Matt Villicana
Project Manager

February 26, 2016

Mr. Michael Beslow
On-Scene Coordinator
U.S. Environmental Protection Agency Region 5
77 West Jackson Blvd. (SE-5J)
Chicago, Illinois 60604

Subject: **Draft Letter Report – Olympic Oil Antifreeze Release ER**
EPA Contract No. EP-S5-13-01
Technical Direction Document No. S05-0001-1502-007
Document Tracking No. 0516

Dear Mr. Beslow:

Tetra Tech Inc. (Tetra Tech) is submitting the Draft Letter Report for the Olympic Oil Antifreeze Release Emergency Response. This draft letter report summarizes the emergency response and responsible party oversight activities conducted from February 11, 2015 through January 31, 2016. Any additional reporting on site activities will be presented as an addendum to this report. If you have any questions regarding this report, please call me at (708) 502-1513.

Sincerely,

Matt Villicana
Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager
TDD File

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DRAFT LETTER REPORT
OLYMPIC OIL ANTIFREEZE RELEASE EMERGENCY RESPONSE
CICERO, COOK COUNTY, ILLINOIS

Prepared for

U.S. Environmental Protection Agency
Emergency Response Branch
Region 5
77 West Jackson Blvd. (SE-5J)
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Submitted by

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EPA Contract No. EP-S5-13-01

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February 26, 2016

Prepared by

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Approved by

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1.0 INTRODUCTION

The U.S. Environmental Protection Agency (USEPA) tasked Tetra Tech Inc. (Tetra Tech), under Superfund Technical Assessment and Response Team (START) Contract EP-S5-13-01, Technical Direction Document (TDD) No. S05-0001-1502-007, to perform the following activities:

- Respond to the Olympic Oil facility following the release of 50,000 gallons of antifreeze into the compromised secondary containment allowing the antifreeze to escape into the Chicago Ship and Sanitary Canal
- Collect samples from various types of media including soil, surface water, and groundwater to investigate the amount of antifreeze that was released outside the secondary containment
- Conduct oversight activities of response/remedial work being conducted by responsible party (RP) contractors
- Track costs related to response/oversight activities
- Develop a letter report of activities completed

These activities were performed as part of a USEPA Emergency Response at the Olympic Oil Facility, located at 5000 W. 41st Street, Cook County, Cicero, Illinois. The purpose of the emergency response was to assess the nature and size of the release and to conduct oversight of responsible party contractors to ensure they were mitigating threats to public health, welfare, and the environment posed by the release of antifreeze at the site.

This letter report discusses the site description and site background in Section 2.0, removal action activities in Section 3.0, a summary of completed removal action activities in Section 4.0, future activities in Section 5.0, and includes references in Section 6.0.

Site Figures 1 through 5 are provided in Appendix A; tables are provided in Appendix B; field notes recorded by START are provided in Appendix C; and photographic documentation is provided as Appendix D. USEPA Pollution/Situation Reports (Polrep) were filed four times during the removal action. All four reports are provided as Attachment A. Seven sets of samples were sent to ALS Environmental throughout the response. All seven laboratory reports are provided as Attachment B.

2.0 SITE BACKGROUND

This section describes the site location, the site description, and the project.

2.1 SITE LOCATION

The Olympic Oil Facility is an 8.67-acre lot with a single building that encompass 76,500 square feet (ft^2) located at 5000 W 41st Street in Cicero, Illinois (see Figures 1 and 2 in Appendix A). The site is an industrial property located in an industrial area. The site is bordered by the Chicago Ship and Sanitary Canal to the north, W. 41st Street and railroad tracks to the south, a separate oil refinery to the east, and vacant land to the west.

2.2 SITE DESCRIPTION

The site is currently owned by the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) who has leased the property to Olympic Oil since 1983 (Sun-Times 2015). Olympic Oil uses the site for antifreeze and lubricant blending and packaging (Sun-Times 2015).

Since 2006, there have been four releases at the site. On June 19, 2006, a tanker truck spill resulted in 1,000-1,500 gallons of two-cycle motor oil being released onto the ground at the site (Sun-Times 2015). A release of 5,900 gallons of oil was released to the ground on December 18, 2006 due to an operator overfilling a storage tