-in client ☐ Lab sampling ☐ Job/SDG No.

| Sample Identification | Sample Date | Sample Time | Matrix: Air | Aqueous | Sediment | Solid | Other: | Containers & Preservatives: H2SO4 | HNO3 | HCl | NaOH | ZnAc/ NaOH | Unpres | Other: | Filtered Sample (Y/N) | Composite(C)/ Grab(G) | VOCs (8260B) | Metals (6010B/6020) | Metals (6010B) | Anions (9056A) | Alkalinity (2320B) | Sample Specific Notes / Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW107S (20120305) | 3/1/12 | 15:35 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 107d (20120305) | 3/05/12 | 13:34 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| DUP (20120305) | 3/05/12 | — | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 108d (20120306) | 03/06/12 | 10:20 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 108S (20120306) | 03/06/12 | 12:20 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 102A (20120306) | 03/06/12 | 15:45 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 102 B (20120306) | 03/06/12 | 17:35 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 105 (20120307) | 03/07/12 | 10:05 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| MW 101 (20120307) | 03/07/12 | 13:50 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| EB-01 (20120308) | 03/08/12 | 12:45 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | Equipment Rinse of pump tubing |

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| | ARCADIS | 03/08/12 15:30 | | | |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: TAL | Date/Time: 3/9/12 1010 |

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TAL 0018- 1 (04/10)



# Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: NORTH CANTON, OH (4101 Shuffle Drive) 44720
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

| Client Contact | | | |
|---|---|---|---|
| Company Name: ARCADIS | Client Project Manager: John Shonfelt | Site Contact: Stephen Schmitz | Lab Contact: Denise Pohl |
| Address: 8725 Rosehill - Suite 350 | Telephone: (913) 492-0900 x 11 | Telephone: (913) 608-2808 | Telephone: (330) 966-9789 |
| City/State/Zip: Lenexa KS 66215 | Email: | | |
| Phone: | | | |
| Project Name: TRW OGV OU2 | Method of Shipment/Carrier: Fed Ex | | |
| Project Number: KC001590.0003.00002 | Shipping/Tracking No: 8762 6303 3248 | | |
| PO# | | | |

COC No: 022309
2 of 2 COCs

Analysis Turnaround Time (in BUS days): TAT if different from below ☐ 3 weeks ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day

For lab use only: Walk-in client ☐ Lab sampling ☐ Job/SDG No.

| Sample Identification | Sample Date | Sample Time | Matrix: Air | Aqueous | Sediment | Solid | Other: | Containers & Preservatives: H2SO4 | HNO3 | HCl | NaOH | ZnAc/ NaOH | Unpres | Other: | Filtered Sample (Y/N) | Composite(C)/ Grab(G) | VOC's 8260B | Metals 6010B/6020 | Metals 6010B | Anions 9056A | Alkalinity 2320B | Sample Specific Notes / Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-103 (20120308) | 03/08 | 14:50 | | X | | | | | 2 | 3 | | | 2 | | | | X | X | X | X | X | |
| TB-01 (20120308) | 03/08 | — | | X | | | | | | 2 | | | | | | | X | | | | | Trip blank |

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| | ARCADIS | 03/08/12 15:30 | | | |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: TAL | Date/Time: 3/9/12 1010 |

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TAL 0018- 1 (04/10)

**TestAmerica North Canton Sample Receipt Form/Narrative** Login # : 9083

Client ARCADIS Site Name _____ By: [signature] (Signature)

Cooler Received on 3/9/12 Opened on 3/9/12

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Multiple on Back Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF -2°C) Sample Temp _____ °C Corrected Temp _____ °C
   - IR GUN# 4G (CF -1°C) Sample Temp _____ °C Corrected Temp _____ °C
   - IR GUN# 5G (CF -1°C) Sample Temp _____ °C Corrected Temp _____ °C
   - IR GUN# 6Y (CF -2°C) Sample Temp _____ °C Corrected Temp _____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 3 Yes No
   - -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - -Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**

Split off for Ammonia, and T phosin recieving.

**15. SAMPLE CONDITION**

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)



**16. SAMPLE PRESERVATION**

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 - NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| 107S | <2 <2 | 3-9-12 | CSL |
| 107D | <2 <2 | | |
| DUP | <2 <2 | | |
| 108D | <2 <2 | | |
| 108S | <2 <2 | | |
| 102A | <2 <2 | | |
| 102B | <2 <2 | | |
| 105 | <2 <2 | | |
| 101 | <2 <2 | | |
| EB-01 | <2 <2 | | |
| 103 | <2 <2 | | |

| Cooler # | Temp. °C | | IR # | Coolant |
|---|---|---|---|---|
| A824 | 3.6 | 1.6 | 6Y | Ice |
| A792 | 3.2 | 1.2 | | |
| A990 | 3.4 | 1.4 | | |

## Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9083-1

**Login Number: 9083**
**List Number: 1**
**Creator: Livengood, Chris**

**List Source: TestAmerica North Canton**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1 6, 1.2, 1.4 |
| COC is present. | True | |
| COC is filled out in ink and legible | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |



## Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9083-1

**Login Number: 9083**
**List Number: 1**
**Creator: Watson, Debbie**

**List Source: TestAmerica Pittsburgh**
**List Creation: 03/10/12 12:27 PM**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded | True | |
| COC is present. | True | |
| COC is filled out in ink and legible | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

Job Number: 240-9209-1

Job Description: TRW OGV OU2

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
3/28/2012 1:58 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
03/28/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: TRW OGV OU2**

**Report Number: 240-9209-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 03/14/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 1.6 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-1 (20120313) (240-9209-1) and TB-03 (20120313) (240-9209-2) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/19/2012.

cis-1,3-Dichloropropene failed the recovery criteria high for LCS 240-37167/4. Refer to the QC report for details.

Naphthalene failed the recovery criteria low for the MS/MSD of sample 240-9206-1 in batch 240-37167.

Refer to the QC report for details.

Method 8260B: The laboratory control sample (LCS) for batch 37167 exceeded control limits for the following analytes: cis-1,3-Dichloropropene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analyses

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**
Sample MW-1 (20120313) (240-9209-1) was analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 03/16/2012 and analyzed on 03/19/2012.

Several analytes were detected in method blank MB 240-37001/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

Calcium, Potassium and Sodium failed the recovery criteria low for the MSD of sample 240-9206-1 in batch 240-37273.

Refer to the QC report for details.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits

**DISSOLVED METALS (ICPMS)**
Sample MW-1 (20120313) (240-9209-1) was analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 03/19/2012 and analyzed on 03/23/2012.

Strontium was detected in method blank MB 180-31032/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

**ALKALINITY**
Sample MW-1 (20120313) (240-9209-1) was analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 03/20/2012.

Alkalinity and Bicarbonate Alkalinity as CaCO3 exceeded the rpd limit for the duplicate of sample 240-9277-1. Refer to the QC report for details.

No other difficulties were encountered during the alkalinity analysis.

All other quality control parameters were within the acceptance limits.

**AMMONIA BY ION SELECTIVE ELECTRODE**
Sample MW-1 (20120313) (240-9209-1) was analyzed for ammonia by ion selective electrode in accordance with SM 4500 NH3 F. The samples were analyzed on 03/15/2012.

No difficulties were encountered during the ammonia analysis.

All quality control parameters were within the acceptance limits

**DISSOLVED PHOSPHORUS**
Sample MW-1 (20120313) (240-9209-1) was analyzed for dissolved phosphorus in accordance with SM 4500 P E The samples were prepared and analyzed on 03/15/2012.

No difficulties were encountered during the phosphorus analysis.

All quality control parameters were within the acceptance limits

**ANIONS**
Sample MW-1 (20120313) (240-9209-1) was analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/14/2012 and 03/15/2012.

Orthophosphate failed the recovery criteria high for the MS of sample MW-1 (20120313)MS (240-9209-1) in batch 240-36854.

Refer to the QC report for details.

No other difficulties were encountered during the anions analysis

All other quality control parameters were within the acceptance limits.

**ANIONS**
Sample MW-1 (20120313) (240-9209-1) was analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 03/14/2012.

Chloride was detected in method blank MB 240-36712/5 at a level that was above the method detection limit but below the reporting limit The value should be considered an estimate, and has been flagged "J" If the associated sample reported a result above the MDL



and/or RL, the result has been "B" flagged. Refer to the QC report for details

No difficulties were encountered during the anions analysis.

All quality control parameters were within the acceptance limits.

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-9209-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-9209-1** | **MW-1 (20120313)** | | | | | |
| Naphthalene | | 0.28 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0.24 | J | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 180 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| SiO2, Silica | | 8900 | | 1100 | ug/L | 6010B |
| Barium | | 300 | B | 200 | ug/L | 6010B |
| Calcium | | 35000 | B | 5000 | ug/L | 6010B |
| Potassium | | 730 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 21000 | B | 5000 | ug/L | 6010B |
| Sodium | | 2200 | J | 5000 | ug/L | 6010B |
| Strontium | | 42 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 1.7 | B | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.64 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.056 | J | 1 0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.19 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 7 1 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0 073 | J | 0.20 | mg/L | SM4500 NH3 -F |



## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-9209-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365.3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP) | TAL PIT | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL PIT | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL PIT | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica North Canton

TAL PIT = TestAmerica Pittsburgh

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-9209-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Evans, Laura | LE |
| SW846 6010B | Davies, Brian | BD |
| SW846 6010B | Ryan, Jessica | JR |
| SW846 6020 | Reinhelmer, Bill | BR |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Henry, Kyle | KH |
| SM SM 4500 P E | Woodward, Bruce | BW |
| SM18 SM4500 NH3 -F | Grossman, Lucas | LG |



## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-9209-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-9209-1 | MW-1 (20120313) | Water | 03/13/2012 1235 | 03/14/2012 0930 |
| 240-9209-2TB | TB-03 (20120313) | Water | 03/13/2012 0000 | 03/14/2012 0930 |

# SAMPLE RESULTS





Client: TRW Automotive

Job Number: 240-9209-1

**Client Sample ID:** MW-1 (20120313)

Lab Sample ID: 240-9209-1

Client Matrix: Water

Date Sampled: 03/13/2012 1235

Date Received: 03/14/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1958 D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1929 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1929 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U * | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 0.28 | J | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 0.24 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9209-1

**Client Sample ID:** MW-1 (20120313)

Lab Sample ID: 240-9209-1
Client Matrix: Water

Date Sampled: 03/13/2012 1235
Date Received: 03/14/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1958.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1929 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1929 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.098 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 92 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 63 - 129 |
| Toluene-d8 (Surr) | 93 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9209-1

**Client Sample ID:** TB-03 (20120313)

Lab Sample ID: 240-9209-2TB
Client Matrix: Water

Date Sampled: 03/13/2012 0000
Date Received: 03/14/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1959 D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1951 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1951 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U * | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-9209-1

**Client Sample ID:** TB-03 (20120313)

Lab Sample ID: 240-9209-2TB
Client Matrix: Water

Date Sampled: 03/13/2012 0000
Date Received: 03/14/2012 0930

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC1959 D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1951 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1951 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1 0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1 0 | U | 0.15 | 1 0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0 22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1 0 |
| Trichloroethene | 1 0 | U | 0.17 | 1 0 |
| Trichlorofluoromethane | 1 0 | U | 0.21 | 1 0 |
| 1,2,3-Trichloropropane | 1 0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1 0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1 0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 84 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 90 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9209-1

**Client Sample ID:** MW-1 (20120313)

Lab Sample ID: 240-9209-1
Client Matrix: Water

Date Sampled: 03/13/2012 1235
Date Received: 03/14/2012 0930

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 180-31124 | Instrument ID: | Q |
| Prep Method: | 3005A | Prep Batch: | 180-30894 | Lab File ID: | Q20319B.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1614 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 1011 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 8900 | | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Prep Method: | 3005A | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1751 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 300 | B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 35000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5 0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 730 | J B | 72 | 5000 |
| Magnesium | 21000 | B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 2200 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5 0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 180-31553 | Instrument ID: | M |
| Prep Method: | 3005A | Prep Batch: | 180-31032 | Lab File ID: | M20323A.xml |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/23/2012 1946 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/19/2012 1122 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 42 | B | 0 018 | 10 |

Client: TRW Automotive

Job Number: 240-9209-1

General Chemistry

**Client Sample ID:** MW-1 (20120313)

Lab Sample ID: 240-9209-1

Client Matrix: Water

Date Sampled: 03/13/2012 1235

Date Received: 03/14/2012 0930

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 1.7 | B | mg/L | 0.10 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-36712 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0 10 | 1 0 | 9056A |
| Analysis Batch: 240-36823 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Fluoride-Dissolved | 0.056 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-36712 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Nitrate as N-Dissolved | 0.64 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-36823 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0 50 | 1.0 | 9056A |
| Analysis Batch: 240-36712 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Orthophosphate-Dissolved | 0.19 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-36854 | Analysis Date: 03/15/2012 0951 | | | | | | |
| Sulfate-Dissolved | 7.1 | | mg/L | 0 12 | 1 0 | 1 0 | 9056A |
| Analysis Batch: 240-36712 | Analysis Date: 03/14/2012 1604 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 180 | | mg/L | 2.7 | 5 0 | 1 0 | SM 2320B |
| Analysis Batch: 240-37564 | Analysis Date: 03/20/2012 1743 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-37564 | Analysis Date: 03/20/2012 1743 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-36980 | Analysis Date: 03/15/2012 1456 | | | | | | |
| Prep Batch: 240-36874 | Prep Date: 03/15/2012 0852 | | | | | | |
| Ammonia-Dissolved | 0.073 | J | mg/L | 0.035 | 0 20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-36927 | Analysis Date: 03/15/2012 1037 | | | | | | |



## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-9209-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | U | Indicates the analyte was analyzed for but not detected. |
| | * | LCS or LCSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| General Chemistry | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | F | MS or MSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

# QUALITY CONTROL RESULTS





Client: TRW Automotive

Job Number: 240-9209-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-37167** | | | | | |
| LCS 240-37167/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-37167/5 | Method Blank | T | Water | 8260B | |
| 240-9209-1 | MW-1 (20120313) | T | Water | 8260B | |
| 240-9209-2TB | TB-03 (20120313) | T | Water | 8260B | |

**Report Basis**
T = Total

Client: TRW Automotive

Job Number: 240-9209-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 180-30894** | | | | | |
| LCS 180-30894/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-30894/1-A | Method Blank | R | Water | 3005A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 3005A | |
| 240-9209-1MS | Matrix Spike | D | Water | 3005A | |
| 240-9209-1MSD | Matrix Spike Duplicate | D | Water | 3005A | |
| **Prep Batch: 180-31032** | | | | | |
| LCS 180-31032/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 180-31032/1-A | Method Blank | R | Water | 3005A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 3005A | |
| **Analysis Batch:180-31124** | | | | | |
| LCS 180-30894/2-A | Lab Control Sample | R | Water | 6010B | 180-30894 |
| MB 180-30894/1-A | Method Blank | R | Water | 6010B | 180-30894 |
| 240-9209-1 | MW-1 (20120313) | D | Water | 6010B | 180-30894 |
| 240-9209-1MS | Matrix Spike | D | Water | 6010B | 180-30894 |
| 240-9209-1MSD | Matrix Spike Duplicate | D | Water | 6010B | 180-30894 |
| **Analysis Batch:180-31563** | | | | | |
| LCS 180-31032/2-A | Lab Control Sample | R | Water | 6020 | 180-31032 |
| MB 180-31032/1-A | Method Blank | R | Water | 6020 | 180-31032 |
| 240-9209-1 | MW-1 (20120313) | D | Water | 6020 | 180-31032 |
| **Prep Batch: 240-37001** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-37001/1-A | Method Blank | R | Water | 3005A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 3005A | |
| **Analysis Batch:240-37273** | | | | | |
| LCS 240-37001/2-A | Lab Control Sample | R | Water | 6010B | 240-37001 |
| MB 240-37001/1-A | Method Blank | R | Water | 6010B | 240-37001 |
| 240-9209-1 | MW-1 (20120313) | D | Water | 6010B | 240-37001 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-9209-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-36712** | | | | | |
| LCS 240-36712/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36712/5 | Method Blank | T | Water | 9056A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 9056A | |
| **Analysis Batch:240-36823** | | | | | |
| LCS 240-36823/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36823/5 | Method Blank | T | Water | 9056A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 9056A | |
| **Analysis Batch:240-36854** | | | | | |
| LCS 240-36854/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-36854/5 | Method Blank | T | Water | 9056A | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 9056A | |
| 240-9209-1MS | Matrix Spike | D | Water | 9056A | |
| **Prep Batch: 240-36874** | | | | | |
| LCS 240-36874/10-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-36874/9-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-9209-1 | MW-1 (20120313) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-36927** | | | | | |
| LCS 240-36927/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-36927/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-9209-1 | MW-1 (20120313) | D | Water | SM4500 NH3 -F | |
| **Analysis Batch:240-36980** | | | | | |
| LCS 240-36874/10-A | Lab Control Sample | T | Water | SM 4500 P E | 240-36874 |
| MB 240-36874/9-A | Method Blank | T | Water | SM 4500 P E | 240-36874 |
| 240-9209-1 | MW-1 (20120313) | D | Water | SM 4500 P E | 240-36874 |
| **Analysis Batch:240-37564** | | | | | |
| LCS 240-37564/32 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-37564/33 | Method Blank | T | Water | SM 2320B | |
| 240-9209-1 | MW-1 (20120313) | T | Water | SM 2320B | |

**Report Basis**
D = Dissolved
T = Total

## Surrogate Recovery Report

**8260B_Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-9209-1 | MW-1 (20120313) | 84 | 92 | 106 | 93 |
| 240-9209-2 | TB-03 (20120313) | 84 | 90 | 105 | 94 |
| MB 240-37167/5 | | 87 | 92 | 105 | 89 |
| LCS 240-37167/4 | | 87 | 95 | 99 | 90 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |





**Method Blank - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37167/5 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1937.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1121 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1121 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37167/5 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1937.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1121 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1121 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | 66 - 117 |
| Dibromofluoromethane (Surr) | 92 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | 63 - 129 |
| Toluene-d8 (Surr) | 89 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9209-1

**Lab Control Sample - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37167/4 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1936.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.5 | 105 | 83 - 112 | |
| Bromobenzene | 10.0 | 9.40 | 94 | 76 - 115 | |
| Bromoform | 10.0 | 9.36 | 94 | 40 - 131 | |
| Bromomethane | 10.0 | 7.19 | 72 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.33 | 93 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.61 | 96 | 85 - 110 | |
| Chloroethane | 10.0 | 7.79 | 78 | 25 - 153 | |
| Chloroform | 10.0 | 9.68 | 97 | 79 - 117 | |
| Chloromethane | 10.0 | 7.64 | 76 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9.22 | 92 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 8.93 | 89 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.72 | 97 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 11.6 | 116 | 61 - 115 | * |
| Dibromomethane | 10.0 | 11.5 | 115 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.08 | 91 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.10 | 91 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 8.96 | 90 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.7 | 107 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 7.60 | 76 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 9.66 | 97 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 11.0 | 110 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 9.13 | 91 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 11.1 | 111 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.7 | 107 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 8.25 | 83 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 10.4 | 104 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.15 | 92 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.68 | 87 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 8.50 | 85 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.36 | 94 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10.3 | 103 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 17.6 | 88 | 83 - 113 | |
| Naphthalene | 10.0 | 10.1 | 101 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.04 | 90 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.23 | 92 | 74 - 121 | |
| o-Xylene | 10.0 | 8.57 | 86 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.00 | 90 | 70 - 117 | |
| Styrene | 10.0 | 9.27 | 93 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 9.29 | 93 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 8.25 | 83 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 9.90 | 99 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-9209-1

**Lab Control Sample - Batch: 240-37167**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37167/4 | Analysis Batch: | 240-37167 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC1936 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/19/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 03/19/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.27 | 93 | 79 - 114 | |
| Toluene | 10.0 | 9.12 | 91 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.85 | 99 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 10.0 | 100 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 10.1 | 101 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 9.33 | 93 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.06 | 91 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.2 | 102 | 80 - 112 | |
| Trichloroethene | 10.0 | 11.0 | 110 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 9.56 | 96 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 9.89 | 99 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 8.89 | 89 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 8.98 | 90 | 72 - 118 | |
| Vinyl chloride | 10.0 | 8.19 | 82 | 53 - 127 | |
| Bromochloromethane | 10.0 | 10.1 | 101 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.5 | 105 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 87 | 66 - 117 |
| Dibromofluoromethane (Surr) | 95 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 99 | 63 - 129 |
| Toluene-d8 (Surr) | 90 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 180-30894**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-30894/1-A | Analysis Batch: | 180-31124 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30894 | Lab File ID: | Q20319B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1533 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 1011 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| SiO2, Silica | 1100 | U | 29 | 1100 |
| Lithium | 50 | U | 2.8 | 50 |

**Lab Control Sample - Batch: 180-30894**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-30894/2-A | Analysis Batch: | 180-31124 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30894 | Lab File ID: | Q20319B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1539 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 1011 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| SiO2, Silica | 21400 | 20600 | 96 | 80 - 120 | |
| Lithium | 1000 | 981 | 98 | 80 - 120 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 180-30894**

**Method: 6010B**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-9209-1 | Analysis Batch: | 180-31124 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30894 | Lab File ID: | Q20319B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1624 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 1011 | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-9209-1 | Analysis Batch: | 180-31124 | Instrument ID: | Q |
| Client Matrix: | Water | Prep Batch: | 180-30894 | Lab File ID: | Q20319B.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1629 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 1011 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| SiO2, Silica | 99 | 94 | 75 - 125 | 4 | 20 | | |
| Lithium | 102 | 98 | 75 - 125 | 3 | 20 | | |

Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37001/1-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 0724 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 1.60 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 502 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 207 | J | 72 | 5000 |
| Magnesium | 108 | J | 34 | 5000 |
| Manganese | 1.15 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 9.46 | J | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |

**Lab Control Sample - Batch: 240-37001**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37001/2-A | Analysis Batch: | 240-37273 | Instrument ID: | I5 |
| Client Matrix: | Water | Prep Batch: | 240-37001 | Lab File ID: | I50319A |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/19/2012 1632 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/16/2012 0648 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2010 | 100 | 80 - 120 | |
| Boron | 1000 | 951 | 95 | 80 - 120 | |
| Calcium | 50000 | 52500 | 105 | 80 - 120 | |
| Chromium | 200 | 204 | 102 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 50400 | 101 | 80 - 120 | |
| Magnesium | 50000 | 52900 | 106 | 80 - 120 | |
| Manganese | 500 | 539 | 108 | 80 - 120 | |
| Sodium | 50000 | 49300 | 99 | 80 - 120 | |
| Nickel | 500 | 506 | 101 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lead | 500 | 500 | 100 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 180-31032**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 180-31032/1-A | Analysis Batch: | 180-31553 | Instrument ID: | M |
| Client Matrix: | Water | Prep Batch: | 180-31032 | Lab File ID: | M20323A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/23/2012 1841 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/19/2012 1122 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 0.0610 | J | 0.018 | 10 |

**Lab Control Sample - Batch: 180-31032**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 180-31032/2-A | Analysis Batch: | 180-31553 | Instrument ID: | M |
| Client Matrix: | Water | Prep Batch: | 180-31032 | Lab File ID: | M20323A.xml |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/23/2012 1845 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/19/2012 1122 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 1060 | 106 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-36712**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36712/5 | Analysis Batch: | 240-36712 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008213-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 0954 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 0.137 | J | 0.10 | 1.0 |
| Fluoride-Dissolved | 1 0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0 50 | U | 0.081 | 0 50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-36712**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36712/6 | Analysis Batch: | 240-36712 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008213-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1011 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50 0 | 52.8 | 106 | 90 - 110 | |
| Fluoride-Dissolved | 2 50 | 2.54 | 102 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.90 | 99 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.4 | 99 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-36823**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36823/5 | Analysis Batch: | 240-36823 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008213-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 0954 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0 012 | 0.10 |
| Nitrate as N-Dissolved | 0 10 | U | 0 023 | 0.10 |

**Lab Control Sample - Batch: 240-36823**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36823/6 | Analysis Batch: | 240-36823 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008213-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/14/2012 1011 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.45 | 98 | 90 - 110 | |
| Nitrate as N-Dissolved | 2 50 | 2.42 | 97 | 90 - 110 | |

Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-36854**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36854/5 | Analysis Batch: | 240-36854 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0008245-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/15/2012 0912 | Units: | mg/L | Final Weight/Volume: | 1 0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0 10 | U | 0.023 | 0 10 |
| Orthophosphate-Dissolved | 0 50 | U | 0 044 | 0.50 |

**Lab Control Sample - Batch: 240-36854**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36854/6 | Analysis Batch: | 240-36854 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0008245-006 d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/15/2012 0929 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2 50 | 2 32 | 93 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.35 | 94 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.63 | 105 | 90 - 110 | |

**Matrix Spike - Batch: 240-36854**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-9209-1 | Analysis Batch: | 240-36854 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 8240-0008245-008.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/15/2012 1007 | Units: | mg/L | Final Weight/Volume: | 1 0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 0 10 | U | 2.50 | 2.69 | 108 | 80 - 120 | |
| Nitrate as N-Dissolved | 0 66 | | 2.50 | 3.30 | 106 | 80 - 120 | |
| Orthophosphate-Dissolved | 0.19 | J | 2 50 | 7.12 | 277 | 80 - 120 | F |





Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-37564**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-37564/33 | Analysis Batch: | 240-37564 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 032012alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 1508 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2 7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-37564**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-37564/32 | Analysis Batch: | 240-37564 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 032012alk.TXT |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/20/2012 1502 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 33.1 | 33 5 | 101 | 90 - 127 | |

Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-36874**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36874/9-A | Analysis Batch: | 240-36980 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36874 | Lab File ID: | TP031512.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 03/15/2012 1506 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/15/2012 0852 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-36874**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36874/10-A | Analysis Batch: | 240-36980 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-36874 | Lab File ID: | TP031512.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 03/15/2012 1507 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 03/15/2012 0852 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 6.84 | 7.40 | 108 | 53 - 134 | |





Client: TRW Automotive

Job Number: 240-9209-1

**Method Blank - Batch: 240-36927**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-36927/7 | Analysis Batch: | 240-36927 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031512.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/15/2012 0811 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.20 | U | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-36927**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-36927/8 | Analysis Batch: | 240-36927 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 031512.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | |
| Analysis Date: | 03/15/2012 0820 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 12.6 | 12.6 | 100 | 85 - 114 | |

# Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: NORTH CANTON, OH (4101 Shuffel Drive) 44720
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

| Client Contact | | | |
|---|---|---|---|
| Company Name: ARCADIS | Client Project Manager: John Shonfelt | Site Contact: Stephan Schmitt | Lab Contact: Denis Phat Pohl |
| Address: 8725 Rosehill - Suite 350 | Telephone: 913-492-0900 x 11 | Telephone: 913-608-2808 | Telephone: (330) 966-9786 |
| City/State/Zip: Lenexa, KS 66215 | Email: john.shonfelt@arcadis-us.com | | |
| Phone: 913-492-0900 | | | |
| Project Name: TRW OGV OU2 | Method of Shipment/Carrier: FEDER | | |
| Project Number: KC001590.0004 | Shipping/Tracking No: 8762 6303 3260 | | |
| PO# | | | |

COC No: 022311
1 of 1 COCs

Analysis Turnaround Time (In BUS days)
TAT if different from below _____
☐ 3 weeks
☒ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

For lab use only: Walk-in client; Lab use only; Lab sampling; Job/SDG No.

| Sample Identification | Sample Date | Sample Time | Matrix: Air | Aqueous | Sediment | Solid | Other | Containers & Preservatives: HNO3 | HCl | HCl | NaOH | ZnAc/NaOH | Unpres | Other | Filtered Sample (Y/N) | Perform MS/MSD (Y/N) | Total Number of Containers | VOCs (8260B) | Metals (6010B/6020) | Metals (6010B) | Mercury (7470A) | Metals (7470A) (2320B) | Sample Specific Notes / Special Instructions: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 (20120313) | 03/13 | 12:35 | | x | | | | | 2 | 3 | | | 2 | | | | | x | x | x | x | x | |
| TB-03 (20120313) | 03/13 | — | | x | | | | | | 2 | | | | | | | | x | | | | | |

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☒ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

| | Company: | Date/Time: | | Company: | Date/Time: |
|---|---|---|---|---|---|
| Relinquished by: | ARCADIS | 03/13/12 15:00 | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: TAL | Date/Time: 3/14/12 930 |

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TAL 0018- 1 (04/10)

# TestAmerica North Canton Sample Receipt Form/Narrative

Login # : 42209

Client Arcadis Site Name _____ Opened on 3-14-12 By: _____ (Signature)

Cooler Received on 3-14-12 Opened on 3-14-12

FedEx: 1st Grd (Ex) UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box ~~Client Cooler~~ Multiple on Back Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   IR GUN# 1 (CF -2°C) Sample Temp ____ °C Corrected Temp ____ °C
   IR GUN# 4G (CF -1°C) Sample Temp 2.6 °C Corrected Temp 1.6 °C
   IR GUN# 5G (CF -1°C) Sample Temp ____ °C Corrected Temp ____ °C
   IR GUN# 6Y (CF -2°C) Sample Temp ____ °C Corrected Temp ____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   -Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? (Yes) No
7. Could all bottle labels be reconciled with the COC? (Yes) No
8. Were correct bottle(s) used for the test(s) indicated? (Yes) No
9. Sufficient quantity received to perform indicated analyses? (Yes) No
10. Were sample(s) at the correct pH upon receipt? (Yes) No NA
11. Were VOAs on the COC? (Yes) No
12. Were air bubbles >6 mm in any VOA vials? Yes (No) NA
13. Was a trip blank present in the cooler(s)? (Yes) No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other
Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

15. SAMPLE CONDITION
   Sample(s) were received after the recommended holding time had expired.
   Sample(s) were received in a broken container.
   Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

## 16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 - NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| MW1 | <2 <2 <2 | 3/14/12 | CSC |

| Cooler # | Temp. °C | IR # | Coolant |
|---|---|---|---|



## Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9209-1

**Login Number: 9209**
**List Number: 1**
**Creator: Livengood, Chris**

**List Source: TestAmerica North Canton**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | 1.6 |
| Cooler Temperature is recorded | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing | True | |
| Residual Chlorine Checked. | N/A | |

# Login Sample Receipt Checklist

Client: TRW Automotive

Job Number: 240-9209-1

**Login Number: 9209**
**List Number: 1**
**Creator: Watson, Debbie**

**List Source: TestAmerica Pittsburgh**
**List Creation: 03/16/12 10:46 AM**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity either was not measured or, if measured, is at or below background | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible | True | |
| COC is filled out with all pertinent information | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol for all requested analyses, incl any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

*June 2012 Sampling Event*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

Job Number: 240-12553-1

Job Description: Oak Grove Village

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
7/6/2012 11:27 AM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
07/06/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: Oak Grove Village**

**Report Number: 240-12553-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 06/22/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.4 C

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2), MW-1(20120621) (240-12553-3) and TRIP BLANK (240-12553-4) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/29/2012, 06/30/2012 and 07/02/2012.

1,1-Dichloroethene failed the recovery criteria low for the MS/MSD of sample 240-12614-40 in batch 240-49465.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample VOSSWELL(20120621) (240-12553-2)[3.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits

**DISSOLVED METALS (ICP)**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/28/2012 and analyzed on 06/29/2012.

Li and Manganese were detected in method blank MB 240-49161/1-A at levels that were above the method detection limit but below the

reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICPMS)**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 06/28/2012 and analyzed on 06/29/2012.

No difficulties were encountered during the metals analyses

All quality control parameters were within the acceptance limits.

**ALKALINITY**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 06/29/2012.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits

**DISSOLVED AMMONIA**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved ammonia in accordance with SM 4500 NH3 F. The samples were analyzed on 06/29/2012.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits

**DISSOLVED PHOSPHORUS**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved phosphorus in accordance with SM 4500 P E. The samples were prepared and analyzed on 06/29/2012

No difficulties were encountered during the phosphorus analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/22/2012.

Orthophosphate failed the recovery criteria high for the MS of sample 240-12529-5 in batch 240-48454.

Refer to the QC report for details.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-102B(20120620) (240-12553-1), VOSSWELL(20120621) (240-12553-2) and MW-1(20120621) (240-12553-3) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/22/2012.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive Job Number 240-12553-1

| Lab Sample ID Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12553-1** | **MW-102B(20120620)** | | | | | |
| Dichlorodifluoromethane | | 0.91 | J | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.74 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 18 | | 2 0 | ug/L | 8260B |
| Trichloroethene | | 0 41 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 5.7 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 250 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 81 | J | 200 | ug/L | 6010B |
| Calcium | | 55000 | | 5000 | ug/L | 6010B |
| Potassium | | 2400 | J | 5000 | ug/L | 6010B |
| Magnesium | | 30000 | | 5000 | ug/L | 6010B |
| Sodium | | 9000 | | 5000 | ug/L | 6010B |
| Zinc | | 7 6 | J | 20 | ug/L | 6010B |
| Lead | | 2 2 | J | 3 0 | ug/L | 6010B |
| SiO2, Silica | | 14000 | | 1100 | ug/L | 6010B |
| Strontium | | 69 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 9.0 | | 1 0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.76 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.037 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0 084 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 7.4 | | 1.0 | mg/L | 9056A |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number 240-12553-1

| Lab Sample ID Client Sample ID<br>Analyte | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|
| **240-12553-2 VOSSWELL(20120621)** | | | | | |
| Dichlorodifluoromethane | 3.7 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | 2.9 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | 91 | | 6.7 | ug/L | 8260B |
| Tetrachloroethene | 0.91 | J | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | 0.33 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | 2.0 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | 43 | | 3.3 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | 240 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | |
| Barium | 190 | J | 200 | ug/L | 6010B |
| Calcium | 52000 | | 5000 | ug/L | 6010B |
| Potassium | 1400 | J | 5000 | ug/L | 6010B |
| Magnesium | 29000 | | 5000 | ug/L | 6010B |
| Sodium | 5400 | | 5000 | ug/L | 6010B |
| Zinc | 7.3 | J | 20 | ug/L | 6010B |
| Lead | 2.2 | J | 3.0 | ug/L | 6010B |
| SiO2, Silica | 12000 | | 1100 | ug/L | 6010B |
| Strontium | 49 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | 8.7 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | 1.1 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | 0.045 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | 0.083 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | 11 | | 1.0 | mg/L | 9056A |
| **240-12553-3 MW-1(20120621)** | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 160 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | |
| Barium | 370 | | 200 | ug/L | 6010B |
| Calcium | 35000 | | 5000 | ug/L | 6010B |
| Potassium | 450 | J | 5000 | ug/L | 6010B |
| Magnesium | 20000 | | 5000 | ug/L | 6010B |
| Manganese | 0.44 | J B | 15 | ug/L | 6010B |
| Sodium | 2500 | J | 5000 | ug/L | 6010B |
| SiO2, Silica | 9500 | | 1100 | ug/L | 6010B |
| Strontium | 39 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | 1.8 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | 0.92 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | 0.045 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | 4.4 | | 1.0 | mg/L | 9056A |



## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-12553-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL NC | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365.3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica Canton

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-12553-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Evans, Laura | LE |
| SW846 6010B | Musselman, Natalie J | NJM |
| SW846 6020 | Davies, Brian | BD |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 4500 P E | Harshman, Tom | TH |
| SM18 SM4500 NH3 -F | Kuhle, Julie | JK |



## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-12553-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-12553-1 | MW-102B(20120620) | Water | 06/20/2012 1830 | 06/22/2012 0910 |
| 240-12553-2 | VOSSWELL(20120621) | Water | 06/21/2012 1105 | 06/22/2012 0910 |
| 240-12553-3 | MW-1(20120621) | Water | 06/21/2012 1210 | 06/22/2012 0910 |
| 240-12553-4TB | TRIP BLANK | Water | 06/21/2012 0000 | 06/22/2012 0910 |

# SAMPLE RESULTS





Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** **MW-102B(20120620)**

Lab Sample ID: 240-12553-1

Client Matrix: Water

Date Sampled: 06/20/2012 1830

Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5513.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2349 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2349 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 0.91 | J | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.74 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 18 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** MW-102B(20120620)

Lab Sample ID: 240-12553-1
Client Matrix: Water

Date Sampled: 06/20/2012 1830
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5513.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2349 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2349 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.41 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 5.7 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 101 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 97 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 88 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** VOSSWELL(20120621)

Lab Sample ID: 240-12553-2
Client Matrix: Water

Date Sampled: 06/21/2012 1105
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5514.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/30/2012 0012 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/30/2012 0012 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.7 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 2.9 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.91 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** VOSSWELL(20120621)

Lab Sample ID: 240-12553-2
Client Matrix: Water

Date Sampled: 06/21/2012 1105
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5514.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/30/2012 0012 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/30/2012 0012 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.33 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.0 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 102 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 95 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 87 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** VOSSWELL(20120621)

Lab Sample ID: 240-12553-2
Client Matrix: Water

Date Sampled: 06/21/2012 1105
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5544.D |
| Dilution: | 3.33 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1513 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1513 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 91 | | 1.4 | 6.7 |
| Trichlorofluoromethane | 43 | | 0.70 | 3.3 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 106 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 99 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 90 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** MW-1(20120621)

Lab Sample ID: 240-12553-3
Client Matrix: Water

Date Sampled: 06/21/2012 1210
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5515.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/30/2012 0035 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/30/2012 0035 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** MW-1(20120621)

Lab Sample ID: 240-12553-3
Client Matrix: Water

Date Sampled: 06/21/2012 1210
Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5515.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/30/2012 0035 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/30/2012 0035 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 103 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 94 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 87 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12553-4TB

Client Matrix: Water

Date Sampled: 06/21/2012 0000

Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5545.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date | 07/02/2012 1536 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1536 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12553-4TB

Client Matrix: Water

Date Sampled: 06/21/2012 0000

Date Received: 06/22/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5545.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1536 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1536 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 107 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 99 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 88 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** MW-102B(20120620)

Lab Sample ID: 240-12553-1
Client Matrix: Water

Date Sampled: 06/20/2012 1830
Date Received: 06/22/2012 0910

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch | 240-49561 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1721 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 81 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 55000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2400 | J | 72 | 5000 |
| Magnesium | 30000 | | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 9000 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 7.6 | J | 5.0 | 20 |
| Lead | 2.2 | J | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 14000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1518 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 69 | | 0.33 | 10 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12553-1

**Client Sample ID:** VOSSWELL(20120621)

Lab Sample ID: 240-12553-2
Client Matrix: Water

Date Sampled: 06/21/2012 1105
Date Received: 06/22/2012 0910

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1724 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 190 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 52000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1400 | J | 72 | 5000 |
| Magnesium | 29000 | | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 5400 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 7.3 | J | 5.0 | 20 |
| Lead | 2.2 | J | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 12000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1537 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 49 | | 0.33 | 10 |

**Client Sample ID:** MW-1(20120621)

Lab Sample ID: 240-12553-3
Client Matrix: Water

Date Sampled: 06/21/2012 1210
Date Received: 06/22/2012 0910

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1726 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 370 | | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 35000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 450 | J | 72 | 5000 |
| Magnesium | 20000 | | 34 | 5000 |
| Manganese | 0.44 | J B | 0.41 | 15 |
| Sodium | 2500 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 9500 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1543 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 39 | | 0.33 | 10 |





**General Chemistry**

**Client Sample ID:** MW-102B(20120620)

Lab Sample ID: 240-12553-1
Client Matrix: Water

Date Sampled: 06/20/2012 1830
Date Received: 06/22/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 9.0 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Fluoride-Dissolved | 0.037 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Nitrate as N-Dissolved | 0.76 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Orthophosphate-Dissolved | 0.084 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Sulfate-Dissolved | 7.4 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1331 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 250 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1549 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1549 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1427 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0752 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 1003 | | | | | | |

General Chemistry

**Client Sample ID:** VOSSWELL(20120621)

Lab Sample ID: 240-12553-2
Client Matrix: Water

Date Sampled: 06/21/2012 1105
Date Received: 06/22/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.7 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Fluoride-Dissolved | 0.045 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Nitrate as N-Dissolved | 1.1 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Orthophosphate-Dissolved | 0.083 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Sulfate-Dissolved | 11 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1349 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 240 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1559 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1559 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1427 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0753 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 1003 | | | | | | |





General Chemistry

**Client Sample ID:** MW-1(20120621)

Lab Sample ID: 240-12553-3
Client Matrix: Water

Date Sampled: 06/21/2012 1210
Date Received: 06/22/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 1.8 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Fluoride-Dissolved | 0.045 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Nitrate as N-Dissolved | 0.92 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Sulfate-Dissolved | 4.4 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48453 | Analysis Date: 06/22/2012 1406 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 160 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1608 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1608 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1427 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0753 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 1003 | | | | | | |

## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-12553-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value |
| General Chemistry | | |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |



# QUALITY CONTROL RESULTS

Client: TRW Automotive

Job Number: 240-12553-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-49465** | | | | | |
| LCS 240-49465/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49465/5 | Method Blank | T | Water | 8260B | |
| 240-12553-1 | MW-102B(20120620) | T | Water | 8260B | |
| 240-12553-2 | VOSSWELL(20120621) | T | Water | 8260B | |
| 240-12553-3 | MW-1(20120621) | T | Water | 8260B | |
| **Analysis Batch:240-49603** | | | | | |
| LCS 240-49603/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49603/5 | Method Blank | T | Water | 8260B | |
| 240-12553-2 | VOSSWELL(20120621) | T | Water | 8260B | |
| 240-12553-4TB | TRIP BLANK | T | Water | 8260B | |

**Report Basis**
T = Total

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 240-49161** | | | | | |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 3005A | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49161/1-A | Method Blank | R | Water | 3005A | |
| 240-12553-1 | MW-102B(20120620) | D | Water | 3005A | |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 3005A | |
| 240-12553-3 | MW-1(20120621) | D | Water | 3005A | |
| **Analysis Batch:240-49560** | | | | | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 6020 | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6020 | 240-49161 |
| 240-12553-1 | MW-102B(20120620) | D | Water | 6020 | 240-49161 |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 6020 | 240-49161 |
| 240-12553-3 | MW-1(20120621) | D | Water | 6020 | 240-49161 |
| **Analysis Batch:240-49561** | | | | | |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 6010B | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6010B | 240-49161 |
| 240-12553-1 | MW-102B(20120620) | D | Water | 6010B | 240-49161 |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 6010B | 240-49161 |
| 240-12553-3 | MW-1(20120621) | D | Water | 6010B | 240-49161 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-12553-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-48453** | | | | | |
| LCS 240-48453/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48453/5 | Method Blank | T | Water | 9056A | |
| 240-12553-1 | MW-102B(20120620) | D | Water | 9056A | |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 9056A | |
| 240-12553-3 | MW-1(20120621) | D | Water | 9056A | |
| **Analysis Batch:240-48454** | | | | | |
| LCS 240-48454/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48454/5 | Method Blank | T | Water | 9056A | |
| 240-12553-1 | MW-102B(20120620) | D | Water | 9056A | |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 9056A | |
| 240-12553-3 | MW-1(20120621) | D | Water | 9056A | |
| **Prep Batch: 240-49375** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-49375/10-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-12553-1 | MW-102B(20120620) | D | Water | 365.2/365.3/365 | |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | 365.2/365.3/365 | |
| 240-12553-3 | MW-1(20120621) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-49449** | | | | | |
| LCS 240-49449/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-49449/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-12553-1 | MW-102B(20120620) | D | Water | SM4500 NH3 -F | |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | SM4500 NH3 -F | |
| 240-12553-3 | MW-1(20120621) | D | Water | SM4500 NH3 -F | |
| **Analysis Batch:240-49474** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | SM 4500 P E | 240-49375 |
| MB 240-49375/10-A | Method Blank | T | Water | SM 4500 P E | 240-49375 |
| 240-12553-1 | MW-102B(20120620) | D | Water | SM 4500 P E | 240-49375 |
| 240-12553-2 | VOSSWELL(20120621) | D | Water | SM 4500 P E | 240-49375 |
| 240-12553-3 | MW-1(20120621) | D | Water | SM 4500 P E | 240-49375 |
| **Analysis Batch:240-49573** | | | | | |
| LCS 240-49573/4 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-49573/5 | Method Blank | T | Water | SM 2320B | |
| 240-12553-1 | MW-102B(20120620) | T | Water | SM 2320B | |
| 240-12553-2 | VOSSWELL(20120621) | T | Water | SM 2320B | |
| 240-12553-3 | MW-1(20120621) | T | Water | SM 2320B | |

**Report Basis**
D = Dissolved
T = Total

## Surrogate Recovery Report

**8260B Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-12553-1 | MW-102B(20120620) | 101 | 97 | 88 | 95 |
| 240-12553-2 | VOSSWELL(20120621) | 102 | 95 | 87 | 97 |
| 240-12553-2 | VOSSWELL(20120621) | 106 | 99 | 90 | 95 |
| 240-12553-3 | MW-1(20120621) | 103 | 94 | 87 | 97 |
| 240-12553-4 | TRIP BLANK | 107 | 99 | 88 | 97 |
| MB 240-49465/5 | | 103 | 94 | 86 | 94 |
| MB 240-49603/5 | | 108 | 97 | 88 | 97 |
| LCS 240-49465/4 | | 105 | 98 | 93 | 98 |
| LCS 240-49603/4 | | 107 | 100 | 95 | 98 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |





**Method Blank - Batch: 240-49465**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49465/5 | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5512.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2327 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2327 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49465**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49465/5 | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5512.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2327 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2327 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 103 | 66 - 117 |
| Dibromofluoromethane (Surr) | 94 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 86 | 63 - 129 |
| Toluene-d8 (Surr) | 94 | 74 - 115 |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12553-1

**Lab Control Sample - Batch: 240-49465**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49465/4 | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5510.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2241 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2241 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 9.72 | 97 | 83 - 112 | |
| Bromobenzene | 10.0 | 10.3 | 103 | 76 - 115 | |
| Bromoform | 10.0 | 9.83 | 98 | 40 - 131 | |
| Bromomethane | 10.0 | 10.8 | 108 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.04 | 90 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.55 | 96 | 85 - 110 | |
| Chloroethane | 10.0 | 8.88 | 89 | 25 - 153 | |
| Chloroform | 10.0 | 9.49 | 95 | 79 - 117 | |
| Chloromethane | 10.0 | 9.56 | 96 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 10.0 | 100 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.99 | 100 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.69 | 97 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 8.98 | 90 | 61 - 115 | |
| Dibromomethane | 10.0 | 10.2 | 102 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.25 | 93 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.45 | 95 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.19 | 92 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 9.56 | 96 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 8.99 | 90 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 9.95 | 100 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.62 | 96 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 9.69 | 97 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 9.68 | 97 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 9.68 | 97 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 8.05 | 81 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.03 | 90 | 83 - 114 | |
| Ethylbenzene | 10.0 | 8.94 | 89 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 8.24 | 82 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 9.14 | 91 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.64 | 96 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10.3 | 103 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 18.6 | 93 | 83 - 113 | |
| Naphthalene | 10.0 | 8.62 | 66 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 8.44 | 84 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.68 | 97 | 74 - 121 | |
| o-Xylene | 10.0 | 9.53 | 95 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.40 | 94 | 70 - 117 | |
| Styrene | 10.0 | 9.78 | 98 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 9.79 | 98 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 9.52 | 95 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 9.31 | 93 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-12553-1

**Lab Control Sample - Batch: 240-49465**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49465/4 | Analysis Batch: | 240-49465 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5510.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 2241 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 2241 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 8.95 | 90 | 79 - 114 | |
| Toluene | 10.0 | 9.28 | 93 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.76 | 98 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 8.84 | 88 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 7.55 | 76 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 8.65 | 87 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 8.94 | 89 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.2 | 102 | 80 - 112 | |
| Trichloroethene | 10.0 | 9.45 | 95 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 8.82 | 88 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.2 | 102 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 10.2 | 102 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 9.91 | 99 | 72 - 118 | |
| Vinyl chloride | 10.0 | 9.50 | 95 | 53 - 127 | |
| Bromochloromethane | 10.0 | 10.0 | 100 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 9.42 | 94 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 105 | 66 - 117 |
| Dibromofluoromethane (Surr) | 98 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 93 | 63 - 129 |
| Toluene-d8 (Surr) | 98 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49603**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49603/5 | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5539.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1315 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1315 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49603**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49603/5 | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5539.D |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1315 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1315 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0 19 | 1 0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0 19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0 17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0 15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0 22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1 0 | U | 0 17 | 1 0 |
| Trichlorofluoromethane | 1 0 | U | 0 21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1 0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1 0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1 0 | U | 0 29 | 1 0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 108 | 68 - 117 |
| Dibromofluoromethane (Surr) | 97 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 88 | 63 - 129 |
| Toluene-d8 (Surr) | 97 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12553-1

**Lab Control Sample - Batch: 240-49603**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49603/4 | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5537.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1229 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1229 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10 0 | 9.96 | 100 | 83 - 112 | |
| Bromobenzene | 10.0 | 10.7 | 107 | 76 - 115 | |
| Bromoform | 10 0 | 10 5 | 105 | 40 - 131 | |
| Bromomethane | 10.0 | 10 7 | 107 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.42 | 94 | 66 - 128 | |
| Chlorobenzene | 10 0 | 10 0 | 100 | 85 - 110 | |
| Chloroethane | 10 0 | 8.90 | 89 | 25 - 153 | |
| Chloroform | 10 0 | 9.49 | 95 | 79 - 117 | |
| Chloromethane | 10 0 | 9.55 | 96 | 44 - 126 | |
| 2-Chlorotoluene | 10 0 | 10 8 | 108 | 76 - 116 | |
| 4-Chlorotoluene | 10 0 | 10.9 | 109 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10 0 | 9.64 | 98 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 9.66 | 97 | 61 - 115 | |
| Dibromomethane | 10 0 | 10.2 | 102 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10 0 | 9 38 | 94 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10 0 | 10 1 | 101 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.52 | 95 | 82 - 110 | |
| Bromodichloromethane | 10 0 | 9 89 | 99 | 72 - 121 | |
| Dichlorodifluoromethane | 10 0 | 8 87 | 89 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.1 | 101 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.95 | 100 | 71 - 127 | |
| 1,1-Dichloroethene | 10 0 | 9.76 | 98 | 78 - 131 | |
| 1,2-Dichloropropane | 10 0 | 9 97 | 100 | 81 - 115 | |
| 1,3-Dichloropropane | 10 0 | 9 79 | 98 | 79 - 116 | |
| 2,2-Dichloropropane | 10 0 | 9 27 | 93 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9 56 | 96 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9 63 | 96 | 83 - 112 | |
| Hexachlorobutadiene | 10 0 | 9 34 | 93 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 9 92 | 99 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 10.4 | 104 | 74 - 120 | |
| Methylene Chloride | 10.0 | 9.66 | 97 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 19.6 | 98 | 83 - 113 | |
| Naphthalene | 10.0 | 6 91 | 69 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.24 | 92 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 10 5 | 105 | 74 - 121 | |
| o-Xylene | 10.0 | 10.1 | 101 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 10 4 | 104 | 70 - 117 | |
| Styrene | 10.0 | 10.2 | 102 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 10 6 | 106 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 10 0 | 100 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 9.72 | 97 | 68 - 118 | |

Client: TRW Automotive

Job Number: 240-12553-1

**Lab Control Sample - Batch: 240-49603**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49603/4 | Analysis Batch: | 240-49603 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5537.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/02/2012 1229 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/02/2012 1229 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.82 | 98 | 79 - 114 | |
| Toluene | 10.0 | 9.45 | 95 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.91 | 99 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 9.73 | 97 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 7.99 | 80 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 9.00 | 90 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.33 | 93 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.2 | 102 | 80 - 112 | |
| Trichloroethene | 10.0 | 10.1 | 101 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 7.44 | 74 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.4 | 104 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 10.8 | 108 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 10.6 | 106 | 72 - 118 | |
| Vinyl chloride | 10.0 | 9.09 | 91 | 53 - 127 | |
| Bromochloromethane | 10.0 | 10.2 | 102 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 9.76 | 98 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 107 | 66 - 117 |
| Dibromofluoromethane (Surr) | 100 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 95 | 63 - 129 |
| Toluene-d8 (Surr) | 98 | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1634 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 200 | U | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 5000 | U | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 5000 | U | 34 | 5000 |
| Manganese | 0.515 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 4.53 | J | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/2-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1638 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2260 | 113 | 80 - 120 | |
| Boron | 1000 | 1130 | 113 | 80 - 120 | |
| Calcium | 50000 | 52100 | 104 | 80 - 120 | |
| Chromium | 200 | 207 | 104 | 80 - 120 | |
| Iron | 1000 | 1070 | 107 | 80 - 120 | |
| Potassium | 50000 | 52700 | 105 | 80 - 120 | |
| Magnesium | 50000 | 50000 | 100 | 80 - 120 | |
| Manganese | 500 | 529 | 106 | 80 - 120 | |
| Sodium | 50000 | 53700 | 107 | 80 - 120 | |
| Nickel | 500 | 512 | 102 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lead | 500 | 512 | 102 | 80 - 120 | |
| Lithium | 1000 | 1050 | 105 | 80 - 120 | |
| SiO2, Silica | 2140 | 2430 | 114 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1404 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/3-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1422 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 925 | 92 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-48453**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48453/5 | Analysis Batch: | 240-48453 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010982-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1020 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-48453**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48453/6 | Analysis Batch: | 240-48453 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010982-006 d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1037 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 51.2 | 102 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.49 | 100 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.90 | 99 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.4 | 99 | 90 - 110 | |

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-48454**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48454/5 | Analysis Batch: | 240-48454 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010982-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1020 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-48454**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48454/6 | Analysis Batch: | 240-48454 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010982-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1037 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.47 | 99 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.47 | 99 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.53 | 101 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49573**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49573/5 | Analysis Batch: | 240-49573 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/29/2012 1211 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-49573**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49573/4 | Analysis Batch: | 240-49573 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/29/2012 1205 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 82.5 | 104 | 90 - 127 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49375/10-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0745 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49375/11-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0746 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 5.50 | 5.83 | 106 | 53 - 134 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12553-1

**Method Blank - Batch: 240-49449**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49449/7 | Analysis Batch: | 240-49449 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 0652 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.20 | U | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-49449**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49449/8 | Analysis Batch: | 240-49449 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 0653 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 13.9 | 13.8 | 99 | 85 - 114 | |

TestAmerica
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## Chain of Custody Record

TestAmerica Laboratory location:
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.
COC No: 042440
1 of 1 COCs

| | |
|---|---|
| Client Contact | |
| Company Name: | Arcadis |
| Address: | 8725 Rosehill Rd, ste 350 |
| City/State/Zip: | Lenexa, KS 66215 |
| Phone: | 913 492-0900 |
| Project Name: | TRW Auto |
| Project Number: | KC000590.0003 |
| PO # | |
| Client Project Manager: | John Shonfelt |
| Telephone: | 913 492-0900 |
| Email: | john.shonfelt@arcadis-us.com |
| Site Contact: | Larry Bendix |
| Telephone: | 913 492-0900 |
| Lab Contact: | Denise Pohl |
| Method of Shipment/Carrier: | TestAmerica courier |

Analyses: VOCs 8260B; Metals 6010B/6020; Mercury 7470; Anions 9056A; Ammonia Phosphorus; Alkalinity 2320B; Total Phosphorus

| Sample Identification | Sample Date | Sample Time | Matrix | H2SO4 | HNO3 | HCl | Unpres | Analyses | Sample Specific Notes / Special Instructions |
|---|---|---|---|---|---|---|---|---|---|
| MW-102B (20120620) | 6-20-12 | 1330 | X | 1 | 2 | 3 | 2 | X X X X X X X | |
| VOSS WW4 (20120621) | 6-21-12 | 1105 | X | 1 | 2 | 3 | 2 | X X X X X X X | |
| MW-1 (20120621) | 6-21-12 | 1210 | X | 1 | 2 | 3 | 2 | X X X X X X X | |
| Trip Blank | | — | X | | | 1 | | X | Trip Blank |

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown
Sample Disposal: ☐ Return to Client ☒ Disposal By Lab ☐ Archive For ___ Months

| Relinquished by | Company | Date/Time | Received by | Company | Date/Time |
|---|---|---|---|---|---|
| [signature] | Arcadis | 6-21-12/1625 | [signature] | TA | 6/21/12/1625 |
| [signature] | TA | 6/21/12 1735 | [signature] | | |
| | | | Received in Laboratory by: [signature] | TAL | 6/22/12 910 |

TAL-0018-1 (04/10)



## TestAmerica North Canton Sample Receipt Form/Narrative

Login # : 12553

Client Arcadis Site Name ______ By: [signature] (Signature)

Cooler Received on 6/22/12 Opened on 6/22/12

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other ______

TestAmerica Cooler # A629 Foam Box Client Cooler Box Other ______

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other ______

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF 0°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C
   - IR GUN# 4G (CF -1°C) Observed Sample Temp. 1.4 °C Corrected Sample Temp. 0.4 °C ☒ Multiple on Back
   - IR GUN# 5G (CF -1°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C
   - IR GUN# 8 (CF 0°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 (Yes) No
   - Were custody seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   - Were custody seals on the bottle(s)? Yes (No)
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Did all bottles arrive in good condition (Unbroken)? (Yes) No
7. Could all bottle labels be reconciled with the COC? (Yes) No
8. Were correct bottle(s) used for the test(s) indicated? (Yes) No
9. Sufficient quantity received to perform indicated analyses? (Yes) No
10. Were sample(s) at the correct pH upon receipt? (Yes) No NA
11. Were VOAs on the COC? (Yes) No
12. Were air bubbles >6 mm in any VOA vials? Yes (No) NA
13. Was a trip blank present in the cooler(s)? (Yes) No

Contacted PM ______ Date ______ by ______ via Verbal Voice Mail Other
Concerning

### 14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

### ~~15. SAMPLE CONDITION~~

Sample(s) ______ were received after the recommended holding time had expired.
Sample(s) ______ were received in a broken container.
Sample(s) ______ were received with bubble >6 mm in diameter. (Notify PM)

SOP: NC-SC-0005 Sample Receiving
C:\Users\livengoodc\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLKD16\COOLER_TestAmerica Rev 15 061912.jrv.doc

## 16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 -NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| 102B | <2 <2 <2 | 6/22/12 | [illegible] |
| VOSS | <2 <2 <2 | | |
| MW-1 | <2 <2 <2 | | |

| Cooler # | Observed Sample Temp. °C | Corrected Sample Temp. °C | IR # | Coolant |
|---|---|---|---|---|
| | | | | |

TestAmerica
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# ANALYTICAL REPORT

Job Number: 240-12529-1

Job Description: Oak Grove Village

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
7/6/2012 12:36 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
07/06/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: Oak Grove Village**

**Report Number: 240-12529-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 06/21/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.2 and 1.4 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-103(20120619) (240-12529-1), TB(20120619) (240-12529-2), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/27/2012.

Hexachlorobutadiene was detected in method blank MB 240-49143/4 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

1,2,3-Trichlorobenzene, Dibromomethane and Dichlorodifluoromethane failed the recovery criteria high for LCS 240-49143/5. Refer to the QC report for details.

Dichlorodifluoromethane failed the recovery criteria high for the MS/MSD of sample 240-12479-7 in batch 240-49143.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details.

Sample MW-103(20120619) (240-12529-1)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method 8260B: The laboratory control sample (LCS) for batch 49143 exceeded control limits for the following analyte: dichlorodifluoromethane. This analyte has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. The results have been reported and qualified.

Method 8260B: The laboratory control sample (LCS) for batch 49143 exceeded control limits for the following analytes: dibromomethane, and 1,2,3-trichlorobenzene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/27/2012 and 06/28/2012 and analyzed on 06/29/2012.

Several analytes were detected in method blank MB 240-49010/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Li and Manganese were detected in method blank MB 240-49161/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICPMS)**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 06/27/2012 and 06/28/2012 and analyzed on 06/28/2012 and 06/29/2012.

Strontium was detected in method blank MB 240-49010/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

No difficulties were encountered during the metals analyses

All quality control parameters were within the acceptance limits

**ALKALINITY**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 06/22/2012 and 06/25/2012.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED AMMONIA**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved ammonia in accordance with SM 4500 NH3 F. The samples were analyzed on 06/29/2012.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits

**DISSOLVED PHOSPHORUS**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved phosphorus in accordance with SM 4500 P E The samples were prepared and analyzed on 06/29/2012.



No difficulties were encountered during the phosphorus analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/21/2012 and 06/22/2012.

Orthophosphate failed the recovery criteria high for the MS of sample MW-108D(20120620)MS (240-12529-5) in batch 240-48454.

Orthophosphate was detected in method blank MB 240-48326/28 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J" If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Orthophosphate failed the recovery criteria low for LCS 240-48326/6.

Refer to the QC report for details.

Method 9056A: Reanalysis of the following samples was performed outside of the analytical holding time due to failing QC for orthophosphate: ER(20120620), MW-103(20120619). Both sets of data are reported

No other difficulties were encountered during the anions analyses

All other quality control parameters were within the acceptance limits

**DISSOLVED ANIONS**
Samples MW-103(20120619) (240-12529-1), ER(20120620) (240-12529-3), MW-104(20120620) (240-12529-4), MW-108D(20120620) (240-12529-5) and MW-108S(20120620) (240-12529-6) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/21/2012.

Fluoride failed the recovery criteria high for the MS of sample MW-108D(20120620)MS (240-12529-5) in batch 240-48325.

Refer to the QC report for details.

No other difficulties were encountered during the anions analyses.

All other quality control parameters were within the acceptance limits

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12529-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12529-1** | **MW-103(20120619)** | | | | | |
| Dichlorodifluoromethane | | 10 | * | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.2 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethene | | 0.54 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 130 | | 5.0 | ug/L | 8260B |
| Tetrachloroethene | | 1.2 | | 1.0 | ug/L | 8260B |
| 1,1,1-Trichloroethane | | 0 83 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 0 69 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 130 | | 2.5 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 190 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 77 | J B | 200 | ug/L | 6010B |
| Calcium | | 46000 | B | 5000 | ug/L | 6010B |
| Potassium | | 880 | J | 5000 | ug/L | 6010B |
| Magnesium | | 24000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0.85 | J B | 15 | ug/L | 6010B |
| Sodium | | 5000 | | 5000 | ug/L | 6010B |
| Zinc | | 6 4 | J B | 20 | ug/L | 6010B |
| SiO2, Silica | | 11000 | | 1100 | ug/L | 6010B |
| Strontium | | 41 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 13 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1 8 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 078 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.18 | J H | 0.50 | mg/L | 9056A |
| Bromide-Dissolved | | 0.18 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 0 82 | J | 1 0 | mg/L | 9056A |
| **240-12529-2** | **TB(20120619)** | | | | | |
| Methylene Chloride | | 0 64 | J | 1.0 | ug/L | 8260B |
| **240-12529-3** | **ER(20120620)** | | | | | |
| Chloroform | | 0.30 | J | 1.0 | ug/L | 8260B |
| Toluene | | 0 47 | J | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 2.9 | J | 5 0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 3 0 | J B | 200 | ug/L | 6010B |
| Calcium | | 1000 | J B | 5000 | ug/L | 6010B |
| Magnesium | | 65 | J B | 5000 | ug/L | 6010B |
| Zinc | | 5.2 | J B | 20 | ug/L | 6010B |
| Lithium | | 2.0 | J | 50 | ug/L | 6010B |
| Nitrite as N-Dissolved | | 0 022 | J | 0.10 | mg/L | 9056A |
| Chloride-Dissolved | | 0 73 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0 16 | J H | 0.50 | mg/L | 9056A |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12529-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12529-4** | **MW-104(20120620)** | | | | | |
| Chloroform | | 0.19 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 4.8 | * | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.78 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 71 | | 2.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.42 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 3.1 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 39 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 350 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 92 | J B | 200 | ug/L | 6010B |
| Calcium | | 80000 | B | 5000 | ug/L | 6010B |
| Potassium | | 2100 | J | 5000 | ug/L | 6010B |
| Magnesium | | 42000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.1 | J B | 15 | ug/L | 6010B |
| Sodium | | 8800 | | 5000 | ug/L | 6010B |
| Zinc | | 52 | B | 20 | ug/L | 6010B |
| Lead | | 3.2 | | 3.0 | ug/L | 6010B |
| Lithium | | 2.0 | J | 50 | ug/L | 6010B |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Strontium | | 60 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 24 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0 89 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 035 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.19 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 6.2 | | 1.0 | mg/L | 9056A |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12529-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-12529-5 | MW-108D(20120620) | | | | | |
| Dichlorodifluoromethane | | 3.7 | * | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.1 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 58 | | 2.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.63 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 2.5 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 32 | | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 220 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 180 | J | 200 | ug/L | 6010B |
| Calcium | | 50000 | | 5000 | ug/L | 6010B |
| Potassium | | 1300 | J | 5000 | ug/L | 6010B |
| Magnesium | | 29000 | | 5000 | ug/L | 6010B |
| Sodium | | 4300 | J | 5000 | ug/L | 6010B |
| Zinc | | 16 | J | 20 | ug/L | 6010B |
| Lithium | | 2.7 | J B | 50 | ug/L | 6010B |
| SiO2, Silica | | 11000 | | 1100 | ug/L | 6010B |
| Strontium | | 51 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 5.3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.37 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 053 | J | 1 0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.11 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 13 | | 1.0 | mg/L | 9056A |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12529-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| 240-12529-6 | MW-108S(20120620) | | | | | |
| cis-1,2-Dichloroethene | | 0.45 | J | 1 0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 2.6 | * | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.2 | | 1 0 | ug/L | 8260B |
| Dichlorofluoromethane | | 59 | | 2.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.64 | J | 1 0 | ug/L | 8260B |
| Trichloroethene | | 1.7 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 12 | | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 340 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 190 | J | 200 | ug/L | 6010B |
| Calcium | | 73000 | | 5000 | ug/L | 6010B |
| Potassium | | 2300 | J | 5000 | ug/L | 6010B |
| Magnesium | | 37000 | | 5000 | ug/L | 6010B |
| Manganese | | 76 | B | 15 | ug/L | 6010B |
| Sodium | | 7200 | | 5000 | ug/L | 6010B |
| Nickel | | 5.6 | J | 40 | ug/L | 6010B |
| Zinc | | 87 | | 20 | ug/L | 6010B |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Strontium | | 100 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 10 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.29 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.033 | J | 1 0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.20 | J | 0 50 | mg/L | 9056A |
| Sulfate-Dissolved | | 12 | | 1 0 | mg/L | 9056A |

## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-12529-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL NC | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365 3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica Canton

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.



## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-12529-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Lavey, Tim | TL |
| SW846 6010B | Musselman, Natalie J | NJM |
| SW846 6020 | Counts, Karen | KC |
| SW846 6020 | Davies, Brian | BD |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 2320B | Colon, Olguita | OC |
| SM SM 4500 P E | Harshman, Tom | TH |
| SM18 SM4500 NH3 -F | Kuhle, Julie | JK |

## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-12529-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-12529-1 | MW-103(20120619) | Water | 06/19/2012 1740 | 06/21/2012 0900 |
| 240-12529-2 | TB(20120619) | Water | 06/19/2012 0000 | 06/21/2012 0900 |
| 240-12529-3 | ER(20120620) | Water | 06/20/2012 0830 | 06/21/2012 0900 |
| 240-12529-4 | MW-104(20120620) | Water | 06/20/2012 1110 | 06/21/2012 0900 |
| 240-12529-5 | MW-108D(20120620) | Water | 06/20/2012 1455 | 06/21/2012 0900 |
| 240-12529-6 | MW-108S(20120620) | Water | 06/20/2012 1635 | 06/21/2012 0900 |



# SAMPLE RESULTS

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-103(20120619)

Lab Sample ID: 240-12529-1

Client Matrix: Water

Date Sampled: 06/19/2012 1740

Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124707.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2212 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2212 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 10 | * | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.2 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 0.54 | J | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.2 | | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |





Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-103(20120619)

Lab Sample ID: 240-12529-1

Client Matrix: Water

Date Sampled: 06/19/2012 1740

Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124707.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2212 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2212 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 0.83 | J | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.69 | J | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 91 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 114 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 106 | | 74 - 115 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-103(20120619)

Lab Sample ID: 240-12529-1
Client Matrix: Water

Date Sampled: 06/19/2012 1740
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124700.D |
| Dilution: | 2.5 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1924 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1924 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 130 | | 1 1 | 5.0 |
| Trichlorofluoromethane | 130 | | 0.53 | 2.5 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 94 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 116 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 63 - 129 |
| Toluene-d8 (Surr) | 105 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** TB(20120619)

Lab Sample ID: 240-12529-2
Client Matrix: Water

Date Sampled: 06/19/2012 0000
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124701.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1948 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1948 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1 0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0 18 | 1.0 |
| Chloroethane | 1 0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1 0 |
| Chloromethane | 1.0 | U | 0.30 | 1 0 |
| 2-Chlorotoluene | 1.0 | U | 0 11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1 0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0 28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0 13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1 0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1 0 | U * | 0.31 | 1 0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1 0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0 42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0 17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0 30 | 1.0 |
| Isopropylbenzene | 1 0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.64 | J | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1 0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0 13 | 1.0 |
| Styrene | 1.0 | U | 0 11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1 0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1 0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** TB(20120619)

Lab Sample ID: 240-12529-2
Client Matrix: Water

Date Sampled: 06/19/2012 0000
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124701.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1948 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1948 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 94 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 121 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | 63 - 129 |
| Toluene-d8 (Surr) | 106 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** ER(20120620)

Lab Sample ID: 240-12529-3
Client Matrix: Water

Date Sampled: 06/20/2012 0830
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124702.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2013 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2013 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.30 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U * | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 0.47 | J | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** ER(20120620)

Lab Sample ID: 240-12529-3

Client Matrix: Water

Date Sampled: 06/20/2012 0830

Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124702.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2013 | | | Final Weight/Volume | 5 mL |
| Prep Date: | 06/27/2012 2013 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 92 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 119 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 105 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-104(20120620)

Lab Sample ID: 240-12529-4

Client Matrix: Water

Date Sampled: 06/20/2012 1110

Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124703.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2037 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2037 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.19 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 4.8 | * | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.78 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 71 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.42 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-104(20120620)

Lab Sample ID: 240-12529-4
Client Matrix: Water

Date Sampled: 06/20/2012 1110
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124703.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2037 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2037 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 3.1 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 39 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 94 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 113 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 63 - 129 |
| Toluene-d8 (Surr) | 108 | | 74 - 115 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108D(20120620)

Lab Sample ID: 240-12529-5
Client Matrix: Water

Date Sampled: 06/20/2012 1455
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124704.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2101 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2101 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 3.7 | * | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.1 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 58 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.63 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108D(20120620)

Lab Sample ID: 240-12529-5
Client Matrix: Water

Date Sampled: 06/20/2012 1455
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124704.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2101 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2101 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.5 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 32 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 95 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 115 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 63 - 129 |
| Toluene-d8 (Surr) | 107 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108S(20120620)

Lab Sample ID: 240-12529-6
Client Matrix: Water

Date Sampled: 06/20/2012 1635
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UX124705.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 2126 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 2126 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.45 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U * | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 2.6 | * | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.2 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 59 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.64 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108S(20120620)

Lab Sample ID: 240-12529-6
Client Matrix: Water

Date Sampled: 06/20/2012 1635
Date Received: 06/21/2012 0900

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 06/27/2012 2126
Prep Date: 06/27/2012 2126

Analysis Batch: 240-49143
Prep Batch: N/A

Instrument ID: A3UX12
Lab File ID: UX124705.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U * | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1 7 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 12 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0 12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0 096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0 22 | 1 0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1 0 |
| 1,2-Dibromoethane | 1.0 | U | 0 24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 95 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 112 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 63 - 129 |
| Toluene-d8 (Surr) | 106 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-103(20120619)

Lab Sample ID: 240-12529-1
Client Matrix: Water

Date Sampled: 06/19/2012 1740
Date Received: 06/21/2012 0900

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1 0
Analysis Date: 06/29/2012 1351
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49561
Prep Batch: 240-49010

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 77 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 46000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 880 | J | 72 | 5000 |
| Magnesium | 24000 | B | 34 | 5000 |
| Manganese | 0.85 | J B | 0.41 | 15 |
| Sodium | 5000 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 6.4 | J B | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 11000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/28/2012 1906
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49354
Prep Batch: 240-49010

Instrument ID: I8
Lab File ID: I8062812A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 41 | B | 0.33 | 10 |

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** ER(20120620)

Lab Sample ID: 240-12529-3
Client Matrix: Water

Date Sampled: 06/20/2012 0830
Date Received: 06/21/2012 0900

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1354
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49561
Prep Batch: 240-49010

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 3.0 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 1000 | J B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 65 | J B | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 5.2 | J B | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 2.0 | J | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/28/2012 1912
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49354
Prep Batch: 240-49010

Instrument ID: I8
Lab File ID: I8062812A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.33 | 10 |





Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-104(20120620)

Lab Sample ID: 240-12529-4
Client Matrix: Water

Date Sampled: 06/20/2012 1110
Date Received: 06/21/2012 0900

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1358
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49561
Prep Batch: 240-49010

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 92 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 80000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2100 | J | 72 | 5000 |
| Magnesium | 42000 | B | 34 | 5000 |
| Manganese | 1.1 | J B | 0.41 | 15 |
| Sodium | 8800 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 52 | B | 5.0 | 20 |
| Lead | 3.2 | | 1.9 | 3.0 |
| Lithium | 2.0 | J | 1.8 | 50 |
| SiO2, Silica | 13000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/28/2012 1918
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49354
Prep Batch: 240-49010

Instrument ID: I8
Lab File ID: I8062812A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 60 | B | 0.33 | 10 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108D(20120620)

Lab Sample ID: 240-12529-5
Client Matrix: Water

Date Sampled: 06/20/2012 1455
Date Received: 06/21/2012 0900

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1657
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49561
Prep Batch: 240-49161

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 180 | J | 0 67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 50000 | | 130 | 5000 |
| Chromium | 5 0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1300 | J | 72 | 5000 |
| Magnesium | 29000 | | 34 | 5000 |
| Manganese | 15 | U | 0 41 | 15 |
| Sodium | 4300 | J | 590 | 5000 |
| Nickel | 40 | U | 3 2 | 40 |
| Zinc | 16 | J | 5.0 | 20 |
| Lead | 3 0 | U | 1 9 | 3.0 |
| Lithium | 2 7 | J B | 1 8 | 50 |
| SiO2, Silica | 11000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1456
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49560
Prep Batch: 240-49161

Instrument ID: I8
Lab File ID: I8062912A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 51 | | 0 33 | 10 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12529-1

**Client Sample ID:** MW-108S(20120620)

Lab Sample ID: 240-12529-6
Client Matrix: Water

Date Sampled: 06/20/2012 1635
Date Received: 06/21/2012 0900

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1701
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49561
Prep Batch: 240-49161

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 190 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 73000 | | 130 | 5000 |
| Chromium | 5 0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2300 | J | 72 | 5000 |
| Magnesium | 37000 | | 34 | 5000 |
| Manganese | 76 | B | 0 41 | 15 |
| Sodium | 7200 | | 590 | 5000 |
| Nickel | 5 6 | J | 3.2 | 40 |
| Zinc | 87 | | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 13000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1 0
Analysis Date: 06/29/2012 1501
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49560
Prep Batch: 240-49161

Instrument ID: I8
Lab File ID: I8062912A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 100 | | 0 33 | 10 |

**General Chemistry**

**Client Sample ID:** **MW-103(20120619)**

Lab Sample ID: 240-12529-1 Date Sampled: 06/19/2012 1740
Client Matrix: Water Date Received: 06/21/2012 0900

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 13 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Fluoride-Dissolved | 0.078 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Nitrate as N-Dissolved | 1.8 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Bromide-Dissolved | 0.18 | J | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Orthophosphate-Dissolved | 0.20 | J ^ * | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Orthophosphate-Dissolved | 0.18 | J H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1222 | | | | | | |
| Sulfate-Dissolved | 0.82 | J | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1626 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 190 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 2114 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 2114 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0749 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 0912 | | | | | | |





**General Chemistry**

**Client Sample ID:** **ER(20120620)**

Lab Sample ID: 240-12529-3 Date Sampled: 06/20/2012 0830
Client Matrix: Water Date Received: 06/21/2012 0900

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 0.73 | J | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Nitrite as N-Dissolved | 0.022 | J | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Fluoride-Dissolved | 1.0 | U | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Nitrate as N-Dissolved | 0.10 | U | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Orthophosphate-Dissolved | 0.18 | J ^ * | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Orthophosphate-Dissolved | 0.16 | J H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Run Type: RA Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1239 | | | | | | |
| Sulfate-Dissolved | 1.0 | U | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1642 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 2.9 | J | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1537 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1537 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0750 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 0929 | | | | | | |

**General Chemistry**

**Client Sample ID:** **MW-104(20120620)**

Lab Sample ID: 240-12529-4
Client Matrix: Water

Date Sampled: 06/20/2012 1110
Date Received: 06/21/2012 0900

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 24 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Fluoride-Dissolved | 0.035 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Nitrate as N-Dissolved | 0.89 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Orthophosphate-Dissolved | 0.19 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1055 | | | | | | |
| Sulfate-Dissolved | 6.2 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1659 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 350 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1550 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1550 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0750 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 0929 | | | | | | |





**General Chemistry**

**Client Sample ID:** **MW-108D(20120620)**

Lab Sample ID: 240-12529-5
Client Matrix: Water

Date Sampled: 06/20/2012 1455
Date Received: 06/21/2012 0900

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 5.3 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Fluoride-Dissolved | 0.053 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Nitrate as N-Dissolved | 0.37 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Orthophosphate-Dissolved | 0.11 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1112 | | | | | | |
| Sulfate-Dissolved | 13 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1821 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 220 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1600 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1600 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0751 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 0929 | | | | | | |

General Chemistry

**Client Sample ID:** MW-108S(20120620)

Lab Sample ID: 240-12529-6 Date Sampled: 06/20/2012 1635
Client Matrix: Water Date Received: 06/21/2012 0900

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 10 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Fluoride-Dissolved | 0.033 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Nitrate as N-Dissolved | 0.29 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48326 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Orthophosphate-Dissolved | 0.20 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48454 | Analysis Date: 06/22/2012 1204 | | | | | | |
| Sulfate-Dissolved | 12 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48325 | Analysis Date: 06/21/2012 1910 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 340 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1612 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48854 | Analysis Date: 06/25/2012 1612 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1427 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0751 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49449 | Analysis Date: 06/29/2012 0930 | | | | | | |



## DATA REPORTING QUALIFIERS

Client: TRW Automotive Job Number: 240-12529-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | U | Indicates the analyte was analyzed for but not detected. |
| | * | LCS or LCSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value |
| General Chemistry | | |
| | ^ | ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | * | LCS or LCSD exceeds the control limits |
| | F | MS or MSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| | H | Sample was prepped or analyzed beyond the specified holding time |

# QUALITY CONTROL RESULTS





Client: TRW Automotive

Job Number: 240-12529-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-49143** | | | | | |
| LCS 240-49143/5 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49143/4 | Method Blank | T | Water | 8260B | |
| 240-12529-1 | MW-103(20120619) | T | Water | 8260B | |
| 240-12529-2 | TB(20120619) | T | Water | 8260B | |
| 240-12529-3 | ER(20120620) | T | Water | 8260B | |
| 240-12529-4 | MW-104(20120620) | T | Water | 8260B | |
| 240-12529-5 | MW-108D(20120620) | T | Water | 8260B | |
| 240-12529-6 | MW-108S(20120620) | T | Water | 8260B | |

**Report Basis**
T = Total

Client: TRW Automotive

Job Number: 240-12529-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 240-49010** | | | | | |
| LCS 240-49010/2-A | Lab Control Sample | R | Water | 3005A | |
| LCS 240-49010/3-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49010/1-A | Method Blank | R | Water | 3005A | |
| 240-12529-1 | MW-103(20120619) | D | Water | 3005A | |
| 240-12529-3 | ER(20120620) | D | Water | 3005A | |
| 240-12529-4 | MW-104(20120620) | D | Water | 3005A | |
| **Prep Batch: 240-49161** | | | | | |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 3005A | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49161/1-A | Method Blank | R | Water | 3005A | |
| 240-12529-5 | MW-108D(20120620) | D | Water | 3005A | |
| 240-12529-6 | MW-108S(20120620) | D | Water | 3005A | |
| **Analysis Batch:240-49354** | | | | | |
| LCS 240-49010/3-A | Lab Control Sample | R | Water | 6020 | 240-49010 |
| MB 240-49010/1-A | Method Blank | R | Water | 6020 | 240-49010 |
| 240-12529-1 | MW-103(20120619) | D | Water | 6020 | 240-49010 |
| 240-12529-3 | ER(20120620) | D | Water | 6020 | 240-49010 |
| 240-12529-4 | MW-104(20120620) | D | Water | 6020 | 240-49010 |
| **Analysis Batch:240-49660** | | | | | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 6020 | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6020 | 240-49161 |
| 240-12529-5 | MW-108D(20120620) | D | Water | 6020 | 240-49161 |
| 240-12529-6 | MW-108S(20120620) | D | Water | 6020 | 240-49161 |
| **Analysis Batch:240-49661** | | | | | |
| LCS 240-49010/2-A | Lab Control Sample | R | Water | 6010B | 240-49010 |
| MB 240-49010/1-A | Method Blank | R | Water | 6010B | 240-49010 |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 6010B | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6010B | 240-49161 |
| 240-12529-1 | MW-103(20120619) | D | Water | 6010B | 240-49010 |
| 240-12529-3 | ER(20120620) | D | Water | 6010B | 240-49010 |
| 240-12529-4 | MW-104(20120620) | D | Water | 6010B | 240-49010 |
| 240-12529-5 | MW-108D(20120620) | D | Water | 6010B | 240-49161 |
| 240-12529-6 | MW-108S(20120620) | D | Water | 6010B | 240-49161 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-12529-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-48325** | | | | | |
| LCS 240-48325/29 | Lab Control Sample | T | Water | 9056A | |
| LCS 240-48325/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48325/28 | Method Blank | T | Water | 9056A | |
| MB 240-48325/5 | Method Blank | T | Water | 9056A | |
| 240-12529-1 | MW-103(20120619) | D | Water | 9056A | |
| 240-12529-3 | ER(20120620) | D | Water | 9056A | |
| 240-12529-4 | MW-104(20120620) | D | Water | 9056A | |
| 240-12529-5 | MW-108D(20120620) | D | Water | 9056A | |
| 240-12529-5MS | Matrix Spike | D | Water | 9056A | |
| 240-12529-6 | MW-108S(20120620) | D | Water | 9056A | |
| **Analysis Batch:240-48326** | | | | | |
| LCS 240-48326/29 | Lab Control Sample | T | Water | 9056A | |
| LCS 240-48326/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48326/28 | Method Blank | T | Water | 9056A | |
| MB 240-48326/5 | Method Blank | T | Water | 9056A | |
| 240-12529-1 | MW-103(20120619) | D | Water | 9056A | |
| 240-12529-3 | ER(20120620) | D | Water | 9056A | |
| 240-12529-4 | MW-104(20120620) | D | Water | 9056A | |
| 240-12529-5 | MW-108D(20120620) | D | Water | 9056A | |
| 240-12529-5MS | Matrix Spike | D | Water | 9056A | |
| 240-12529-6 | MW-108S(20120620) | D | Water | 9056A | |
| **Analysis Batch:240-48454** | | | | | |
| LCS 240-48454/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48454/5 | Method Blank | T | Water | 9056A | |
| 240-12529-1RA | MW-103(20120619) | D | Water | 9056A | |
| 240-12529-3RA | ER(20120620) | D | Water | 9056A | |
| 240-12529-4 | MW-104(20120620) | D | Water | 9056A | |
| 240-12529-5 | MW-108D(20120620) | D | Water | 9056A | |
| 240-12529-5MS | Matrix Spike | D | Water | 9056A | |
| 240-12529-6 | MW-108S(20120620) | D | Water | 9056A | |
| **Analysis Batch:240-48661** | | | | | |
| LCS 240-48661/47 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-48661/48 | Method Blank | T | Water | SM 2320B | |
| 240-12529-1 | MW-103(20120619) | T | Water | SM 2320B | |
| 240-12529-1DU | Duplicate | T | Water | SM 2320B | |

Client: TRW Automotive

Job Number: 240-12529-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-48854** | | | | | |
| LCS 240-48854/4 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-48854/5 | Method Blank | T | Water | SM 2320B | |
| 240-12529-3 | ER(20120620) | T | Water | SM 2320B | |
| 240-12529-4 | MW-104(20120620) | T | Water | SM 2320B | |
| 240-12529-5 | MW-108D(20120620) | T | Water | SM 2320B | |
| 240-12529-6 | MW-108S(20120620) | T | Water | SM 2320B | |
| **Prep Batch: 240-49375** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-49375/10-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-12529-1 | MW-103(20120619) | D | Water | 365.2/365.3/365 | |
| 240-12529-3 | ER(20120620) | D | Water | 365.2/365.3/365 | |
| 240-12529-4 | MW-104(20120620) | D | Water | 365.2/365.3/365 | |
| 240-12529-5 | MW-108D(20120620) | D | Water | 365.2/365.3/365 | |
| 240-12529-6 | MW-108S(20120620) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-49449** | | | | | |
| LCS 240-49449/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-49449/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-12529-1 | MW-103(20120619) | D | Water | SM4500 NH3 -F | |
| 240-12529-3 | ER(20120620) | D | Water | SM4500 NH3 -F | |
| 240-12529-4 | MW-104(20120620) | D | Water | SM4500 NH3 -F | |
| 240-12529-5 | MW-108D(20120620) | D | Water | SM4500 NH3 -F | |
| 240-12529-6 | MW-108S(20120620) | D | Water | SM4500 NH3 -F | |
| **Analysis Batch:240-49474** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | SM 4500 P E | 240-49375 |
| MB 240-49375/10-A | Method Blank | T | Water | SM 4500 P E | 240-49375 |
| 240-12529-1 | MW-103(20120619) | D | Water | SM 4500 P E | 240-49375 |
| 240-12529-3 | ER(20120620) | D | Water | SM 4500 P E | 240-49375 |
| 240-12529-4 | MW-104(20120620) | D | Water | SM 4500 P E | 240-49375 |
| 240-12529-5 | MW-108D(20120620) | D | Water | SM 4500 P E | 240-49375 |
| 240-12529-6 | MW-108S(20120620) | D | Water | SM 4500 P E | 240-49375 |

**Report Basis**
D = Dissolved
T = Total





Client: TRW Automotive

Job Number: 240-12529-1

## Surrogate Recovery Report

**8260B_Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-12529-1 | MW-103(20120619) | 94 | 116 | 106 | 105 |
| 240-12529-1 | MW-103(20120619) | 91 | 114 | 105 | 106 |
| 240-12529-2 | TB(20120619) | 94 | 121 | 108 | 106 |
| 240-12529-3 | ER(20120620) | 92 | 119 | 105 | 105 |
| 240-12529-4 | MW-104(20120620) | 94 | 113 | 104 | 108 |
| 240-12529-5 | MW-108D(20120620) | 95 | 115 | 105 | 107 |
| 240-12529-6 | MW-108S(20120620) | 95 | 112 | 104 | 106 |
| MB 240-49143/4 | | 92 | 117 | 104 | 107 |
| LCS 240-49143/5 | | 94 | 118 | 111 | 109 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49143**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49143/4 | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UX124699.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1902 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1902 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.990 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |





Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49143**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49143/4 | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UX124699.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1902 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1902 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 92 | 66 - 117 |
| Dibromofluoromethane (Surr) | 117 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | 63 - 129 |
| Toluene-d8 (Surr) | 107 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12529-1

**Lab Control Sample - Batch: 240-49143**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49143/5 | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UX124697.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1813 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1813 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 20.0 | 18.7 | 94 | 83 - 112 | |
| Bromobenzene | 20.0 | 17.9 | 90 | 76 - 115 | |
| Bromoform | 20.0 | 18.3 | 92 | 40 - 131 | |
| Bromomethane | 20.0 | 20.7 | 104 | 11 - 185 | |
| Carbon tetrachloride | 20.0 | 23.9 | 120 | 66 - 128 | |
| Chlorobenzene | 20.0 | 19.9 | 100 | 85 - 110 | |
| Chloroethane | 20.0 | 18.3 | 92 | 25 - 153 | |
| Chloroform | 20.0 | 19.1 | 96 | 79 - 117 | |
| Chloromethane | 20.0 | 21.5 | 108 | 44 - 126 | |
| 2-Chlorotoluene | 20.0 | 16.9 | 85 | 76 - 116 | |
| 4-Chlorotoluene | 20.0 | 16.9 | 85 | 77 - 115 | |
| cis-1,2-Dichloroethene | 20.0 | 18.0 | 90 | 80 - 113 | |
| cis-1,3-Dichloropropene | 20.0 | 16.2 | 81 | 61 - 115 | |
| Dibromomethane | 20.0 | 25.8 | 129 | 81 - 120 | * |
| 1,2-Dichlorobenzene | 20.0 | 19.4 | 97 | 81 - 110 | |
| 1,3-Dichlorobenzene | 20.0 | 18.3 | 92 | 80 - 110 | |
| 1,4-Dichlorobenzene | 20.0 | 17.9 | 90 | 82 - 110 | |
| Bromodichloromethane | 20.0 | 19.6 | 98 | 72 - 121 | |
| Dichlorodifluoromethane | 20.0 | 31.7 | 159 | 19 - 129 | * |
| 1,1-Dichloroethane | 20.0 | 18.8 | 94 | 82 - 115 | |
| 1,2-Dichloroethane | 20.0 | 19.6 | 98 | 71 - 127 | |
| 1,1-Dichloroethene | 20.0 | 20.4 | 102 | 78 - 131 | |
| 1,2-Dichloropropane | 20.0 | 18.3 | 92 | 81 - 115 | |
| 1,3-Dichloropropane | 20.0 | 19.9 | 100 | 79 - 116 | |
| 2,2-Dichloropropane | 20.0 | 17.6 | 88 | 50 - 129 | |
| 1,1-Dichloropropene | 20.0 | 19.2 | 96 | 83 - 114 | |
| Ethylbenzene | 20.0 | 20.3 | 102 | 83 - 112 | |
| Hexachlorobutadiene | 20.0 | 21.3 | 107 | 36 - 134 | |
| Isopropylbenzene | 20.0 | 18.8 | 94 | 75 - 114 | |
| p-Isopropyltoluene | 20.0 | 17.7 | 89 | 74 - 120 | |
| Methylene Chloride | 20.0 | 19.4 | 97 | 68 - 131 | |
| m-Xylene & p-Xylene | 40.0 | 38.2 | 96 | 83 - 113 | |
| Naphthalene | 20.0 | 21.8 | 109 | 32 - 141 | |
| n-Butylbenzene | 20.0 | 16.1 | 81 | 66 - 125 | |
| N-Propylbenzene | 20.0 | 16.7 | 84 | 74 - 121 | |
| o-Xylene | 20.0 | 19.2 | 96 | 83 - 113 | |
| sec-Butylbenzene | 20.0 | 16.4 | 82 | 70 - 117 | |
| Styrene | 20.0 | 18.6 | 93 | 79 - 114 | |
| tert-Butylbenzene | 20.0 | 16.7 | 84 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 20.0 | 19.0 | 95 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 20.0 | 15.8 | 79 | 68 - 118 | |





Client: TRW Automotive

Job Number: 240-12529-1

**Lab Control Sample - Batch: 240-49143**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49143/5 | Analysis Batch: | 240-49143 | Instrument ID: | A3UX12 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UX124697.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/27/2012 1813 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/27/2012 1813 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 20.0 | 22.0 | 110 | 79 - 114 | |
| Toluene | 20.0 | 19.5 | 98 | 84 - 111 | |
| trans-1,2-Dichloroethene | 20.0 | 17.7 | 89 | 83 - 117 | |
| trans-1,3-Dichloropropene | 20.0 | 15.4 | 77 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 20.0 | 27.3 | 137 | 54 - 126 | * |
| 1,2,4-Trichlorobenzene | 20.0 | 21.6 | 108 | 48 - 135 | |
| 1,1,1-Trichloroethane | 20.0 | 21.0 | 105 | 74 - 118 | |
| 1,1,2-Trichloroethane | 20.0 | 20.4 | 102 | 80 - 112 | |
| Trichloroethene | 20.0 | 21.2 | 106 | 76 - 117 | |
| Trichlorofluoromethane | 20.0 | 24.8 | 124 | 49 - 157 | |
| 1,2,3-Trichloropropane | 20.0 | 19.1 | 96 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 20.0 | 15.9 | 80 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 20.0 | 15.4 | 77 | 72 - 118 | |
| Vinyl chloride | 20.0 | 19.1 | 96 | 53 - 127 | |
| Bromochloromethane | 20.0 | 16.3 | 82 | 77 - 120 | |
| 1,2-Dibromoethane | 20.0 | 19.8 | 99 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 94 | 66 - 117 |
| Dibromofluoromethane (Surr) | 118 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | 63 - 129 |
| Toluene-d8 (Surr) | 109 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49010**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49010/1-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1230 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 0.982 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 242 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 57.3 | J | 34 | 5000 |
| Manganese | 0.609 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 18.3 | J | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**Lab Control Sample - Batch: 240-49010**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49010/2-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1241 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2090 | 104 | 80 - 120 | |
| Boron | 1000 | 1050 | 105 | 80 - 120 | |
| Calcium | 50000 | 51400 | 103 | 80 - 120 | |
| Chromium | 200 | 199 | 99 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 51200 | 102 | 80 - 120 | |
| Magnesium | 50000 | 50000 | 100 | 80 - 120 | |
| Manganese | 500 | 498 | 100 | 80 - 120 | |
| Sodium | 50000 | 50900 | 102 | 80 - 120 | |
| Nickel | 500 | 484 | 97 | 80 - 120 | |
| Zinc | 500 | 495 | 99 | 80 - 120 | |
| Lead | 500 | 488 | 97 | 80 - 120 | |
| Lithium | 1000 | 972 | 97 | 80 - 120 | |
| SiO2, Silica | 2140 | 2260 | 106 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1634 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 200 | U | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 5000 | U | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 5000 | U | 34 | 5000 |
| Manganese | 0.515 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 4.53 | J | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/2-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1638 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2260 | 113 | 80 - 120 | |
| Boron | 1000 | 1130 | 113 | 80 - 120 | |
| Calcium | 50000 | 52100 | 104 | 80 - 120 | |
| Chromium | 200 | 207 | 104 | 80 - 120 | |
| Iron | 1000 | 1070 | 107 | 80 - 120 | |
| Potassium | 50000 | 52700 | 105 | 80 - 120 | |
| Magnesium | 50000 | 50000 | 100 | 80 - 120 | |
| Manganese | 500 | 529 | 106 | 80 - 120 | |
| Sodium | 50000 | 53700 | 107 | 80 - 120 | |
| Nickel | 500 | 512 | 102 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lead | 500 | 512 | 102 | 80 - 120 | |
| Lithium | 1000 | 1050 | 105 | 80 - 120 | |
| SiO2, Silica | 2140 | 2430 | 114 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49010**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49010/1-A | Analysis Batch | 240-49354 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1712 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 0.431 | J | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49010**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49010/3-A | Analysis Batch: | 240-49354 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1718 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 858 | 86 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1404 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/3-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8062912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1422 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 925 | 92 | 80 - 120 | |

**Method Blank - Batch: 240-48325** **Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48325/5 | Analysis Batch: | 240-48325 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010952-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1100 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Method Blank - Batch: 240-48325** **Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48325/28 | Analysis Batch: | 240-48325 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 28240-0010952-028.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1748 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |





**Lab Control Sample - Batch: 240-48325** **Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48325/6 | Analysis Batch: | 240-48325 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010952-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1117 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 52.9 | 106 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.51 | 100 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.77 | 98 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.3 | 99 | 90 - 110 | |

**Lab Control Sample - Batch: 240-48325** **Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48325/29 | Analysis Batch: | 240-48325 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 29240-0010952-029.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1804 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 53.2 | 106 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.51 | 100 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.75 | 98 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.3 | 99 | 90 - 110 | |

**Matrix Spike - Batch: 240-48325** **Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12529-5 | Analysis Batch: | 240-48325 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 31240-0010952-031.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1837 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 5.3 | | 50.0 | 61.6 | 113 | 80 - 120 | |
| Fluoride-Dissolved | 0.053 | J | 2.50 | 3.19 | 125 | 80 - 120 | F |
| Bromide-Dissolved | 0.50 | U | 10.0 | 10.4 | 104 | 80 - 120 | |
| Sulfate-Dissolved | 13 | | 50.0 | 67.4 | 108 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-48326**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48326/5 | Analysis Batch: | 240-48326 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010952-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1100 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U ^ | 0.044 | 0.50 |

**Method Blank - Batch: 240-48326**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48326/28 | Analysis Batch: | 240-48326 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 28240-0010952-028.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1748 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.0689 | J ^ | 0.044 | 0.50 |





Client: TRW Automotive

Job Number: 240-12529-1

**Lab Control Sample - Batch: 240-48326**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48326/6 | Analysis Batch: | 240-48326 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010952-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1117 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.48 | 99 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.37 | 95 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.22 | 89 | 90 - 110 | ^ * |

**Lab Control Sample - Batch: 240-48326**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48326/29 | Analysis Batch: | 240-48326 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 29240-0010952-029.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1804 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.53 | 101 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.39 | 96 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.27 | 91 | 90 - 110 | ^ |

**Matrix Spike - Batch: 240-48326**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12529-5 | Analysis Batch: | 240-48326 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 31240-0010952-031.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/21/2012 1837 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 2.50 | 2.76 | 110 | 80 - 120 | |
| Nitrate as N-Dissolved | 0.37 | | 2.50 | 2.96 | 103 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-48454**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48454/5 | Analysis Batch: | 240-48454 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010982-005 d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1020 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-48454**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48454/6 | Analysis Batch: | 240-48454 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010982-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1037 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Orthophosphate-Dissolved | 2.50 | 2.53 | 101 | 90 - 110 | |

**Matrix Spike - Batch: 240-48454**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12529-5 | Analysis Batch: | 240-48454 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 9240-0010982-009.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/22/2012 1129 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Orthophosphate-Dissolved | 0.11 | J | 2.50 | 4.74 | 185 | 80 - 120 | F |





Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-48661**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48661/48 | Analysis Batch: | 240-48661 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | alk062212.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/22/2012 1837 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-48661**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48661/47 | Analysis Batch: | 240-48661 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | alk062212.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/22/2012 1831 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 80.9 | 102 | 90 - 127 | |

**Duplicate - Batch: 240-48661**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12529-1 | Analysis Batch: | 240-48661 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | alk062212.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/22/2012 2124 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Result | RPD | Limit | Qual |
|---|---|---|---|---|---|---|
| Bicarbonate Alkalinity as CaCO3 | 190 | | 186 | 0.2 | 20 | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 5.0 | NC | 20 | U |

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-48854**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48854/5 | Analysis Batch: | 240-48854 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062512alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/25/2012 1310 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-48854**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48854/4 | Analysis Batch: | 240-48854 | Instrument ID | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID. | 062512alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/25/2012 1304 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 83.2 | 105 | 90 - 127 | |





Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49375/10-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0745 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49375/11-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0746 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 5.50 | 5.83 | 106 | 53 - 134 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12529-1

**Method Blank - Batch: 240-49449**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49449/7 | Analysis Batch: | 240-49449 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912 txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 0652 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0 20 | U | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-49449**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49449/8 | Analysis Batch: | 240-49449 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912 txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 0653 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 13.9 | 13.8 | 99 | 85 - 114 | |



TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# Chain of Custody Record

TestAmerica Laboratories, Inc.

COC No: 042441
1 of 1 COCs

Client Contact: Denise Fox

Site Contact: Larry Benoikin

Lab Contact:

Client Project Manager: John Shoch

Analysis Turnaround Time: TAT - If different from below: 1 week, 2 weeks, 1 week, 2 days, 1 day

Sample Specific Notes / Special Instructions:

| Sample Identification | Sample Date | Sample Time | Matrix | Containers & Preservatives | Analyses | |
|---|---|---|---|---|---|---|
| MW-103 (2012.0619) | 6-19-12 | 1740 | W | 1 2 3 | 2 | |
| TB (2012.0619) | 6-19-12 | — | W | 2 | | Trip Blank |
| EB (2012.0620) | 6-20-12 | 0830 | W | 1 2 3 | 2 | |
| MW-104 (2012.0620) | 6-20-12 | 1110 | W | 1 2 3 | 2 | |
| MW-108D (2012.0620) | 6-20-12 | 1455 | W | 1 2 3 | 2 | |
| MW-108S (2012.0620) | 6-20-12 | 1635 | W | 1 2 3 | 2 | |

Possible Hazard Identification: Non-Hazard, Flammable, Skin Irritant, Poison B, Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return to Client, Disposal By Lab, Archive For ___ Months

Special Instructions/QC Requirements & Comments:

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| [signature] | TA | 6-20-12 / 1645 | [signature] | TA | 6/21/12 1645 |
| [signature] | TA | 6/21/12 / 1745 | [signature] | TAL | 6/21/12 9:00 |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: | Date/Time: |

TAL 0018-1 (04/10)

TestAmerica North Canton Sample Receipt Form/Narrative Login # : 12529

Client: Arcadis Site Name _____ By: [signature] (Signature)

Cooler Received on 6/21/12 Opened on 6/21/12

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other Mult.

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF 0°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 4G (CF –1°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 5G (CF –1°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 8 (CF 0°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C

   ☒ Multiple on Back

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity_____ Yes No
   - Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

## 14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

## 15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

SOP: NC-SC-0005 Sample Receiving
C:\Users\lvengoode\AppData\Local\Microsoft\Windows\Temporary Internet Files\OLKD16\COOLER_TestAmerica_Rev85_061912.jcs.doc
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## 16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809-NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| 103 | <2 <2 <2 | 6/21/12 | [initials] |
| ER | <2 <2 <2 | | |
| 104 | <2 <2 <2 | | |
| 108D | <2 <2 <2 | | |
| 108S | <2 <2 <2 | | |

| Cooler # | Observed Sample Temp. °C | Corrected Sample Temp. °C | IR # | Coolant |
|---|---|---|---|---|
| A543 | 1.2 | 0.2 | 4G | ice |
| A961 | 2.4 | 1.4 | | |

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

Job Number: 240-12473-1

Job Description: Oak Grove Village

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
7/6/2012 12:58 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
07/06/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: Oak Grove Village**

**Report Number: 240-12473-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed In addition all laboratory quality control samples were within established control limits, with any exceptions noted below Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 06/20/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.6 and 0.8 C.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3), DUP-1 (20120619) (240-12473-4) and TRIP BLANK (240-12473-5) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/28/2012 and 06/29/2012.

Hexachlorobutadiene and Methylene Chloride were detected in method blank MB 240-49242/5 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Hexachlorobutadiene was detected in method blank MB 240-49395/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

1,1,1,2-Tetrachloroethane and 1,1-Dichloroethane failed the recovery criteria high for the MSD of sample 240-12482-15 in batch 240-49395.

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Method(s) 8260B: No MS/MSD in batch 49242 due to incorrect sample dilution.

Refer to the QC report for details

Sample MW-107S (20120619) (240-12473-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/27/2012 and analyzed on 06/29/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

Several analytes were detected in method blank MB 240-49010/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

**DISSOLVED METALS (ICPMS)**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020 The samples were prepared on 06/27/2012 and analyzed on 06/28/2012.

No difficulties were encountered during the metals analyses.

All quality control parameters were within the acceptance limits.

Strontium was detected in method blank MB 240-49010/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged.

Refer to the QC report for details.

**ALKALINITY**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for alkalinity in accordance with SM 2320B. The samples were analyzed on 06/22/2012.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED AMMONIA**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved ammonia in accordance with SM 4500 NH3 F. The samples were analyzed on 06/28/2012.

No difficulties were encountered during the ammonia analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED PHOSPHORUS**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved phosphorus in accordance with SM 4500 P E. The samples were prepared and analyzed on 06/26/2012.

No difficulties were encountered during the phosphorus analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were



analyzed on 06/20/2012.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-107S (20120619) (240-12473-1), MW-107D (20120618) (240-12473-2), MW-105 (20120619) (240-12473-3) and DUP-1 (20120619) (240-12473-4) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 07/03/2012.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12473-1** | **MW-107S (20120619)** | | | | | |
| Chloroform | | 0.18 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 2.1 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.53 | J | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 54 | | 4.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.41 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 2.7 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 46 | | 2.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 230 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 54 | J B | 200 | ug/L | 6010B |
| Calcium | | 55000 | B | 5000 | ug/L | 6010B |
| Potassium | | 1200 | J | 5000 | ug/L | 6010B |
| Magnesium | | 30000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.2 | J B | 15 | ug/L | 6010B |
| Sodium | | 3100 | J | 5000 | ug/L | 6010B |
| Zinc | | 410 | B | 20 | ug/L | 6010B |
| Lead | | 3.2 | | 3.0 | ug/L | 6010B |
| SiO2, Silica | | 9800 | | 1100 | ug/L | 6010B |
| Strontium | | 44 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 3.1 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.67 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.064 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 18 | | 1.0 | mg/L | 9056A |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12473-2** | **MW-107D (20120618)** | | | | | |
| Dichlorofluoromethane | | 2.7 | | 2.0 | ug/L | 8260B |
| Trichloroethene | | 0.23 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 3.0 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 180 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 160 | J B | 200 | ug/L | 6010B |
| Calcium | | 40000 | B | 5000 | ug/L | 6010B |
| Potassium | | 1200 | J | 5000 | ug/L | 6010B |
| Magnesium | | 24000 | B | 5000 | ug/L | 6010B |
| Manganese | | 1.5 | J B | 15 | ug/L | 6010B |
| Sodium | | 3300 | J | 5000 | ug/L | 6010B |
| Zinc | | 250 | B | 20 | ug/L | 6010B |
| Lead | | 2.5 | J | 3.0 | ug/L | 6010B |
| Lithium | | 1.9 | J | 50 | ug/L | 6010B |
| SiO2, Silica | | 9400 | | 1100 | ug/L | 6010B |
| Strontium | | 42 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 1.3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 0.081 | J | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.051 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 14 | | 1.0 | mg/L | 9056A |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12473-3** | **MW-105 (20120619)** | | | | | |
| Chloroform | | 0 26 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 1.4 | | 1 0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 2.8 | | 1 0 | ug/L | 8260B |
| Dichlorofluoromethane | | 40 | | 2.0 | ug/L | 8260B |
| Tetrachloroethene | | 0.37 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 1.0 | | 1 0 | ug/L | 8260B |
| Trichlorofluoromethane | | 7.6 | | 1 0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 330 | | 5 0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 120 | J B | 200 | ug/L | 6010B |
| Boron | | 40 | J | 200 | ug/L | 6010B |
| Calcium | | 72000 | B | 5000 | ug/L | 6010B |
| Potassium | | 3300 | J | 5000 | ug/L | 6010B |
| Magnesium | | 39000 | B | 5000 | ug/L | 6010B |
| Manganese | | 0 41 | J B | 15 | ug/L | 6010B |
| Sodium | | 7600 | | 5000 | ug/L | 6010B |
| Zinc | | 7 8 | J B | 20 | ug/L | 6010B |
| Lead | | 2.2 | J | 3.0 | ug/L | 6010B |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Strontium | | 89 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 8 3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1.8 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.015 | J | 1 0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.14 | J | 0 50 | mg/L | 9056A |
| Sulfate-Dissolved | | 8.2 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.043 | J | 0.20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12473-4FD** | **DUP-1 (20120619)** | | | | | |
| Chloroform | | 0 25 | J | 1 0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 1.2 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 2 8 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 35 | | 2.0 | ug/L | 8260B |
| Tetrachloroethene | | 0 29 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 1.1 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 6 9 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 310 | | 5.0 | mg/L | SM 2320B |
| *Dissolved* | | | | | | |
| Barium | | 120 | J B | 200 | ug/L | 6010B |
| Boron | | 39 | J | 200 | ug/L | 6010B |
| Calcium | | 71000 | B | 5000 | ug/L | 6010B |
| Potassium | | 3200 | J | 5000 | ug/L | 6010B |
| Magnesium | | 38000 | B | 5000 | ug/L | 6010B |
| Sodium | | 7400 | | 5000 | ug/L | 6010B |
| Zinc | | 9.5 | J B | 20 | ug/L | 6010B |
| SiO2, Silica | | 13000 | | 1100 | ug/L | 6010B |
| Strontium | | 91 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 8.2 | | 1 0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1.7 | | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.020 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 8.2 | | 1 0 | mg/L | 9056A |

## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-12473-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL NC | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365.3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |

**Lab References:**

TAL NC = TestAmerica Canton

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates



## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-12473-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Evans, Laura | LE |
| SW846 6010B | Musselman, Natalie J | NJM |
| SW846 6020 | Counts, Karen | KC |
| SW846 9056A | Burns, Jill | JB |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 4500 P E | Harshman, Tom | TH |
| SM18 SM4500 NH3 -F | Grossman, Lucas | LG |

## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-12473-1 | MW-107S (20120619) | Water | 06/19/2012 1140 | 06/20/2012 0910 |
| 240-12473-2 | MW-107D (20120618) | Water | 06/18/2012 1755 | 06/20/2012 0910 |
| 240-12473-3 | MW-105 (20120619) | Water | 06/19/2012 1505 | 06/20/2012 0910 |
| 240-12473-4FD | DUP-1 (20120619) | Water | 06/19/2012 0000 | 06/20/2012 0910 |
| 240-12473-5TB | TRIP BLANK | Water | 06/19/2012 0000 | 06/20/2012 0910 |



# SAMPLE RESULTS

## Analytical Data

Client TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107S (20120619)

Lab Sample ID: 240-12473-1
Client Matrix: Water

Date Sampled: 06/19/2012 1140
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4785.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1544 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1544 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.18 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 2.1 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.53 | J | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.41 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107S (20120619)

Lab Sample ID: 240-12473-1
Client Matrix: Water

Date Sampled: 06/19/2012 1140
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4785 D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1544 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1544 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 2.7 | | 0.17 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 85 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107S (20120619)

Lab Sample ID: 240-12473-1
Client Matrix: Water

Date Sampled: 06/19/2012 1140
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49395 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4811.D |
| Dilution: | 2.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1452 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 1452 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Dichlorofluoromethane | 54 | | 0.84 | 4.0 |
| Trichlorofluoromethane | 46 | | 0.42 | 2.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 92 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 110 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 113 | | 63 - 129 |
| Toluene-d8 (Surr) | 101 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107D (20120618)

Lab Sample ID: 240-12473-2
Client Matrix: Water

Date Sampled: 06/18/2012 1755
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4786.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1606 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1606 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.7 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107D (20120618)

Lab Sample ID: 240-12473-2
Client Matrix: Water

Date Sampled: 06/18/2012 1755
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4786.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1606 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1606 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.23 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 3.0 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 85 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | | 63 - 129 |
| Toluene-d8 (Surr) | 98 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-105 (20120619)

Lab Sample ID: 240-12473-3
Client Matrix: Water

Date Sampled: 06/19/2012 1505
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4787.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1628 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1628 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.26 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.4 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 2.8 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 40 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.37 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-105 (20120619)

Lab Sample ID: 240-12473-3

Client Matrix: Water

Date Sampled: 06/19/2012 1505

Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4787.D |
| Dilution: | 1 0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1628 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1628 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1 0 | U | 0.17 | 1 0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0 15 | 1 0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1 0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | | 0.17 | 1 0 |
| Trichlorofluoromethane | 7.6 | | 0.21 | 1 0 |
| 1,2,3-Trichloropropane | 1 0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1 0 | U | 0 12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0 29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0 24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 91 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 111 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 63 - 129 |
| Toluene-d8 (Surr) | 100 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** DUP-1 (20120619)

Lab Sample ID: 240-12473-4FD

Client Matrix: Water

Date Sampled: 06/19/2012 0000

Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4788.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1651 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1 0 |
| Bromoform | 1.0 | U | 0.64 | 1 0 |
| Bromomethane | 1 0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1 0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1 0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 0.25 | J | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1 0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1 0 | U | 0.14 | 1.0 |
| Dibromomethane | 1 0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1 0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1 0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.2 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 2.8 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1 0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1 0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 35 | | 0 42 | 2.0 |
| 1,2-Dichloropropane | 1 0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1 0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1 0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1 0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0 30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1 0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1 0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1 0 |
| Tetrachloroethene | 0 29 | J | 0.29 | 1 0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** DUP-1 (20120619)

Lab Sample ID: 240-12473-4FD

Client Matrix: Water

Date Sampled: 06/19/2012 0000

Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4788.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1651 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1651 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.1 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 6.9 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.098 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 91 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 63 - 129 |
| Toluene-d8 (Surr) | 101 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12473-5TB

Client Matrix: Water

Date Sampled: 06/19/2012 0000

Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4789.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1714 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1714 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12473-5TB
Client Matrix: Water

Date Sampled: 06/19/2012 0000
Date Received: 06/20/2012 0910

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4789.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1714 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1714 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 89 | | 86 - 117 |
| Dibromofluoromethane (Surr) | 105 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 63 - 129 |
| Toluene-d8 (Surr) | 97 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107S (20120619)

Lab Sample ID: 240-12473-1
Client Matrix: Water

Date Sampled: 06/19/2012 1140
Date Received: 06/20/2012 0910

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1301 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 54 | J B | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 55000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1200 | J | 72 | 5000 |
| Magnesium | 30000 | B | 34 | 5000 |
| Manganese | 1.2 | J B | 0.41 | 15 |
| Sodium | 3100 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 410 | B | 5.0 | 20 |
| Lead | 3.2 | | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 9800 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-49354 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1751 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 44 | B | 0.33 | 10 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-107D (20120618)

Lab Sample ID: 240-12473-2
Client Matrix: Water

Date Sampled: 06/18/2012 1755
Date Received: 06/20/2012 0910

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1 0
Analysis Date: 06/29/2012 1305
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49561
Prep Batch: 240-49010

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 160 | J B | 0 67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 40000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2 2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 1200 | J | 72 | 5000 |
| Magnesium | 24000 | B | 34 | 5000 |
| Manganese | 1.5 | J B | 0 41 | 15 |
| Sodium | 3300 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 250 | B | 5.0 | 20 |
| Lead | 2.5 | J | 1.9 | 3.0 |
| Lithium | 1.9 | J | 1 8 | 50 |
| SiO2, Silica | 9400 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1 0
Analysis Date: 06/28/2012 1757
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49354
Prep Batch: 240-49010

Instrument ID: I8
Lab File ID: I8062812A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 42 | B | 0 33 | 10 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** MW-105 (20120619)

Lab Sample ID: 240-12473-3
Client Matrix: Water

Date Sampled: 06/19/2012 1505
Date Received: 06/20/2012 0910

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1308
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49561
Prep Batch: 240-49010

Instrument ID: I9
Lab File ID: I9062912A asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 120 | J B | 0.67 | 200 |
| Boron | 40 | J | 34 | 200 |
| Calcium | 72000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 3300 | J | 72 | 5000 |
| Magnesium | 39000 | B | 34 | 5000 |
| Manganese | 0.41 | J B | 0.41 | 15 |
| Sodium | 7600 | | 590 | 5000 |
| Nickel | 40 | U | 3 2 | 40 |
| Zinc | 7.8 | J B | 5 0 | 20 |
| Lead | 2.2 | J | 1.9 | 3.0 |
| Lithium | 50 | U | 1 8 | 50 |
| SiO2, Silica | 13000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/28/2012 1802
Prep Date: 06/27/2012 0838

Analysis Batch: 240-49354
Prep Batch: 240-49010

Instrument ID: I8
Lab File ID: I8062812A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 89 | B | 0 33 | 10 |

Client: TRW Automotive

Job Number: 240-12473-1

**Client Sample ID:** DUP-1 (20120619)

Lab Sample ID: 240-12473-4FD
Client Matrix: Water

Date Sampled: 06/19/2012 0000
Date Received: 06/20/2012 0910

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-49561 | Instrument ID | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1312 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 120 | J B | 0 67 | 200 |
| Boron | 39 | J | 34 | 200 |
| Calcium | 71000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5 0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 3200 | J | 72 | 5000 |
| Magnesium | 38000 | B | 34 | 5000 |
| Manganese | 15 | U | 0 41 | 15 |
| Sodium | 7400 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 9 5 | J B | 5 0 | 20 |
| Lead | 3.0 | U | 1 9 | 3 0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 13000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-49354 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch: | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1808 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 91 | B | 0.33 | 10 |





Client: TRW Automotive

Job Number: 240-12473-1

**General Chemistry**

**Client Sample ID:** MW-107S (20120619)

Lab Sample ID: 240-12473-1
Client Matrix: Water

Date Sampled: 06/19/2012 1140
Date Received: 06/20/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 3.1 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0722 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1559 | | | | | | |
| Fluoride-Dissolved | 0 064 | J | mg/L | 0.015 | 1 0 | 1 0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0722 | | | | | | |
| Nitrate as N-Dissolved | 0.67 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1559 | | | | | | |
| Bromide-Dissolved | 0 50 | U | mg/L | 0.081 | 0 50 | 1 0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0722 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1559 | | | | | | |
| Sulfate-Dissolved | 18 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0722 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 230 | | mg/L | 2 7 | 5 0 | 1 0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1445 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1445 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1 0 | SM 4500 P E |
| Analysis Batch: 240-48934 | Analysis Date: 06/26/2012 1432 | | | | | | |
| Prep Batch: 240-48834 | Prep Date: 06/26/2012 0820 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49336 | Analysis Date: 06/28/2012 1352 | | | | | | |

General Chemistry

**Client Sample ID:** MW-107D (20120618)

Lab Sample ID: 240-12473-2
Client Matrix: Water

Date Sampled: 06/18/2012 1755
Date Received: 06/20/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 1 3 | | mg/L | 0 10 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0739 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1615 | | | | | | |
| Fluoride-Dissolved | 0.051 | J | mg/L | 0.015 | 1.0 | 1 0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0739 | | | | | | |
| Nitrate as N-Dissolved | 0.081 | J | mg/L | 0.023 | 0 10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1615 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0739 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1615 | | | | | | |
| Sulfate-Dissolved | 14 | | mg/L | 0.12 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0739 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 180 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1454 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5 0 | U | mg/L | 2.7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1454 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0 10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-48934 | Analysis Date: 06/26/2012 1429 | | | | | | |
| Prep Batch: 240-48834 | Prep Date: 06/26/2012 0806 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1 0 | SM4500 NH3 -F |
| Analysis Batch: 240-49336 | Analysis Date: 06/28/2012 1352 | | | | | | |





General Chemistry

**Client Sample ID:** MW-106 (20120619)

Lab Sample ID: 240-12473-3
Client Matrix: Water

Date Sampled: 06/19/2012 1505
Date Received: 06/20/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.3 | | mg/L | 0 10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0832 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U | mg/L | 0.012 | 0.10 | 1 0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1704 | | | | | | |
| Fluoride-Dissolved | 0.015 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0832 | | | | | | |
| Nitrate as N-Dissolved | 1.8 | | mg/L | 0.023 | 0.10 | 1 0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1704 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0 081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0832 | | | | | | |
| Orthophosphate-Dissolved | 0.14 | J | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1704 | | | | | | |
| Sulfate-Dissolved | 8.2 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0832 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 330 | | mg/L | 2 7 | 5.0 | 1 0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1509 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1509 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-48934 | Analysis Date: 06/26/2012 1432 | | | | | | |
| Prep Batch: 240-48834 | Prep Date: 06/26/2012 0822 | | | | | | |
| Ammonia-Dissolved | 0.043 | J | mg/L | 0 035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49336 | Analysis Date: 06/28/2012 1358 | | | | | | |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12473-1

### General Chemistry

**Client Sample ID:** DUP-1 (20120619)

Lab Sample ID: 240-12473-4FD

Client Matrix: Water

Date Sampled: 06/19/2012 0000

Date Received: 06/20/2012 0910

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.2 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0906 | | | | | | |
| Nitrite as N-Dissolved | 0 10 | U | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1721 | | | | | | |
| Fluoride-Dissolved | 0 020 | J | mg/L | 0.015 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0906 | | | | | | |
| Nitrate as N-Dissolved | 1 7 | | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1721 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0 081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0906 | | | | | | |
| Orthophosphate-Dissolved | 0 50 | U | mg/L | 0.044 | 0 50 | 1.0 | 9056A |
| Analysis Batch: 240-48185 | Analysis Date: 06/20/2012 1721 | | | | | | |
| Sulfate-Dissolved | 8.2 | | mg/L | 0 12 | 1 0 | 1.0 | 9056A |
| Analysis Batch: 240-49618 | Analysis Date: 07/03/2012 0906 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 310 | | mg/L | 2.7 | 5 0 | 1.0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1520 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5 0 | U | mg/L | 2.7 | 5 0 | 1 0 | SM 2320B |
| Analysis Batch: 240-48661 | Analysis Date: 06/22/2012 1520 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0 10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-48934 | Analysis Date: 06/26/2012 1432 | | | | | | |
| Prep Batch: 240-48834 | Prep Date: 06/26/2012 0825 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0 035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-49336 | Analysis Date: 06/28/2012 1403 | | | | | | |



## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-12473-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| General Chemistry | | |
| | U | Indicates the analyte was analyzed for but not detected |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value |

# QUALITY CONTROL RESULTS





Client: TRW Automotive

Job Number 240-12473-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-49242** | | | | | |
| LCS 240-49242/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49242/5 | Method Blank | T | Water | 8260B | |
| 240-12473-1 | MW-107S (20120619) | T | Water | 8260B | |
| 240-12473-2 | MW-107D (20120618) | T | Water | 8260B | |
| 240-12473-3 | MW-105 (20120619) | T | Water | 8260B | |
| 240-12473-4FD | DUP-1 (20120619) | T | Water | 8260B | |
| 240-12473-5TB | TRIP BLANK | T | Water | 8260B | |
| **Analysis Batch:240-49395** | | | | | |
| LCS 240-49395/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49395/5 | Method Blank | T | Water | 8260B | |
| 240-12473-1 | MW-107S (20120619) | T | Water | 8260B | |

**Report Basis**
T = Total

Client: TRW Automotive

Job Number: 240-12473-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 240-49010** | | | | | |
| LCS 240-49010/2-A | Lab Control Sample | R | Water | 3005A | |
| LCS 240-49010/3-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49010/1-A | Method Blank | R | Water | 3005A | |
| 240-12473-1 | MW-107S (20120619) | D | Water | 3005A | |
| 240-12473-2 | MW-107D (20120618) | D | Water | 3005A | |
| 240-12473-3 | MW-105 (20120619) | D | Water | 3005A | |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 3005A | |
| **Analysis Batch:240-49364** | | | | | |
| LCS 240-49010/3-A | Lab Control Sample | R | Water | 6020 | 240-49010 |
| MB 240-49010/1-A | Method Blank | R | Water | 6020 | 240-49010 |
| 240-12473-1 | MW-107S (20120619) | D | Water | 6020 | 240-49010 |
| 240-12473-2 | MW-107D (20120618) | D | Water | 6020 | 240-49010 |
| 240-12473-3 | MW-105 (20120619) | D | Water | 6020 | 240-49010 |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 6020 | 240-49010 |
| **Analysis Batch:240-49561** | | | | | |
| LCS 240-49010/2-A | Lab Control Sample | R | Water | 6010B | 240-49010 |
| MB 240-49010/1-A | Method Blank | R | Water | 6010B | 240-49010 |
| 240-12473-1 | MW-107S (20120619) | D | Water | 6010B | 240-49010 |
| 240-12473-2 | MW-107D (20120618) | D | Water | 6010B | 240-49010 |
| 240-12473-3 | MW-105 (20120619) | D | Water | 6010B | 240-49010 |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 6010B | 240-49010 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-12473-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-48185** | | | | | |
| LCS 240-48185/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48185/5 | Method Blank | T | Water | 9056A | |
| 240-12473-1 | MW-107S (20120619) | D | Water | 9056A | |
| 240-12473-2 | MW-107D (20120618) | D | Water | 9056A | |
| 240-12473-3 | MW-105 (20120619) | D | Water | 9056A | |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 9056A | |
| **Analysis Batch:240-48661** | | | | | |
| LCS 240-48661/18 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-48661/19 | Method Blank | T | Water | SM 2320B | |
| 240-12473-1 | MW-107S (20120619) | T | Water | SM 2320B | |
| 240-12473-2 | MW-107D (20120618) | T | Water | SM 2320B | |
| 240-12473-3 | MW-105 (20120619) | T | Water | SM 2320B | |
| 240-12473-4FD | DUP-1 (20120619) | T | Water | SM 2320B | |
| **Prep Batch: 240-48834** | | | | | |
| LCS 240-48834/11-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-48834/10-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-12473-1 | MW-107S (20120619) | D | Water | 365.2/365.3/365 | |
| 240-12473-2 | MW-107D (20120618) | D | Water | 365.2/365.3/365 | |
| 240-12473-3 | MW-105 (20120619) | D | Water | 365.2/365.3/365 | |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-48934** | | | | | |
| LCS 240-48834/11-A | Lab Control Sample | T | Water | SM 4500 P E | 240-48834 |
| MB 240-48834/10-A | Method Blank | T | Water | SM 4500 P E | 240-48834 |
| 240-12473-1 | MW-107S (20120619) | D | Water | SM 4500 P E | 240-48834 |
| 240-12473-2 | MW-107D (20120618) | D | Water | SM 4500 P E | 240-48834 |
| 240-12473-3 | MW-105 (20120619) | D | Water | SM 4500 P E | 240-48834 |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | SM 4500 P E | 240-48834 |
| **Analysis Batch:240-49336** | | | | | |
| LCS 240-49336/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-49336/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-12473-1 | MW-107S (20120619) | D | Water | SM4500 NH3 -F | |
| 240-12473-2 | MW-107D (20120618) | D | Water | SM4500 NH3 -F | |
| 240-12473-3 | MW-105 (20120619) | D | Water | SM4500 NH3 -F | |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | SM4500 NH3 -F | |

Client: TRW Automotive

Job Number: 240-12473-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-49618** | | | | | |
| LCS 240-49618/54 | Lab Control Sample | T | Water | 9056A | |
| MB 240-49618/53 | Method Blank | T | Water | 9056A | |
| 240-12473-1 | MW-107S (20120619) | D | Water | 9056A | |
| 240-12473-2 | MW-107D (20120618) | D | Water | 9056A | |
| 240-12473-3 | MW-105 (20120619) | D | Water | 9056A | |
| 240-12473-3MS | Matrix Spike | D | Water | 9056A | |
| 240-12473-4FD | DUP-1 (20120619) | D | Water | 9056A | |

**Report Basis**
D = Dissolved
T = Total





Client: TRW Automotive

Job Number: 240-12473-1

## Surrogate Recovery Report

**8260B_Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-12473-1 | MW-107S (20120619) | 85 | 104 | 106 | 95 |
| 240-12473-1 | MW-107S (20120619) | 92 | 110 | 113 | 101 |
| 240-12473-2 | MW-107D (20120618) | 85 | 101 | 104 | 98 |
| 240-12473-3 | MW-105 (20120619) | 91 | 111 | 112 | 100 |
| 240-12473-4 | DUP-1 (20120619) | 91 | 104 | 111 | 101 |
| 240-12473-5 | TRIP BLANK | 89 | 105 | 112 | 97 |
| MB 240-49242/5 | | 89 | 101 | 104 | 100 |
| MB 240-49395/5 | | 86 | 101 | 102 | 96 |
| LCS 240-49242/4 | | 104 | 104 | 98 | 101 |
| LCS 240-49395/4 | | 97 | 102 | 99 | 100 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49242**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49242/5 | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4776.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1213 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1213 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.412 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 0.354 | J | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |





Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49242**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49242/5 | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID | UXC4776.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1213 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1213 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 89 | 66 - 117 |
| Dibromofluoromethane (Surr) | 101 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | 63 - 129 |
| Toluene-d8 (Surr) | 100 | 74 - 115 |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12473-1

**Lab Control Sample - Batch: 240-49242**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49242/4 | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4775.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1150 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1150 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 9.99 | 100 | 83 - 112 | |
| Bromobenzene | 10.0 | 8.59 | 86 | 76 - 115 | |
| Bromoform | 10.0 | 10.7 | 107 | 40 - 131 | |
| Bromomethane | 10.0 | 5.24 | 52 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 8.96 | 90 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.41 | 94 | 85 - 110 | |
| Chloroethane | 10.0 | 6.85 | 69 | 25 - 153 | |
| Chloroform | 10.0 | 9.71 | 97 | 79 - 117 | |
| Chloromethane | 10.0 | 9.78 | 98 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 8.82 | 88 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.15 | 92 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 10.0 | 100 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 9.41 | 94 | 61 - 115 | |
| Dibromomethane | 10.0 | 10.9 | 109 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 8.85 | 89 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 8.58 | 86 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 8.45 | 85 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.4 | 104 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 8.08 | 81 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.4 | 104 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.94 | 99 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 10.6 | 106 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.3 | 103 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.2 | 102 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.00 | 90 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.62 | 96 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.26 | 93 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 6.36 | 64 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 9.05 | 91 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 8.98 | 90 | 74 - 120 | |
| Methylene Chloride | 10.0 | 11.0 | 110 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 18.9 | 95 | 83 - 113 | |
| Naphthalene | 10.0 | 8.79 | 88 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 8.80 | 88 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.08 | 91 | 74 - 121 | |
| o-Xylene | 10.0 | 9.30 | 93 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 8.77 | 88 | 70 - 117 | |
| Styrene | 10.0 | 10.0 | 100 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 8.46 | 85 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 10.3 | 103 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.0 | 100 | 68 - 118 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12473-1

**Lab Control Sample - Batch: 240-49242**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49242/4 | Analysis Batch: | 240-49242 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4775.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/28/2012 1150 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/28/2012 1150 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 8.59 | 86 | 79 - 114 | |
| Toluene | 10.0 | 9.70 | 97 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 10.0 | 100 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 10.5 | 105 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 7.87 | 79 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 7.09 | 71 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.26 | 93 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.1 | 101 | 80 - 112 | |
| Trichloroethene | 10.0 | 9.52 | 95 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 9.12 | 91 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 9.63 | 96 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 8.96 | 90 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 8.63 | 86 | 72 - 118 | |
| Vinyl chloride | 10.0 | 8.74 | 87 | 53 - 127 | |
| Bromochloromethane | 10.0 | 9.69 | 97 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.3 | 103 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 104 | 66 - 117 |
| Dibromofluoromethane (Surr) | 104 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 98 | 63 - 129 |
| Toluene-d8 (Surr) | 101 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49395**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49395/5 | Analysis Batch: | 240-49395 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4802.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1129 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 1129 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.408 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |





Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49395**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49395/5 | Analysis Batch: | 240-49395 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4802.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1129 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 1129 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 86 | 66 - 117 |
| Dibromofluoromethane (Surr) | 101 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 102 | 63 - 129 |
| Toluene-d8 (Surr) | 96 | 74 - 115 |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12473-1

**Lab Control Sample - Batch: 240-49395**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49395/4 | Analysis Batch: | 240-49395 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4801.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1107 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 1107 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.2 | 102 | 83 - 112 | |
| Bromobenzene | 10.0 | 9.14 | 91 | 76 - 115 | |
| Bromoform | 10.0 | 10.5 | 105 | 40 - 131 | |
| Bromomethane | 10.0 | 5.24 | 52 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.59 | 96 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.75 | 98 | 85 - 110 | |
| Chloroethane | 10.0 | 7.36 | 74 | 25 - 153 | |
| Chloroform | 10.0 | 9.94 | 99 | 79 - 117 | |
| Chloromethane | 10.0 | 9.89 | 99 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 9.54 | 95 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.57 | 96 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 10.2 | 102 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 9.33 | 93 | 61 - 115 | |
| Dibromomethane | 10.0 | 11.1 | 111 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.06 | 91 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 8.80 | 88 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 8.74 | 87 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.9 | 109 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 9.12 | 91 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.7 | 107 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.81 | 98 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 11.1 | 111 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.2 | 102 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 10.3 | 103 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.29 | 93 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.93 | 99 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.66 | 97 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 7.26 | 73 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 9.55 | 96 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.67 | 97 | 74 - 120 | |
| Methylene Chloride | 10.0 | 10.6 | 106 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 19.3 | 97 | 83 - 113 | |
| Naphthalene | 10.0 | 9.11 | 91 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.56 | 96 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 9.45 | 95 | 74 - 121 | |
| o-Xylene | 10.0 | 9.58 | 96 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.41 | 94 | 70 - 117 | |
| Styrene | 10.0 | 9.74 | 97 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 8.95 | 90 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 10.2 | 102 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.6 | 106 | 68 - 118 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12473-1

**Lab Control Sample - Batch: 240-49395**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49395/4 | Analysis Batch: | 240-49395 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4801.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1107 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 06/29/2012 1107 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 8.75 | 88 | 79 - 114 | |
| Toluene | 10.0 | 9.82 | 98 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 10.3 | 103 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 11.0 | 110 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 8.11 | 81 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 7.66 | 77 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.94 | 99 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.4 | 104 | 80 - 112 | |
| Trichloroethene | 10.0 | 9.53 | 95 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 10.0 | 100 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 9.80 | 98 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 9.51 | 95 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 9.44 | 94 | 72 - 118 | |
| Vinyl chloride | 10.0 | 9.20 | 92 | 53 - 127 | |
| Bromochloromethane | 10.0 | 9.90 | 99 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.3 | 103 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 97 | 66 - 117 |
| Dibromofluoromethane (Surr) | 102 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 99 | 63 - 129 |
| Toluene-d8 (Surr) | 100 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49010**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49010/1-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1230 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 0.982 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 242 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 57.3 | J | 34 | 5000 |
| Manganese | 0.609 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 18.3 | J | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**Lab Control Sample - Batch: 240-49010**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49010/2-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1241 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2090 | 104 | 80 - 120 | |
| Boron | 1000 | 1050 | 105 | 80 - 120 | |
| Calcium | 50000 | 51400 | 103 | 80 - 120 | |
| Chromium | 200 | 199 | 99 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 51200 | 102 | 80 - 120 | |
| Magnesium | 50000 | 50000 | 100 | 80 - 120 | |
| Manganese | 500 | 498 | 100 | 80 - 120 | |
| Sodium | 50000 | 50900 | 102 | 80 - 120 | |
| Nickel | 500 | 484 | 97 | 80 - 120 | |
| Zinc | 500 | 495 | 99 | 80 - 120 | |
| Lead | 500 | 486 | 97 | 80 - 120 | |
| Lithium | 1000 | 972 | 97 | 80 - 120 | |
| SiO2, Silica | 2140 | 2260 | 106 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49010**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49010/1-A | Analysis Batch: | 240-49354 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1712 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 0.431 | J | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49010**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49010/3-A | Analysis Batch: | 240-49354 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49010 | Lab File ID: | I8062812A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/28/2012 1718 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/27/2012 0838 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 858 | 86 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-48185**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48185/5 | Analysis Batch: | 240-48185 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0010917-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/20/2012 1433 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-48185**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48185/6 | Analysis Batch: | 240-48185 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0010917-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/20/2012 1449 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.62 | 105 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.48 | 99 | 90 - 110 | |
| Orthophosphate-Dissolved | 2.50 | 2.30 | 92 | 90 - 110 | |





Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49618**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49618/53 | Analysis Batch: | 240-49618 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 53240-0011280-053.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 0503 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-49618**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49618/54 | Analysis Batch: | 240-49618 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 54240-0011280-054.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 0520 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 52.3 | 105 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.46 | 98 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.68 | 97 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.3 | 99 | 90 - 110 | |

**Matrix Spike - Batch: 240-49618**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12473-3 | Analysis Batch: | 240-49618 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 66240-0011280-066.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 0849 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 8.3 | | 50.0 | 67.3 | 118 | 80 - 120 | |
| Fluoride-Dissolved | 0.015 | J | 2.50 | 2.71 | 108 | 80 - 120 | |
| Bromide-Dissolved | 0.50 | U | 10.0 | 10.3 | 103 | 80 - 120 | |
| Sulfate-Dissolved | 8.2 | | 50.0 | 62.5 | 109 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-48661**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48661/19 | Analysis Batch: | 240-48661 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | alk062212.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/22/2012 1216 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-48661**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48661/18 | Analysis Batch: | 240-48661 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | alk062212.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/22/2012 1210 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 82.7 | 104 | 90 - 127 | |





Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-48834**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48834/10-A | Analysis Batch: | 240-48934 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-48834 | Lab File ID: | TP062612.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/26/2012 1426 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/26/2012 0724 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-48834**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48834/11-A | Analysis Batch: | 240-48934 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-48834 | Lab File ID: | TP062612.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/26/2012 1426 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/26/2012 0726 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 5.50 | 6.22 | 113 | 53 - 134 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12473-1

**Method Blank - Batch: 240-49336**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49336/7 | Analysis Batch: | 240-49336 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062812B.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/28/2012 1313 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.20 | U | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-49336**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49336/8 | Analysis Batch: | 240-49336 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062812B.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/28/2012 1327 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 13 9 | 12 8 | 92 | 85 - 114 | |



TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# Chain of Custody Record

TestAmerica Laboratories, Inc.
COC No. 042442
1 of 1 COCs

TestAmerica Laboratories locations: Canton
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other: _____

Client Contact: Company Name: Accedis; Address: 8715 Rosehill Sr. 360; City/State/Zip: Lenexa KS 66215; Phone: 913 492-0900; Project Name: Sullivan; Project Number: K-001-570.0003; PO #:

Client Project Manager: John Shoemaker; Telephone: 913 492-0900; Email: John.Shoemaker@accedis-tech.com

Site Contact: Telephone:

Lab Contact: Telephone:

Analysis Turnaround Time: CALENDAR DAYS / WORK DAYS; TAT if different from below: 3 weeks, 2 weeks, 1 week, 2 days, 1 day

Method of Shipment/Carrier: Fedex TestAmerica; Shipping/Tracking No.:

Containers & Preservatives

Sample Identification | Sample Date | Sample Time | Matrix | Metals | Analyses | Sample Specific Notes / Special Instructions:

| Sample Identification | Sample Date | Sample Time | Matrix | Metals | VOCs 8260 | Metals Boron/Iron | Metals Barium | Alkalinity 2320B | Sulfate/Chloride | Mercury 245.1 | Phenolics |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-1074 (20120619) | 6-19-12 | 1140 | X | 1 2 3 | X X X | X X X | X X X | X X X | X X X | X X X | X X X |
| MW-1070 (20120618) | 6-18-12 | 1765 | X | 1 2 3 | X X X | X X X | X X X | X X X | X X X | X X X | X X X |
| MW-1051 (20120619) | 6-19-12 | 1505 | X | 1 2 3 | X X X | X X X | X X X | X X X | X X X | X X X | X X X |
| Dup-1 (20120619) | 6-19-12 | — | X | 1 2 3 | X X X | X X X | X X X | X X X | X X X | X X X | X X X |

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For ___ Months

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Special Instructions/QC Requirements & Comments:

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| [signature] | Accedis | 6-19-12 1150 | [signature] | TA | 6/19/12 1150 |
| [signature] | TA | 6/19/12 1750 | [signature] | TA | 6/19/12 1750 |
| [signature] | | | [signature] | TA | 6/20/12 9:30 |

Relinquished by: Company: Date/Time: Received in Laboratory by: Company: Date/Time:

TAL 0018-1 (04/10)

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TestAmerica North Canton Sample Receipt Form/Narrative — Login # : 12473

Client Arcadis — Site Name _____ — By: [signature] (Signature)

Cooler Received on 6/20/12 — Opened on 6/20/12

FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF 0°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 4G (CF −1°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 5G (CF −1°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C
   - IR GUN# 8 (CF 0°C) Observed Sample Temp._____°C Corrected Sample Temp._____°C

   Multiple on Back

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 2 — Yes No
   - Were custody seals on the outside of the cooler(s) signed & dated? — Yes No NA
   - Were custody seals on the bottle(s)? — Yes No
3. Shippers' packing slip attached to the cooler(s)? — Yes No
4. Did custody papers accompany the sample(s)? — Yes No
5. Were the custody papers relinquished & signed in the appropriate place? — Yes No
6. Did all bottles arrive in good condition (Unbroken)? — Yes No
7. Could all bottle labels be reconciled with the COC? — Yes No
8. Were correct bottle(s) used for the test(s) indicated? — Yes No
9. Sufficient quantity received to perform indicated analyses? — Yes No
10. Were sample(s) at the correct pH upon receipt? — Yes No NA
11. Were VOAs on the COC? — Yes No
12. Were air bubbles >6 mm in any VOA vials? — Yes No NA
13. Was a trip blank present in the cooler(s)? — Yes No

Contacted PM DJP Date 6/20/12 by [initials] via Verbal Voice Mail Other

Concerning #14

## 14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Received 2 x 40mL Trip Blanks not listed on the COC.
— Will log.

## 15. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)



## 16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809-NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| 10 Ts | <2 <2 <2 | 6/20/12 | [initials] |
| L D | <2 <2 <2 | | |
| 10S | <2 <2 <2 | | |
| Dup | <2 <2 <2 | | |

| Cooler # | Observed Sample Temp. °C | Corrected Sample Temp. °C | IR # | Coolant |
|---|---|---|---|---|
| A909 | 1.6 | 0.6 | 4G | ice |
| A891 | 1.8 | 0.8 | | |

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

Job Number: 240-12605-1

Job Description: Oak Grove Village

For:
TRW Automotive
Tech 2
12025 Tech Center Drive
Livonia, MI 48150

Attention: Paul Jack

Denise Pohl

Approved for release
Denise Pohl
Project Manager II
7/12/2012 2:10 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
07/12/2012

cc: Mr. John Shonfelt
Kirsten Wright

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This report is confidential and is intended for the sole use of TestAmerica and its client. All questions regarding this report should be directed to the TestAmerica Project Manager who has signed this report.

**TestAmerica Laboratories, Inc.**
TestAmerica Canton 4101 Shuffel Street NW, North Canton, OH 44720
Tel (330) 497-9396 Fax (330) 497-0772 www.testamericainc.com



## CASE NARRATIVE

**Client: TRW Automotive**

**Project: Oak Grove Village**

**Report Number: 240-12605-1**

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

**RECEIPT**
The samples were received on 06/23/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 0.8 C.

Sample MW-101(20120622) (240-12605-1), was not analyzed on a lab filtered sample for Nitrate, Nitrite and o-Phosphate in accordance with EPA SW-846 Method 9056A, as the instructions were not clear on the chain of custody for the lab to filter the sample and these analysis have a short holding time. The other analysis with longer holding time were lab filtered.

**VOLATILE ORGANIC COMPOUNDS (GC-MS)**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2), MW-102A(20120622) (240-12605-3) and TRIP BLANK (240-12605-4) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 07/03/2012 and 07/05/2012.

Methylene Chloride was detected in method blank MB 240-49717/5 at a level exceeding the reporting limit If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Hexachlorobutadiene was detected in method blank MB 240-49717/5 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Methylene Chloride was detected in method blank MB 240-49859/5 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details

1,1-Dichloroethane failed the recovery criteria high for LCS 240-49717/4. Refer to the QC report for details.

Method(s) 8260B: The laboratory control sample (LCS) for batch 49717 exceeded control limits for the following analytes:
1,1-Dichloroethane This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED METALS (ICP)**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/28/2012 and 07/05/2012 and analyzed on 06/29/2012, 07/07/2012 and 07/09/2012.

Several analytes were detected in method blank MB 240-49868/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

Lithium and Manganese were detected in method blank MB 240-49161/1-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

No other difficulties were encountered during the metals analyses

All other quality control parameters were within the acceptance limits

**DISSOLVED METALS (ICPMS)**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 06/28/2012 and 07/05/2012 and analyzed on 06/29/2012 and 07/06/2012.

Strontium was detected in method blank MB 240-49868/1-C at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

No other difficulties were encountered during the metals analyses.

All other quality control parameters were within the acceptance limits.

**ALKALINITY**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for alkalinity in accordance with SM 2320B The samples were analyzed on 06/29/2012 and 07/03/2012.

No difficulties were encountered during the alkalinity analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED AMMONIA**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved ammonia in accordance with SM 4500 NH3 F. The samples were analyzed on 07/09/2012 and 07/10/2012.

Ammonia was detected in method blank MB 240-50305/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

Ammonia was detected in method blank MB 240-50241/7 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged Refer to the QC report for details.

No other difficulties were encountered during the ammonia analyses.

All other quality control parameters were within the acceptance limits.

**DISSOLVED PHOSPHORUS**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved phosphorus in accordance with SM 4500 P E. The samples were prepared and analyzed on 06/29/2012.

No difficulties were encountered during the phosphorus analyses.

All quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/25/2012 and 06/26/2012.



Method 9056A: The following samples were analyzed outside analytical holding time due to instrument failure: MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3)

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits.

**ANIONS**
Sample MW-101(20120622) (240-12605-1) was analyzed for anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/25/2012 and 06/26/2012.

Orthophosphate failed the recovery criteria high for the MS of sample MW-101(20120622)MS (240-12605-1) in batch 240-48902.

Refer to the QC report for details

The presence of the '4' qualifier in the data indicates analytes where the concentration in the unspiked sample exceeded four times the spiking amount.

Refer to the QC report for details

Method 9056A: The following sample was analyzed outside analytical holding time due to instrument failure: MW-101(20120622) (240-12605-1).

No other difficulties were encountered during the anions analysis.

All other quality control parameters were within the acceptance limits.

**DISSOLVED ANIONS**
Samples MW-101(20120622) (240-12605-1), MW-1A(20120622) (240-12605-2) and MW-102A(20120622) (240-12605-3) were analyzed for dissolved anions in accordance with EPA SW-846 Method 9056A. The samples were analyzed on 06/25/2012 and 07/06/2012.

No difficulties were encountered during the anions analyses.

All quality control parameters were within the acceptance limits

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12605-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12605-1** | **MW-101(20120622)** | | | | | |
| cis-1,2-Dichloroethene | | 0 58 | J | 1 0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 2.8 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.32 | J * | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 20 | | 2 0 | ug/L | 8260B |
| Tetrachloroethene | | 0.33 | J | 1.0 | ug/L | 8260B |
| Trichloroethene | | 1.8 | | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 18 | | 1.0 | ug/L | 8260B |
| Nitrate as N | | 0 82 | H | 0.10 | mg/L | 9056A |
| Orthophosphate | | 0.19 | J H | 0.50 | mg/L | 9056A |
| Bicarbonate Alkalinity as CaCO3 | | 260 | | 5 0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 55 | J B | 200 | ug/L | 6010B |
| Calcium | | 57000 | B | 5000 | ug/L | 6010B |
| Potassium | | 1900 | J | 5000 | ug/L | 6010B |
| Magnesium | | 32000 | B | 5000 | ug/L | 6010B |
| Sodium | | 4900 | J | 5000 | ug/L | 6010B |
| Zinc | | 27 | J B | 50 | ug/L | 6010B |
| Lithium | | 11 | J | 50 | ug/L | 6010B |
| SiO2, Silica | | 9000 | B | 1100 | ug/L | 6010B |
| Strontium | | 52 | B | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 7.4 | | 1 0 | mg/L | 9056A |
| Fluoride-Dissolved | | 0 043 | J | 1 0 | mg/L | 9056A |
| Bromide-Dissolved | | 0.088 | J | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 7.2 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0 082 | J B | 0.20 | mg/L | SM4500 NH3 -F |



## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12605-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12605-2** | **MW-1A(20120622)** | | | | | |
| cis-1,2-Dichloroethene | | 0.55 | J | 1.0 | ug/L | 8260B |
| Dichlorodifluoromethane | | 0.75 | J | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 0.65 | J * | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 23 | | 2.0 | ug/L | 8260B |
| Trichloroethene | | 0.88 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 5 0 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 280 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 120 | J | 200 | ug/L | 6010B |
| Boron | | 43 | J | 200 | ug/L | 6010B |
| Calcium | | 62000 | | 5000 | ug/L | 6010B |
| Potassium | | 2700 | J | 5000 | ug/L | 6010B |
| Magnesium | | 32000 | | 5000 | ug/L | 6010B |
| Manganese | | 0.81 | J B | 15 | ug/L | 6010B |
| Sodium | | 5600 | | 5000 | ug/L | 6010B |
| Zinc | | 5.5 | J | 20 | ug/L | 6010B |
| SiO2, Silica | | 11000 | | 1100 | ug/L | 6010B |
| Strontium | | 91 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 6.3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1 6 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.042 | J | 1.0 | mg/L | 9056A |
| Sulfate-Dissolved | | 6.2 | | 1 0 | mg/L | 9056A |

## EXECUTIVE SUMMARY - Detections

Client: TRW Automotive

Job Number: 240-12605-1

| Lab Sample ID / Analyte | Client Sample ID | Result | Qualifier | Reporting Limit | Units | Method |
|---|---|---|---|---|---|---|
| **240-12605-3** | **MW-102A(20120622)** | | | | | |
| Dichlorodifluoromethane | | 1.5 | | 1.0 | ug/L | 8260B |
| 1,1-Dichloroethane | | 1.3 | | 1.0 | ug/L | 8260B |
| Dichlorofluoromethane | | 17 | | 2.0 | ug/L | 8260B |
| Trichloroethene | | 0.81 | J | 1.0 | ug/L | 8260B |
| Trichlorofluoromethane | | 9.4 | | 1.0 | ug/L | 8260B |
| Bicarbonate Alkalinity as CaCO3 | | 160 | | 5.0 | mg/L | SM 2320B |
| ***Dissolved*** | | | | | | |
| Barium | | 50 | J | 200 | ug/L | 6010B |
| Calcium | | 39000 | | 5000 | ug/L | 6010B |
| Potassium | | 830 | J | 5000 | ug/L | 6010B |
| Magnesium | | 21000 | | 5000 | ug/L | 6010B |
| Sodium | | 2800 | J | 5000 | ug/L | 6010B |
| Lithium | | 1.8 | J B | 50 | ug/L | 6010B |
| SiO2, Silica | | 10000 | | 1100 | ug/L | 6010B |
| Strontium | | 41 | | 10 | ug/L | 6020 |
| Chloride-Dissolved | | 5.3 | | 1.0 | mg/L | 9056A |
| Nitrate as N-Dissolved | | 1.2 | H | 0.10 | mg/L | 9056A |
| Fluoride-Dissolved | | 0.050 | J | 1.0 | mg/L | 9056A |
| Orthophosphate-Dissolved | | 0.054 | J H | 0.50 | mg/L | 9056A |
| Sulfate-Dissolved | | 12 | | 1.0 | mg/L | 9056A |
| Ammonia-Dissolved | | 0.049 | J B | 0.20 | mg/L | SM4500 NH3 -F |
| **240-12605-4TB** | **TRIP BLANK** | | | | | |
| Methylene Chloride | | 1.7 | B | 1.0 | ug/L | 8260B |



## METHOD SUMMARY

Client: TRW Automotive

Job Number: 240-12605-1

| Description | Lab Location | Method | Preparation Method |
|---|---|---|---|
| **Matrix Water** | | | |
| Volatile Organic Compounds (GC/MS) | TAL NC | SW846 8260B | |
| Purge and Trap | TAL NC | | SW846 5030B |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP) | TAL NC | SW846 6010B | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration | TAL NC | | FILTRATION |
| Metals (ICP/MS) | TAL NC | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Metals (ICP/MS) | TAL NC | SW846 6020 | |
| Preparation, Total Recoverable or Dissolved Metals | TAL NC | | SW846 3005A |
| Sample Filtration | TAL NC | | FILTRATION |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Anions, Ion Chromatography | TAL NC | SW846 9056A | |
| Sample Filtration | TAL NC | | Filtration |
| Alkalinity | TAL NC | SM SM 2320B | |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365.3/365 |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Phosphorus | TAL NC | SM SM 4500 P E | |
| Phosphorus, Total | TAL NC | | MCAWW 365.2/365.3/365 |
| Sample Filtration | TAL NC | | Filtration |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration, Field | | | FIELD_FLTRD |
| Ammonia | TAL NC | SM18 SM4500 NH3 -F | |
| Sample Filtration | TAL NC | | Filtration |

**Lab References:**

TAL NC = TestAmerica Canton

**Method References:**

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SM18 = "Standard Methods For The Examination Of Water And Wastewater", 18th Edition, 1992.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

## METHOD / ANALYST SUMMARY

Client: TRW Automotive

Job Number: 240-12605-1

| Method | Analyst | Analyst ID |
|---|---|---|
| SW846 8260B | Evans, Laura | LE |
| SW846 6010B | Musselman, Natalie J | NJM |
| SW846 6020 | Davies, Brian | BD |
| SW846 9056A | Burns, Jill | JB |
| SW846 9056A | Grossman, Lucas | LG |
| SM SM 2320B | Burns, Jill | JB |
| SM SM 4500 P E | Harshman, Tom | TH |
| SM18 SM4500 NH3 -F | Kuhle, Julie | JK |



## SAMPLE SUMMARY

Client: TRW Automotive

Job Number: 240-12605-1

| Lab Sample ID | Client Sample ID | Client Matrix | Date/Time Sampled | Date/Time Received |
|---|---|---|---|---|
| 240-12605-1 | MW-101(20120622) | Water | 06/22/2012 0955 | 06/23/2012 0945 |
| 240-12605-2 | MW-1A(20120622) | Water | 06/21/2012 1705 | 06/23/2012 0945 |
| 240-12605-3 | MW-102A(20120622) | Water | 06/22/2012 1215 | 06/23/2012 0945 |
| 240-12605-4TB | TRIP BLANK | Water | 06/22/2012 0000 | 06/23/2012 0945 |

# SAMPLE RESULTS





Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** **MW-101(20120622)**

Lab Sample ID: 240-12605-1

Client Matrix: Water

Date Sampled: 06/22/2012 0955

Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4865.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1632 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1632 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.58 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 2.8 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.32 | J * | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 20 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 0.33 | J | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-101(20120622)

Lab Sample ID: 240-12605-1
Client Matrix: Water

Date Sampled: 06/22/2012 0955
Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4865.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1632 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1632 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.8 | | 0.17 | 1.0 |
| Trichlorofluoromethane | 18 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 92 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | 63 - 129 |
| Toluene-d8 (Surr) | 96 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-1A(20120622)

Lab Sample ID: 240-12605-2
Client Matrix: Water

Date Sampled: 06/21/2012 1705
Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXC4866.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1655 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1655 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 0.55 | J | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 0.75 | J | 0.31 | 1.0 |
| 1,1-Dichloroethane | 0.65 | J * | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 23 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-1A(20120622)

Lab Sample ID: 240-12605-2
Client Matrix: Water

Date Sampled: 06/21/2012 1705
Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 07/03/2012 1655
Prep Date: 07/03/2012 1655

Analysis Batch: 240-49717
Prep Batch: N/A

Instrument ID: A3UX15
Lab File ID: UXC4866.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.88 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 5.0 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 95 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 113 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 112 | | 63 - 129 |
| Toluene-d8 (Surr) | 99 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-102A(20120622)

Lab Sample ID: 240-12605-3
Client Matrix: Water

Date Sampled: 06/22/2012 1215
Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

Analysis Method: 8260B
Prep Method: 5030B
Dilution: 1.0
Analysis Date: 07/05/2012 1338
Prep Date: 07/05/2012 1338

Analysis Batch: 240-49859
Prep Batch: N/A

Instrument ID: A3UX11
Lab File ID: UXJ5599.D
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.5 | | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.3 | | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 17 | | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.0 | U | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-102A(20120622)

Lab Sample ID: 240-12605-3

Client Matrix: Water

Date Sampled: 06/22/2012 1215

Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5599.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1338 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1338 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 0.81 | J | 0.17 | 1.0 |
| Trichlorofluoromethane | 9.4 | | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 103 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 97 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 91 | | 63 - 129 |
| Toluene-d8 (Surr) | 95 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12605-4TB

Client Matrix: Water

Date Sampled: 06/22/2012 0000

Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5600.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1400 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1400 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.7 | B | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** TRIP BLANK

Lab Sample ID: 240-12605-4TB
Client Matrix: Water

Date Sampled: 06/22/2012 0000
Date Received: 06/23/2012 0945

**8260B Volatile Organic Compounds (GC/MS)**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 8260B | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Prep Method: | 5030B | Prep Batch: | N/A | Lab File ID: | UXJ5600.D |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1400 | | | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1400 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | %Rec | Qualifier | Acceptance Limits |
|---|---|---|---|
| 4-Bromofluorobenzene (Surr) | 103 | | 66 - 117 |
| Dibromofluoromethane (Surr) | 94 | | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 86 | | 63 - 129 |
| Toluene-d8 (Surr) | 94 | | 74 - 115 |





Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-101(20120622)

Lab Sample ID: 240-12605-1
Client Matrix: Water

Date Sampled: 06/22/2012 0955
Date Received: 06/23/2012 0945

**6010B Metals (ICP)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-50182 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49871 | Lab File ID: | I9070612A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/07/2012 0232 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0937 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Boron | 200 | U | 34 | 200 |
| Barium | 55 | J B | 0.67 | 200 |
| Calcium | 57000 | B | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Potassium | 1900 | J | 72 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Nickel | 40 | U | 3.2 | 40 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Zinc | 27 | J B | 5.0 | 50 |
| Lithium | 11 | J | 1.8 | 50 |
| SiO2, Silica | 9000 | B | 14 | 1100 |

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6010B | Analysis Batch: | 240-50312 | Instrument ID: | I9 |
| Prep Method: | 3005A | Prep Batch: | 240-49871 | Lab File ID: | I9070912A.asc |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/09/2012 1853 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0937 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Iron | 100 | U | 81 | 100 |
| Magnesium | 32000 | B | 34 | 5000 |
| Sodium | 4900 | J | 590 | 5000 |

**6020 Metals (ICP/MS)-Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Analysis Method: | 6020 | Analysis Batch: | 240-50170 | Instrument ID: | I8 |
| Prep Method: | 3005A | Prep Batch: | 240-49878 | Lab File ID: | I8070612A.csv |
| Dilution: | 1.0 | | | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/06/2012 1312 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 1003 | | | | |

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 52 | B | 0.33 | 10 |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-1A(20120622)

Lab Sample ID: 240-12605-2
Client Matrix: Water

Date Sampled: 06/21/2012 1705
Date Received: 06/23/2012 0945

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1740
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49561
Prep Batch: 240-49161

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 120 | J | 0.67 | 200 |
| Boron | 43 | J | 34 | 200 |
| Calcium | 62000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 2700 | J | 72 | 5000 |
| Magnesium | 32000 | | 34 | 5000 |
| Manganese | 0.81 | J B | 0.41 | 15 |
| Sodium | 5600 | | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 5.5 | J | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 11000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1600
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49560
Prep Batch: 240-49161

Instrument ID: I8
Lab File ID: I8062912A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 91 | | 0.33 | 10 |



## Analytical Data

Client: TRW Automotive

Job Number: 240-12605-1

**Client Sample ID:** MW-102A(20120622)

Lab Sample ID: 240-12605-3
Client Matrix: Water

Date Sampled: 06/22/2012 1215
Date Received: 06/23/2012 0945

**6010B Metals (ICP)-Dissolved**

Analysis Method: 6010B
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1744
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49561
Prep Batch: 240-49161

Instrument ID: I9
Lab File ID: I9062912A.asc
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Barium | 50 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 39000 | | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 830 | J | 72 | 5000 |
| Magnesium | 21000 | | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 2800 | J | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Zinc | 20 | U | 5.0 | 20 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Lithium | 1.8 | J B | 1.8 | 50 |
| SiO2, Silica | 10000 | | 14 | 1100 |

**6020 Metals (ICP/MS)-Dissolved**

Analysis Method: 6020
Prep Method: 3005A
Dilution: 1.0
Analysis Date: 06/29/2012 1605
Prep Date: 06/28/2012 0651

Analysis Batch: 240-49560
Prep Batch: 240-49161

Instrument ID: I8
Lab File ID: I8062912A.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

| Analyte | Result (ug/L) | Qualifier | MDL | RL |
|---|---|---|---|---|
| Strontium | 41 | | 0.33 | 10 |

**General Chemistry**

**Client Sample ID:** **MW-101(20120622)**

Lab Sample ID: 240-12605-1
Client Matrix: Water

Date Sampled: 06/22/2012 0955
Date Received: 06/23/2012 0945

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 7.4 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-50113 | Analysis Date: 07/06/2012 1958 | | | | | | |
| Nitrite as N | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1235 | | | | | | |
| Fluoride-Dissolved | 0.043 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-50113 | Analysis Date: 07/06/2012 1958 | | | | | | |
| Nitrate as N | 0.82 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1235 | | | | | | |
| Bromide-Dissolved | 0.088 | J | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-50113 | Analysis Date: 07/06/2012 1958 | | | | | | |
| Orthophosphate | 0.19 | J H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48902 | Analysis Date: 06/26/2012 1323 | | | | | | |
| Sulfate-Dissolved | 7.2 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-50113 | Analysis Date: 07/06/2012 1958 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 260 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1645 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1645 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49478 | Analysis Date: 06/29/2012 1604 | | | | | | |
| Prep Batch: 240-49419 | Prep Date: 06/29/2012 0751 | | | | | | |
| Ammonia-Dissolved | 0.082 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-50397 | Analysis Date: 07/10/2012 1256 | | | | | | |





**General Chemistry**

**Client Sample ID:** **MW-1A(20120622)**

Lab Sample ID: 240-12605-2
Client Matrix: Water

Date Sampled: 06/21/2012 1705
Date Received: 06/23/2012 0945

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 6.3 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Fluoride-Dissolved | 0.042 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Nitrate as N-Dissolved | 1.6 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Orthophosphate-Dissolved | 0.50 | U H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48902 | Analysis Date: 06/26/2012 1416 | | | | | | |
| Sulfate-Dissolved | 6.2 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1308 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 280 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1656 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49573 | Analysis Date: 06/29/2012 1656 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0746 | | | | | | |
| Ammonia-Dissolved | 0.20 | U | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-50241 | Analysis Date: 07/09/2012 0835 | | | | | | |

## Analytical Data

Client: TRW Automotive

Job Number: 240-12605-1

### General Chemistry

**Client Sample ID:** **MW-102A(20120622)**

Lab Sample ID: 240-12605-3

Client Matrix: Water

Date Sampled: 06/22/2012 1215

Date Received: 06/23/2012 0945

| Analyte | Result | Qual | Units | MDL | RL | Dil | Method |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 5.3 | | mg/L | 0.10 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Nitrite as N-Dissolved | 0.10 | U H | mg/L | 0.012 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Fluoride-Dissolved | 0.050 | J | mg/L | 0.015 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Nitrate as N-Dissolved | 1.2 | H | mg/L | 0.023 | 0.10 | 1.0 | 9056A |
| Analysis Batch: 240-48697 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Bromide-Dissolved | 0.50 | U | mg/L | 0.081 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Orthophosphate-Dissolved | 0.054 | J H | mg/L | 0.044 | 0.50 | 1.0 | 9056A |
| Analysis Batch: 240-48902 | Analysis Date: 06/26/2012 1433 | | | | | | |
| Sulfate-Dissolved | 12 | | mg/L | 0.12 | 1.0 | 1.0 | 9056A |
| Analysis Batch: 240-48696 | Analysis Date: 06/25/2012 1252 | | | | | | |
| Bicarbonate Alkalinity as CaCO3 | 160 | | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49870 | Analysis Date: 07/03/2012 1643 | | | | | | |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | mg/L | 2.7 | 5.0 | 1.0 | SM 2320B |
| Analysis Batch: 240-49870 | Analysis Date: 07/03/2012 1643 | | | | | | |
| Total Phosphorus as PO4-Dissolved | 0.10 | U | mg/L | 0.033 | 0.10 | 1.0 | SM 4500 P E |
| Analysis Batch: 240-49474 | Analysis Date: 06/29/2012 1424 | | | | | | |
| Prep Batch: 240-49375 | Prep Date: 06/29/2012 0748 | | | | | | |
| Ammonia-Dissolved | 0.049 | J B | mg/L | 0.035 | 0.20 | 1.0 | SM4500 NH3 -F |
| Analysis Batch: 240-50241 | Analysis Date: 07/09/2012 0835 | | | | | | |



## DATA REPORTING QUALIFIERS

Client: TRW Automotive

Job Number: 240-12605-1

| Lab Section | Qualifier | Description |
|---|---|---|
| GC/MS VOA | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected |
| | * | LCS or LCSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| Metals | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected. |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| General Chemistry | | |
| | B | Compound was found in the blank and sample. |
| | U | Indicates the analyte was analyzed for but not detected |
| | F | MS or MSD exceeds the control limits |
| | J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value |
| | H | Sample was prepped or analyzed beyond the specified holding time |

# QUALITY CONTROL RESULTS





Client: TRW Automotive

Job Number: 240-12605-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **GC/MS VOA** | | | | | |
| **Analysis Batch:240-49717** | | | | | |
| LCS 240-49717/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49717/5 | Method Blank | T | Water | 8260B | |
| 240-12605-1 | MW-101(20120622) | T | Water | 8260B | |
| 240-12605-2 | MW-1A(20120622) | T | Water | 8260B | |
| **Analysis Batch:240-49859** | | | | | |
| LCS 240-49859/4 | Lab Control Sample | T | Water | 8260B | |
| MB 240-49859/5 | Method Blank | T | Water | 8260B | |
| 240-12605-3 | MW-102A(20120622) | T | Water | 8260B | |
| 240-12605-4TB | TRIP BLANK | T | Water | 8260B | |

**Report Basis**
T = Total

Client: TRW Automotive

Job Number: 240-12605-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **Metals** | | | | | |
| **Prep Batch: 240-49161** | | | | | |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 3005A | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49161/1-A | Method Blank | R | Water | 3005A | |
| 240-12605-2 | MW-1A(20120622) | D | Water | 3005A | |
| 240-12605-3 | MW-102A(20120622) | D | Water | 3005A | |
| **Analysis Batch:240-49560** | | | | | |
| LCS 240-49161/3-A | Lab Control Sample | R | Water | 6020 | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6020 | 240-49161 |
| 240-12605-2 | MW-1A(20120622) | D | Water | 6020 | 240-49161 |
| 240-12605-3 | MW-102A(20120622) | D | Water | 6020 | 240-49161 |
| **Analysis Batch:240-49561** | | | | | |
| LCS 240-49161/2-A | Lab Control Sample | R | Water | 6010B | 240-49161 |
| MB 240-49161/1-A | Method Blank | R | Water | 6010B | 240-49161 |
| 240-12605-2 | MW-1A(20120622) | D | Water | 6010B | 240-49161 |
| 240-12605-3 | MW-102A(20120622) | D | Water | 6010B | 240-49161 |
| **Prep Batch: 240-49871** | | | | | |
| LCS 240-49871/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49868/1-B | Method Blank | D | Water | 3005A | |
| 240-12605-1 | MW-101(20120622) | D | Water | 3005A | |
| **Prep Batch: 240-49878** | | | | | |
| LCS 240-49878/2-A | Lab Control Sample | R | Water | 3005A | |
| MB 240-49868/1-C | Method Blank | D | Water | 3005A | |
| 240-12605-1 | MW-101(20120622) | D | Water | 3005A | |
| **Analysis Batch:240-50170** | | | | | |
| LCS 240-49878/2-A | Lab Control Sample | R | Water | 6020 | 240-49878 |
| MB 240-49868/1-C | Method Blank | D | Water | 6020 | 240-49878 |
| 240-12605-1 | MW-101(20120622) | D | Water | 6020 | 240-49878 |
| **Analysis Batch:240-50182** | | | | | |
| LCS 240-49871/2-A | Lab Control Sample | R | Water | 6010B | 240-49871 |
| MB 240-49868/1-B | Method Blank | D | Water | 6010B | 240-49871 |
| 240-12605-1 | MW-101(20120622) | D | Water | 6010B | 240-49871 |
| **Analysis Batch:240-50312** | | | | | |
| 240-12605-1 | MW-101(20120622) | D | Water | 6010B | 240-49871 |

**Report Basis**
D = Dissolved
R = Total Recoverable





Client: TRW Automotive

Job Number: 240-12605-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-48696** | | | | | |
| LCS 240-48696/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48696/5 | Method Blank | T | Water | 9056A | |
| 240-12605-2 | MW-1A(20120622) | D | Water | 9056A | |
| 240-12605-2MS | Matrix Spike | D | Water | 9056A | |
| 240-12605-3 | MW-102A(20120622) | D | Water | 9056A | |
| **Analysis Batch:240-48697** | | | | | |
| LCS 240-48697/6 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48697/5 | Method Blank | T | Water | 9056A | |
| 240-12605-1 | MW-101(20120622) | T | Water | 9056A | |
| 240-12605-2 | MW-1A(20120622) | D | Water | 9056A | |
| 240-12605-2MS | Matrix Spike | D | Water | 9056A | |
| 240-12605-3 | MW-102A(20120622) | D | Water | 9056A | |
| **Analysis Batch:240-48902** | | | | | |
| LCS 240-48902/5 | Lab Control Sample | T | Water | 9056A | |
| MB 240-48902/4 | Method Blank | T | Water | 9056A | |
| 240-12605-1 | MW-101(20120622) | T | Water | 9056A | |
| 240-12605-1MS | Matrix Spike | T | Water | 9056A | |
| 240-12605-2 | MW-1A(20120622) | D | Water | 9056A | |
| 240-12605-3 | MW-102A(20120622) | D | Water | 9056A | |
| **Prep Batch: 240-49375** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | 365.2/365.3/365 | |
| MB 240-49375/10-A | Method Blank | T | Water | 365.2/365.3/365 | |
| 240-12605-2 | MW-1A(20120622) | D | Water | 365.2/365.3/365 | |
| 240-12605-2MS | Matrix Spike | D | Water | 365.2/365.3/365 | |
| 240-12605-2MSD | Matrix Spike Duplicate | D | Water | 365.2/365.3/365 | |
| 240-12605-3 | MW-102A(20120622) | D | Water | 365.2/365.3/365 | |
| **Prep Batch: 240-49413** | | | | | |
| LCS 240-49413/2-B | Lab Control Sample | D | Water | 365.2/365.3/365 | |
| MB 240-49413/1-B | Method Blank | D | Water | 365.2/365.3/365 | |
| 240-12605-1 | MW-101(20120622) | D | Water | 365.2/365.3/365 | |
| 240-12605-1MS | Matrix Spike | D | Water | 365.2/365.3/365 | |
| 240-12605-1MSD | Matrix Spike Duplicate | D | Water | 365.2/365.3/365 | |
| **Analysis Batch:240-49474** | | | | | |
| LCS 240-49375/11-A | Lab Control Sample | T | Water | SM 4500 P E | 240-49375 |
| MB 240-49375/10-A | Method Blank | T | Water | SM 4500 P E | 240-49375 |
| 240-12605-2 | MW-1A(20120622) | D | Water | SM 4500 P E | 240-49375 |
| 240-12605-2MS | Matrix Spike | D | Water | SM 4500 P E | 240-49375 |
| 240-12605-2MSD | Matrix Spike Duplicate | D | Water | SM 4500 P E | 240-49375 |
| 240-12605-3 | MW-102A(20120622) | D | Water | SM 4500 P E | 240-49375 |

Client: TRW Automotive

Job Number: 240-12605-1

## QC Association Summary

| Lab Sample ID | Client Sample ID | Report Basis | Client Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| **General Chemistry** | | | | | |
| **Analysis Batch:240-49478** | | | | | |
| LCS 240-49413/2-B | Lab Control Sample | D | Water | SM 4500 P E | 240-49419 |
| MB 240-49413/1-B | Method Blank | D | Water | SM 4500 P E | 240-49419 |
| 240-12605-1 | MW-101(20120622) | D | Water | SM 4500 P E | 240-49419 |
| 240-12605-1MS | Matrix Spike | D | Water | SM 4500 P E | 240-49419 |
| 240-12605-1MSD | Matrix Spike Duplicate | D | Water | SM 4500 P E | 240-49419 |
| **Analysis Batch:240-49573** | | | | | |
| LCS 240-49573/4 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-49573/5 | Method Blank | T | Water | SM 2320B | |
| 240-12605-1 | MW-101(20120622) | T | Water | SM 2320B | |
| 240-12605-2 | MW-1A(20120622) | T | Water | SM 2320B | |
| **Analysis Batch:240-49870** | | | | | |
| LCS 240-49870/4 | Lab Control Sample | T | Water | SM 2320B | |
| MB 240-49870/5 | Method Blank | T | Water | SM 2320B | |
| 240-12605-3 | MW-102A(20120622) | T | Water | SM 2320B | |
| **Analysis Batch:240-50113** | | | | | |
| LCS 240-50108/2-A | Lab Control Sample | D | Water | 9056A | |
| MB 240-50108/1-A | Method Blank | D | Water | 9056A | |
| 240-12605-1 | MW-101(20120622) | D | Water | 9056A | |
| 240-12605-1MS | Matrix Spike | D | Water | 9056A | |
| **Analysis Batch:240-50241** | | | | | |
| LCS 240-50241/8 | Lab Control Sample | T | Water | SM4500 NH3 -F | |
| MB 240-50241/7 | Method Blank | T | Water | SM4500 NH3 -F | |
| 240-12605-2 | MW-1A(20120622) | D | Water | SM4500 NH3 -F | |
| 240-12605-3 | MW-102A(20120622) | D | Water | SM4500 NH3 -F | |
| **Analysis Batch:240-50397** | | | | | |
| LCS 240-50305/2-A | Lab Control Sample | D | Water | SM4500 NH3 -F | |
| MB 240-50305/1-A | Method Blank | D | Water | SM4500 NH3 -F | |
| 240-12605-1 | MW-101(20120622) | D | Water | SM4500 NH3 -F | |
| 240-12605-1MS | Matrix Spike | D | Water | SM4500 NH3 -F | |
| 240-12605-1MSD | Matrix Spike Duplicate | D | Water | SM4500 NH3 -F | |

**Report Basis**
D = Dissolved
T = Total





Client: TRW Automotive

Job Number: 240-12605-1

## Surrogate Recovery Report

**8260B Volatile Organic Compounds (GC/MS)**

**Client Matrix: Water**

| Lab Sample ID | Client Sample ID | BFB %Rec | DBFM %Rec | DCA %Rec | TOL %Rec |
|---|---|---|---|---|---|
| 240-12605-1 | MW-101(20120622) | 92 | 101 | 103 | 96 |
| 240-12605-2 | MW-1A(20120622) | 95 | 113 | 112 | 99 |
| 240-12605-3 | MW-102A(20120622) | 103 | 97 | 91 | 95 |
| 240-12605-4 | TRIP BLANK | 103 | 94 | 86 | 94 |
| MB 240-49717/5 | | 97 | 108 | 104 | 102 |
| MB 240-49859/5 | | 108 | 98 | 91 | 98 |
| LCS 240-49717/4 | | 110 | 111 | 100 | 103 |
| LCS 240-49859/4 | | 106 | 100 | 93 | 97 |

| Surrogate | Acceptance Limits |
|---|---|
| BFB = 4-Bromofluorobenzene (Surr) | 66-117 |
| DBFM = Dibromofluoromethane (Surr) | 75-121 |
| DCA = 1,2-Dichloroethane-d4 (Surr) | 63-129 |
| TOL = Toluene-d8 (Surr) | 74-115 |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49717**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49717/5 | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4864 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1609 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1609 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromoform | 1.0 | U | 0.64 | 1.0 |
| Bromomethane | 1.0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1.0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1.0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1.0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1.0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1.0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1.0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0.14 | 1.0 |
| Dibromomethane | 1.0 | U | 0.28 | 1.0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1.0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| Bromodichloromethane | 1.0 | U | 0.15 | 1.0 |
| Dichlorodifluoromethane | 1.0 | U | 0.31 | 1.0 |
| 1,1-Dichloroethane | 1.0 | U | 0.15 | 1.0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2.0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 0.441 | J | 0.30 | 1.0 |
| Isopropylbenzene | 1.0 | U | 0.13 | 1.0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1.0 |
| Methylene Chloride | 1.25 | | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2.0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1.0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1.0 | U | 0.14 | 1.0 |
| o-Xylene | 1.0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1.0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1.0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49717**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49717/5 | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4864 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1609 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1609 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| trans-1,3-Dichloropropene | 1.0 | U | 0.19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1.0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1,2-Trichloroethane | 1.0 | U | 0.27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0.12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1.0 |
| 1,2-Dibromoethane | 1.0 | U | 0.24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 97 | 66 - 117 |
| Dibromofluoromethane (Surr) | 108 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 104 | 63 - 129 |
| Toluene-d8 (Surr) | 102 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12605-1

**Lab Control Sample - Batch: 240-49717**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49717/4 | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4863 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1546 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1546 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 10.7 | 107 | 83 - 112 | |
| Bromobenzene | 10.0 | 8.26 | 83 | 76 - 115 | |
| Bromoform | 10.0 | 11.4 | 114 | 40 - 131 | |
| Bromomethane | 10.0 | 10.6 | 106 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.38 | 94 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.40 | 94 | 85 - 110 | |
| Chloroethane | 10.0 | 11.0 | 110 | 25 - 153 | |
| Chloroform | 10.0 | 10.6 | 106 | 79 - 117 | |
| Chloromethane | 10.0 | 9.35 | 94 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 8.97 | 90 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 9.01 | 90 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 10.9 | 109 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 9.02 | 90 | 61 - 115 | |
| Dibromomethane | 10.0 | 11.2 | 112 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.39 | 94 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 8.79 | 88 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 8.76 | 88 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.8 | 108 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 8.51 | 85 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 11.6 | 116 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 10.4 | 104 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 10.9 | 109 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.0 | 100 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 9.80 | 98 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.61 | 96 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.80 | 98 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.66 | 97 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 7.26 | 73 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 10.1 | 101 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 9.33 | 93 | 74 - 120 | |
| Methylene Chloride | 10.0 | 13.1 | 131 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 19.4 | 97 | 83 - 113 | |
| Naphthalene | 10.0 | 10.6 | 106 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.44 | 94 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 8.98 | 90 | 74 - 121 | |
| o-Xylene | 10.0 | 10.5 | 105 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 9.08 | 91 | 70 - 117 | |
| Styrene | 10.0 | 9.96 | 100 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 8.75 | 88 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 11.6 | 116 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.2 | 102 | 68 - 118 | |





Client: TRW Automotive

Job Number: 240-12605-1

**Lab Control Sample - Batch: 240-49717**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49717/4 | Analysis Batch: | 240-49717 | Instrument ID: | A3UX15 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXC4863 D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/03/2012 1546 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/03/2012 1546 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 8.84 | 88 | 79 - 114 | |
| Toluene | 10.0 | 9.82 | 98 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 11.2 | 112 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 10.0 | 100 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 9.86 | 99 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 8.57 | 86 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.85 | 99 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 10.1 | 101 | 80 - 112 | |
| Trichloroethene | 10.0 | 10.0 | 100 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 9.20 | 92 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 9.14 | 91 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 9.42 | 94 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 9.02 | 90 | 72 - 118 | |
| Vinyl chloride | 10.0 | 9.65 | 97 | 53 - 127 | |
| Bromochloromethane | 10.0 | 11.0 | 110 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 10.1 | 101 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 110 | 66 - 117 |
| Dibromofluoromethane (Surr) | 111 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 100 | 63 - 129 |
| Toluene-d8 (Surr) | 103 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49859**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49859/5 | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5594 D |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1144 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1144 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Benzene | 1.0 | U | 0.13 | 1.0 |
| Bromobenzene | 1 0 | U | 0.13 | 1.0 |
| Bromoform | 1 0 | U | 0.64 | 1 0 |
| Bromomethane | 1 0 | U | 0.41 | 1.0 |
| Carbon tetrachloride | 1 0 | U | 0.13 | 1.0 |
| Chlorobenzene | 1 0 | U | 0.15 | 1.0 |
| Dibromochloromethane | 1.0 | U | 0.18 | 1.0 |
| Chloroethane | 1 0 | U | 0.29 | 1.0 |
| Chloroform | 1.0 | U | 0.16 | 1.0 |
| Chloromethane | 1 0 | U | 0.30 | 1.0 |
| 2-Chlorotoluene | 1 0 | U | 0.11 | 1.0 |
| 4-Chlorotoluene | 1.0 | U | 0.18 | 1.0 |
| cis-1,2-Dichloroethene | 1.0 | U | 0.17 | 1 0 |
| cis-1,3-Dichloropropene | 1.0 | U | 0 14 | 1 0 |
| Dibromomethane | 1.0 | U | 0 28 | 1 0 |
| 1,2-Dichlorobenzene | 1.0 | U | 0.13 | 1.0 |
| 1,3-Dichlorobenzene | 1.0 | U | 0.14 | 1 0 |
| 1,4-Dichlorobenzene | 1.0 | U | 0 13 | 1.0 |
| Bromodichloromethane | 1 0 | U | 0 15 | 1.0 |
| Dichlorodifluoromethane | 1 0 | U | 0.31 | 1 0 |
| 1,1-Dichloroethane | 1 0 | U | 0.15 | 1 0 |
| 1,2-Dichloroethane | 1.0 | U | 0.22 | 1.0 |
| 1,1-Dichloroethene | 1.0 | U | 0.19 | 1.0 |
| Dichlorofluoromethane | 2 0 | U | 0.42 | 2.0 |
| 1,2-Dichloropropane | 1.0 | U | 0.18 | 1.0 |
| 1,3-Dichloropropane | 1.0 | U | 0.16 | 1.0 |
| 2,2-Dichloropropane | 1.0 | U | 0.13 | 1.0 |
| 1,1-Dichloropropene | 1.0 | U | 0.13 | 1.0 |
| Ethylbenzene | 1.0 | U | 0.17 | 1.0 |
| Hexachlorobutadiene | 1.0 | U | 0.30 | 1.0 |
| Isopropylbenzene | 1 0 | U | 0.13 | 1 0 |
| p-Isopropyltoluene | 1.0 | U | 0.12 | 1 0 |
| Methylene Chloride | 1.24 | | 0.33 | 1.0 |
| m-Xylene & p-Xylene | 2.0 | U | 0.24 | 2 0 |
| Naphthalene | 1.0 | U | 0.24 | 1.0 |
| n-Butylbenzene | 1 0 | U | 0.12 | 1.0 |
| N-Propylbenzene | 1 0 | U | 0.14 | 1.0 |
| o-Xylene | 1 0 | U | 0.14 | 1.0 |
| sec-Butylbenzene | 1 0 | U | 0.13 | 1.0 |
| Styrene | 1.0 | U | 0.11 | 1.0 |
| tert-Butylbenzene | 1 0 | U | 0.13 | 1.0 |
| 1,1,1,2-Tetrachloroethane | 1 0 | U | 0.23 | 1.0 |
| 1,1,2,2-Tetrachloroethane | 1 0 | U | 0.18 | 1.0 |
| Tetrachloroethene | 1.0 | U | 0.29 | 1.0 |
| Toluene | 1.0 | U | 0.13 | 1.0 |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49859**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49859/5 | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5594.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1144 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1144 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| trans-1,2-Dichloroethene | 1 0 | U | 0 19 | 1.0 |
| trans-1,3-Dichloropropene | 1 0 | U | 0 19 | 1.0 |
| 1,2,3-Trichlorobenzene | 1.0 | U | 0.17 | 1 0 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 0.15 | 1.0 |
| 1,1,1-Trichloroethane | 1.0 | U | 0 22 | 1.0 |
| 1,1,2-Trichloroethane | 1 0 | U | 0 27 | 1.0 |
| Trichloroethene | 1.0 | U | 0.17 | 1.0 |
| Trichlorofluoromethane | 1.0 | U | 0.21 | 1.0 |
| 1,2,3-Trichloropropane | 1.0 | U | 0.43 | 1.0 |
| 1,2,4-Trimethylbenzene | 1.0 | U | 0 12 | 1.0 |
| 1,3,5-Trimethylbenzene | 1.0 | U | 0.096 | 1.0 |
| Vinyl chloride | 1.0 | U | 0.22 | 1.0 |
| Bromochloromethane | 1.0 | U | 0.29 | 1 0 |
| 1,2-Dibromoethane | 1.0 | U | 0 24 | 1.0 |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 108 | 66 - 117 |
| Dibromofluoromethane (Surr) | 98 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 91 | 63 - 129 |
| Toluene-d8 (Surr) | 98 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12605-1

**Lab Control Sample - Batch: 240-49859**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49859/4 | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5592.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Benzene | 10.0 | 9.91 | 99 | 83 - 112 | |
| Bromobenzene | 10.0 | 10.6 | 106 | 76 - 115 | |
| Bromoform | 10.0 | 10.8 | 108 | 40 - 131 | |
| Bromomethane | 10.0 | 12.7 | 127 | 11 - 185 | |
| Carbon tetrachloride | 10.0 | 9.93 | 99 | 66 - 128 | |
| Chlorobenzene | 10.0 | 9.72 | 97 | 85 - 110 | |
| Chloroethane | 10.0 | 10.6 | 106 | 25 - 153 | |
| Chloroform | 10.0 | 9.55 | 96 | 79 - 117 | |
| Chloromethane | 10.0 | 9.22 | 92 | 44 - 126 | |
| 2-Chlorotoluene | 10.0 | 10.5 | 105 | 76 - 116 | |
| 4-Chlorotoluene | 10.0 | 10.9 | 109 | 77 - 115 | |
| cis-1,2-Dichloroethene | 10.0 | 9.90 | 99 | 80 - 113 | |
| cis-1,3-Dichloropropene | 10.0 | 9.60 | 96 | 61 - 115 | |
| Dibromomethane | 10.0 | 10.3 | 103 | 81 - 120 | |
| 1,2-Dichlorobenzene | 10.0 | 9.48 | 95 | 81 - 110 | |
| 1,3-Dichlorobenzene | 10.0 | 9.77 | 98 | 80 - 110 | |
| 1,4-Dichlorobenzene | 10.0 | 9.57 | 96 | 82 - 110 | |
| Bromodichloromethane | 10.0 | 10.1 | 101 | 72 - 121 | |
| Dichlorodifluoromethane | 10.0 | 8.66 | 87 | 19 - 129 | |
| 1,1-Dichloroethane | 10.0 | 10.1 | 101 | 82 - 115 | |
| 1,2-Dichloroethane | 10.0 | 9.85 | 97 | 71 - 127 | |
| 1,1-Dichloroethene | 10.0 | 10.2 | 102 | 78 - 131 | |
| 1,2-Dichloropropane | 10.0 | 10.0 | 100 | 81 - 115 | |
| 1,3-Dichloropropane | 10.0 | 9.59 | 96 | 79 - 116 | |
| 2,2-Dichloropropane | 10.0 | 9.72 | 97 | 50 - 129 | |
| 1,1-Dichloropropene | 10.0 | 9.75 | 98 | 83 - 114 | |
| Ethylbenzene | 10.0 | 9.57 | 96 | 83 - 112 | |
| Hexachlorobutadiene | 10.0 | 9.38 | 94 | 36 - 134 | |
| Isopropylbenzene | 10.0 | 9.72 | 97 | 75 - 114 | |
| p-Isopropyltoluene | 10.0 | 10.6 | 106 | 74 - 120 | |
| Methylene Chloride | 10.0 | 11.2 | 112 | 66 - 131 | |
| m-Xylene & p-Xylene | 20.0 | 19.1 | 96 | 83 - 113 | |
| Naphthalene | 10.0 | 6.51 | 65 | 32 - 141 | |
| n-Butylbenzene | 10.0 | 9.44 | 94 | 66 - 125 | |
| N-Propylbenzene | 10.0 | 10.5 | 105 | 74 - 121 | |
| o-Xylene | 10.0 | 9.71 | 97 | 83 - 113 | |
| sec-Butylbenzene | 10.0 | 10.5 | 105 | 70 - 117 | |
| Styrene | 10.0 | 9.87 | 99 | 79 - 114 | |
| tert-Butylbenzene | 10.0 | 10.5 | 105 | 71 - 115 | |
| 1,1,1,2-Tetrachloroethane | 10.0 | 10.0 | 100 | 72 - 116 | |
| 1,1,2,2-Tetrachloroethane | 10.0 | 9.44 | 94 | 68 - 118 | |





Client: TRW Automotive

Job Number: 240-12605-1

**Lab Control Sample - Batch: 240-49859**

**Method: 8260B**
**Preparation: 5030B**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49859/4 | Analysis Batch: | 240-49859 | Instrument ID: | A3UX11 |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | UXJ5592.D |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/05/2012 1059 | Units: | ug/L | Final Weight/Volume: | 5 mL |
| Prep Date: | 07/05/2012 1059 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Tetrachloroethene | 10.0 | 9.48 | 95 | 79 - 114 | |
| Toluene | 10.0 | 9.40 | 94 | 84 - 111 | |
| trans-1,2-Dichloroethene | 10.0 | 9.86 | 99 | 83 - 117 | |
| trans-1,3-Dichloropropene | 10.0 | 9.31 | 93 | 58 - 117 | |
| 1,2,3-Trichlorobenzene | 10.0 | 7.81 | 78 | 54 - 126 | |
| 1,2,4-Trichlorobenzene | 10.0 | 8.96 | 90 | 48 - 135 | |
| 1,1,1-Trichloroethane | 10.0 | 9.51 | 95 | 74 - 118 | |
| 1,1,2-Trichloroethane | 10.0 | 9.86 | 99 | 80 - 112 | |
| Trichloroethene | 10.0 | 10.1 | 101 | 76 - 117 | |
| Trichlorofluoromethane | 10.0 | 10.1 | 101 | 49 - 157 | |
| 1,2,3-Trichloropropane | 10.0 | 10.1 | 101 | 73 - 129 | |
| 1,2,4-Trimethylbenzene | 10.0 | 10.8 | 108 | 76 - 120 | |
| 1,3,5-Trimethylbenzene | 10.0 | 10.8 | 108 | 72 - 118 | |
| Vinyl chloride | 10.0 | 9.77 | 98 | 53 - 127 | |
| Bromochloromethane | 10.0 | 9.74 | 97 | 77 - 120 | |
| 1,2-Dibromoethane | 10.0 | 9.39 | 94 | 79 - 113 | |

| Surrogate | % Rec | Acceptance Limits |
|---|---|---|
| 4-Bromofluorobenzene (Surr) | 106 | 66 - 117 |
| Dibromofluoromethane (Surr) | 100 | 75 - 121 |
| 1,2-Dichloroethane-d4 (Surr) | 93 | 63 - 129 |
| Toluene-d8 (Surr) | 97 | 74 - 115 |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1634 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 200 | U | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 5000 | U | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 5000 | U | 34 | 5000 |
| Manganese | 0.515 | J | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Zinc | 20 | U | 5.0 | 20 |
| Lithium | 4.53 | J | 1.8 | 50 |
| SiO2, Silica | 1100 | U | 14 | 1100 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/2-A | Analysis Batch: | 240-49561 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I9062912A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1638 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2260 | 113 | 80 - 120 | |
| Boron | 1000 | 1130 | 113 | 80 - 120 | |
| Calcium | 50000 | 52100 | 104 | 80 - 120 | |
| Chromium | 200 | 207 | 104 | 80 - 120 | |
| Iron | 1000 | 1070 | 107 | 80 - 120 | |
| Potassium | 50000 | 52700 | 105 | 80 - 120 | |
| Magnesium | 50000 | 50000 | 100 | 80 - 120 | |
| Manganese | 500 | 529 | 106 | 80 - 120 | |
| Sodium | 50000 | 53700 | 107 | 80 - 120 | |
| Nickel | 500 | 512 | 102 | 80 - 120 | |
| Lead | 500 | 512 | 102 | 80 - 120 | |
| Zinc | 500 | 518 | 104 | 80 - 120 | |
| Lithium | 1000 | 1050 | 105 | 80 - 120 | |
| SiO2, Silica | 2140 | 2430 | 114 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49871**

**Method: 6010B**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49868/1-B | Analysis Batch: | 240-50182 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49871 | Lab File ID: | I9070612A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/06/2012 1623 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0937 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Barium | 0.842 | J | 0.67 | 200 |
| Boron | 200 | U | 34 | 200 |
| Calcium | 207 | J | 130 | 5000 |
| Chromium | 5.0 | U | 2.2 | 5.0 |
| Iron | 100 | U | 81 | 100 |
| Potassium | 5000 | U | 72 | 5000 |
| Magnesium | 54.8 | J | 34 | 5000 |
| Manganese | 15 | U | 0.41 | 15 |
| Sodium | 5000 | U | 590 | 5000 |
| Nickel | 40 | U | 3.2 | 40 |
| Lead | 3.0 | U | 1.9 | 3.0 |
| Zinc | 7.48 | J | 5.0 | 50 |
| Lithium | 50 | U | 1.8 | 50 |
| SiO2, Silica | 24.3 | J | 14 | 1100 |

**Lab Control Sample - Batch: 240-49871**

**Method: 6010B**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49871/2-A | Analysis Batch: | 240-50182 | Instrument ID: | I9 |
| Client Matrix: | Water | Prep Batch: | 240-49871 | Lab File ID: | I9070612A.asc |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/06/2012 1627 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0937 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Barium | 2000 | 2070 | 103 | 80 - 120 | |
| Boron | 1000 | 1040 | 104 | 80 - 120 | |
| Calcium | 50000 | 51500 | 103 | 80 - 120 | |
| Chromium | 200 | 196 | 98 | 80 - 120 | |
| Iron | 1000 | 1040 | 104 | 80 - 120 | |
| Potassium | 50000 | 50700 | 101 | 80 - 120 | |
| Magnesium | 50000 | 50500 | 101 | 80 - 120 | |
| Manganese | 500 | 497 | 99 | 80 - 120 | |
| Sodium | 50000 | 51400 | 103 | 80 - 120 | |
| Nickel | 500 | 482 | 96 | 80 - 120 | |
| Lead | 500 | 483 | 97 | 80 - 120 | |
| Zinc | 500 | 504 | 101 | 80 - 120 | |
| Lithium | 1000 | 1000 | 100 | 80 - 120 | |
| SiO2, Silica | 2140 | 2260 | 106 | 80 - 120 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49161/1-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8082912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1404 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 10 | U | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49161**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49161/3-A | Analysis Batch: | 240-49560 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49161 | Lab File ID: | I8082912A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1422 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/28/2012 0651 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 925 | 92 | 80 - 120 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49878**

**Method: 6020**
**Preparation: 3005A**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49878/1-C | Analysis Batch: | 240-50170 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49878 | Lab File ID: | I8070612A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/06/2012 0925 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0946 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Strontium | 0.679 | J | 0.33 | 10 |

**Lab Control Sample - Batch: 240-49878**

**Method: 6020**
**Preparation: 3005A**
**Total Recoverable**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49878/2-A | Analysis Batch: | 240-50170 | Instrument ID: | I8 |
| Client Matrix: | Water | Prep Batch: | 240-49878 | Lab File ID: | I8070612A.csv |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/06/2012 0930 | Units: | ug/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 07/05/2012 0946 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Strontium | 1000 | 865 | 86 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-48696**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48696/5 | Analysis Batch: | 240-48696 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0011059-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1202 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0.015 | 1.0 |
| Bromide-Dissolved | 0.50 | U | 0.081 | 0.50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1.0 |

**Lab Control Sample - Batch: 240-48696**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48696/6 | Analysis Batch: | 240-48696 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0011059-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1219 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 48.9 | 98 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.47 | 99 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.56 | 96 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 47.7 | 95 | 90 - 110 | |

**Matrix Spike - Batch: 240-48696**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12605-2 | Analysis Batch: | 240-48696 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 10240-0011059-010.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1325 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 6.3 | | 50.0 | 60.2 | 108 | 80 - 120 | |
| Fluoride-Dissolved | 0.042 | J | 2.50 | 3.02 | 119 | 80 - 120 | |
| Bromide-Dissolved | 0.50 | U | 10.0 | 10.6 | 106 | 80 - 120 | |
| Sulfate-Dissolved | 6.2 | | 50.0 | 58.5 | 105 | 80 - 120 | |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-48697**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48697/5 | Analysis Batch: | 240-48697 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0011059-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1202 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 0.012 | 0.10 |
| Nitrate as N-Dissolved | 0.10 | U | 0.023 | 0.10 |

**Lab Control Sample - Batch: 240-48697**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48697/6 | Analysis Batch: | 240-48697 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 6240-0011059-006.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1219 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 2.50 | 2.38 | 95 | 90 - 110 | |
| Nitrate as N-Dissolved | 2.50 | 2.31 | 92 | 90 - 110 | |

**Matrix Spike - Batch: 240-48697**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12605-2 | Analysis Batch: | 240-48697 | Instrument ID: | SIMON |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 10240-0011059-010.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/25/2012 1325 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Nitrite as N-Dissolved | 0.10 | U | 2.50 | 2.68 | 107 | 80 - 120 | |
| Nitrate as N-Dissolved | 1.6 | | 2.50 | 4.21 | 104 | 80 - 120 | |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-48902**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-48902/4 | Analysis Batch: | 240-48902 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 4240-0011105-004 d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/26/2012 1248 | Units: | mg/L | Final Weight/Volume: | 1 0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Orthophosphate-Dissolved | 0.50 | U | 0.044 | 0.50 |

**Lab Control Sample - Batch: 240-48902**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-48902/5 | Analysis Batch: | 240-48902 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 5240-0011105-005.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/26/2012 1306 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Orthophosphate-Dissolved | 2.50 | 2.61 | 104 | 90 - 110 | |

**Matrix Spike - Batch: 240-48902**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-48902 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 7240-0011105-007.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/26/2012 1341 | Units: | mg/L | Final Weight/Volume: | 1.0 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Orthophosphate-Dissolved | 0.19 | J | 2.50 | 4.72 | 181 | 80 - 120 | F |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-50113**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-50108/1-A | Analysis Batch: | 240-50113 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 14240-0011394-015.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/06/2012 1923 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Chloride-Dissolved | 1.0 | U | 0.10 | 1.0 |
| Fluoride-Dissolved | 1.0 | U | 0 015 | 1.0 |
| Bromide-Dissolved | 0 50 | U | 0.081 | 0 50 |
| Sulfate-Dissolved | 1.0 | U | 0.12 | 1 0 |

**Lab Control Sample - Batch: 240-50113**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-50108/2-A | Analysis Batch: | 240-50113 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 15240-0011394-016.d |
| Dilution: | 1 0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/06/2012 1941 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Chloride-Dissolved | 50.0 | 51.4 | 103 | 90 - 110 | |
| Fluoride-Dissolved | 2.50 | 2.44 | 98 | 90 - 110 | |
| Bromide-Dissolved | 10.0 | 9.73 | 97 | 90 - 110 | |
| Sulfate-Dissolved | 50.0 | 49.1 | 98 | 90 - 110 | |

**Matrix Spike - Batch: 240-50113**

**Method: 9056A**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-50113 | Instrument ID: | GARFUNKEL |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 17240-0011394-018.d |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 07/06/2012 2015 | Units: | mg/L | Final Weight/Volume: | 5 mL |
| Prep Date: | N/A | | | | 25 uL |
| Leach Date: | N/A | | | | |

| Analyte | Sample Result/Qual | | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|---|---|
| Chloride-Dissolved | 7.4 | | 50.0 | 63.8 | 113 | 80 - 120 | |
| Fluoride-Dissolved | 0.043 | J | 2.50 | 2.76 | 109 | 80 - 120 | |
| Bromide-Dissolved | 0.088 | J | 10.0 | 10.7 | 106 | 80 - 120 | |
| Sulfate-Dissolved | 7.2 | | 50.0 | 59.8 | 105 | 80 - 120 | |

## Quality Control Results

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49573**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49573/5 | Analysis Batch: | 240-49573 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/29/2012 1211 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-49573**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49573/4 | Analysis Batch: | 240-49573 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 062912alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 06/29/2012 1205 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 82.5 | 104 | 90 - 127 | |



## Quality Control Results

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49870**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49870/5 | Analysis Batch: | 240-49870 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 070312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 07/03/2012 1119 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Alkalinity | 5.0 | U | 2.7 | 5.0 |
| Bicarbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |
| Carbonate Alkalinity as CaCO3 | 5.0 | U | 2.7 | 5.0 |

**Lab Control Sample - Batch: 240-49870**

**Method: SM 2320B**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49870/4 | Analysis Batch: | 240-49870 | Instrument ID: | STEVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 070312alk.TXT |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 1.0 mL |
| Analysis Date: | 07/03/2012 1113 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec | Limit | Qual |
|---|---|---|---|---|---|
| Alkalinity | 79.4 | 82.7 | 104 | 90 - 127 | |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49375/10-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0745 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49375/11-A | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1424 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0746 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 5.50 | 5.83 | 106 | 53 - 134 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 240-49375**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-12605-2 | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1424 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0747 | | | | |
| Leach Date: | N/A | | | | |
| MSD Lab Sample ID: | 240-12605-2 | Analysis Batch: | 240-49474 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49375 | Lab File ID: | TP062912.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1424 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0748 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 103 | 102 | 10 - 199 | 2 | 20 | | |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-49419**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-49413/1-B | Analysis Batch: | 240-49478 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49419 | Lab File ID: | TP062912A.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1604 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0745 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 0.10 | U | 0.033 | 0.10 |

**Lab Control Sample - Batch: 240-49419**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-49413/2-B | Analysis Batch: | 240-49478 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49419 | Lab File ID: | TP062912A.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 5 mL |
| Analysis Date: | 06/29/2012 1604 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0748 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 5.50 | 5.79 | 105 | 53 - 134 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 240-49419**

**Method: SM 4500 P E**
**Preparation: 365.2/365.3/365**
**Dissolved**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-49478 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49419 | Lab File ID: | TP062912A.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1604 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0754 | | | | |
| Leach Date: | N/A | | | | |
| MSD Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-49478 | Instrument ID: | BARNEY |
| Client Matrix: | Water | Prep Batch: | 240-49419 | Lab File ID: | TP062912A.xls |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 06/29/2012 1604 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | 06/29/2012 0757 | | | | |
| Leach Date: | N/A | | | | |

| Analyte | % Rec. MS | % Rec. MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
|---|---|---|---|---|---|---|---|
| Total Phosphorus as PO4-Dissolved | 109 | 110 | 10 - 199 | 1 | 20 | | |

Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-50241**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-50241/7 | Analysis Batch: | 240-50241 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 070912.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/09/2012 0728 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.0515 | J | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-50241**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-50241/8 | Analysis Batch: | 240-50241 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 070912.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/09/2012 0729 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 13.9 | 14.0 | 100 | 85 - 114 | |





Client: TRW Automotive

Job Number: 240-12605-1

**Method Blank - Batch: 240-50397**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | MB 240-50305/1-A | Analysis Batch: | 240-50397 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 071012.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/10/2012 1254 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Result | Qual | MDL | RL |
|---|---|---|---|---|
| Ammonia-Dissolved | 0.0825 | J | 0.035 | 0.20 |

**Lab Control Sample - Batch: 240-50397**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| Lab Sample ID: | LCS 240-50305/2-A | Analysis Batch: | 240-50397 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 071012.txt |
| Dilution: | 5.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/10/2012 1254 | Units: | mg/L | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| Analyte | Spike Amount | Result | % Rec. | Limit | Qual |
|---|---|---|---|---|---|
| Ammonia-Dissolved | 13.9 | 12.9 | 93 | 85 - 114 | |

**Matrix Spike/**
**Matrix Spike Duplicate Recovery Report - Batch: 240-50397**

**Method: SM4500 NH3 -F**
**Preparation: N/A**

| | | | | | |
|---|---|---|---|---|---|
| MS Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-50397 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 071012.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/10/2012 1305 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| | | | | | |
|---|---|---|---|---|---|
| MSD Lab Sample ID: | 240-12605-1 | Analysis Batch: | 240-50397 | Instrument ID: | DAVE |
| Client Matrix: | Water | Prep Batch: | N/A | Lab File ID: | 071012.txt |
| Dilution: | 1.0 | Leach Batch: | N/A | Initial Weight/Volume: | 50 mL |
| Analysis Date: | 07/10/2012 1308 | | | Final Weight/Volume: | 50 mL |
| Prep Date: | N/A | | | | |
| Leach Date: | N/A | | | | |

| | % Rec. | | | | | | |
|---|---|---|---|---|---|---|---|
| Analyte | MS | MSD | Limit | RPD | RPD Limit | MS Qual | MSD Qual |
| Ammonia-Dissolved | 106 | 111 | 75 - 125 | 4 | 20 | | |

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

# Chain of Custody Record

TestAmerica Laboratory location: ____
Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other ____

TestAmerica Laboratories, Inc.
COC No: 1 of 1 COCs

Client Contact
Company Name: Arcadis
Address: 8226 Rosehill Rd Ste 350
City/State/Zip: Lenexa, KS 66216
Phone: 913 492-0900

Client Project Manager: John Shortelt
Telephone: 913 492-0900
Email: john.shortelt@arcadis-us.com

Site Contact: Larry Benoitis
Telephone: 913 492-0900

Lab Contact: Denise Hill
Telephone: 866 785 7222

Project Name: TRW-OU2
Project Number: KC001590.00003
PO #: ____

Method of Shipment/Carrier: FedEx
Shipping/Tracking No: 8756 5245 2918

TAT If Different From Below: 3 weeks ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day ☐

Sample Specific Notes / Special Instructions: ____

| Sample Identification | Sample Date | Sample Time | Air | Aqueous Unknown | Sediment | Solid | Other | HCl | HNO3 | H2SO4 | NaOH | ZnAc/ NaOH | Unpres. | Other | Volatile Organics | Alkalinity 2320B | Ammonia 350.1 | Nitrate Nitrite | Metals Calcium/Iron | Metals Manganese | Total Phosphorus | Sample Specific Notes / Special Instructions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-101 (20120622) | 6-22-12 | 0955 | X | | | | | 1 | 2 | 3 | | | | 2 | N | X | X | X | X | X | X | Not Field Filtered |
| MW-1A (20120621) | 6-21-12 | 1705 | X | | | | | 1 | | 2 | | | | 2 | | X | X | X | X | X | X | |
| MW-102A (20120622) | 6-22-12 | 1215 | X | | | | | 1 | | 2 | | | | 2 | | X | X | X | X | X | X | |
| Trip Blank | 6-22-12 | — | X | | | | | 1 | | | | | | | | X | | | | | | Trip Blank |

Possible Hazard Identification: ☐ Poison B ☐ Unknown ☐ Skin Irritant ☐ Flammable ☐ Non-Hazardous
Special Instructions/QC Requirements & Comments: MW-101 (20120622) is not field filtered

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For ____ Months

| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
|---|---|---|---|---|---|
| [signature] | ARCADIS | 06/22/12 14:33 | [signature] | TA Canton | 6/22/12 9:15 |
| Relinquished by: | Company: | Date/Time: | Received by: | Company: | Date/Time: |
| Relinquished by: | Company: | Date/Time: | Received in Laboratory by: | Company: | Date/Time: |

TAL-0018 (1008)

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## TestAmerica North Canton Sample Receipt Form/Narrative

Login #: 126005

Client: Arcadis Site Name: ____ By: [signature] (Signature)

Cooler Received on: 6/23/12 Opened on: 6/23/12

FedEx 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other ____

TestAmerica Cooler # A635 Foam Box Client Cooler Box Other ____

Packing material used: Bubble Wrap Foam Plastic Bag None Other ____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt
   - IR GUN# 1 (CF -2°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C
   - IR GUN# 4G (CF -1°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C ☐ Multiple on Back
   - IR GUN# 5G (CF -1°C) Observed Sample Temp. 1.8 °C Corrected Sample Temp. 0.8 °C
   - IR GUN# 6Y (CF -2°C) Observed Sample Temp. ____ °C Corrected Sample Temp. ____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
   - Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA
   - Were custody seals on the bottle(s)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Did all bottles arrive in good condition (Unbroken)? Yes No
7. Could all bottle labels be reconciled with the COC? Yes No
8. Were correct bottle(s) used for the test(s) indicated? Yes No
9. Sufficient quantity received to perform indicated analyses? Yes No
10. Were sample(s) at the correct pH upon receipt? Yes No NA
11. Were VOAs on the COC? Yes No
12. Were air bubbles >6 mm in any VOA vials? Yes No NA
13. Was a trip blank present in the cooler(s)? Yes No

Contacted PM ____ Date ____ by ____ via Verbal Voice Mail Other

Concerning ____

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**

**15. SAMPLE CONDITION**

Sample(s) ____ were received after the recommended holding time had expired.

Sample(s) ____ were received in a broken container.

Sample(s) ____ were received with bubble >6 mm in diameter. (Notify PM)

## 16. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 - NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? _____

| Client ID | pH | Date | Initials |
|---|---|---|---|
| MW-10 | <2 <2 <2 | 6/23/12 | AM |
| MW-1A | <2 <2 <2 | | |
| ~~MW-102A~~ | ~~<2 <2 <2~~ | | |

| Cooler # | Temp. °C | IR # | Coolant |
|---|---|---|---|
| | | | |

c

*Appendix C*

*Landfill Inspection Reports*
*First Quarter 2008 through*
*Second Quarter 2012*

# Sullivan Landfill Inspection

Date: May 2012

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | |
| 2. Erosion Control | |
| a. Cap and Sideslopes | |
| b. Drainage Areas Clear | |
| 3. Settlement Platform | |
| a. Risers Undisturbed | |
| b. Gas Vent Risers Undisturbed | |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Cut brush from around Vents. Check for rodent burrows

(Bailed hay July) F Harman

# Sullivan Landfill Inspection

Date: July 2011

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | |
| b. Vandalism | |
| 2. Erosion Control | |
| a. Cap and Sideslopes | |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | |
| b. Gas Vent Risers Undisturbed | |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Baled hay on cap

Hauman

# Sullivan Landfill Inspection

Date: April 2011

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | |
| b. Vandalism | |
| 2. Erosion Control | |
| a. Cap and Sideslopes | |
| b. Drainage Areas Clear | Ok |
| 3. Settlement Platform | |
| a. Risers Undisturbed | |
| b. Gas Vent Risers Undisturbed | |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

No concerns

Tom Harman

# Sullivan Landfill Inspection

Date: Sept. 2010

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | |
| b. Vandalism | |
| 2. Erosion Control | |
| a. Cap and Sideslopes | |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | |
| b. Gas Vent Risers Undisturbed | |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Brush hog site.

Tom Harman

# Sullivan Landfill Inspection

Date: June 2d 0

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | OK |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Bailed hay from Cap.

T. Harman

# Sullivan Landfill Inspection

Date: March 2010

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | ok |
| b. Vandalism | ok |
| 2. Erosion Control | |
| a. Cap and Sideslopes | ok |
| b. Drainage Areas Clear | ok |
| 3. Settlement Platform | |
| a. Risers Undisturbed | ok |
| b. Gas Vent Risers Undisturbed | ok |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Tom Harman

# Sullivan Landfill Inspection

Date: Sept. 2009

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | OK |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Bailed hay from cap.

Tom Harman

# Sullivan Landfill Inspection

Date: March 2009

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | OK |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5. Specific Actions Taken To Address Concerns Listed Above

No concerns

Tom Harman

# Sullivan Landfill Inspection

Date: April 2009

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | OK |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Cut Brush from fencing

Brush hog cap.

Tom Hamman

# Sullivan Landfill Inspection

Date: Aug. 08

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | OK |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Cap baled for hay

Tom Harman

# Sullivan Landfill Inspection

Date: 2.22.08

| Item Description | Comment |
|---|---|
| 1. Site Security | |
| a. Gates, Fence Secure | OK |
| b. Vandalism | None |
| 2. Erosion Control | |
| a. Cap and Sideslopes | OK |
| b. Drainage Areas Clear | OK |
| 3. Settlement Platform | |
| a. Risers Undisturbed | OK |
| b. Gas Vent Risers Undisturbed | OK |
| 4. Miscellaneous | |

5.Specific Actions Taken To Address Concerns Listed Above

Tom Hamon

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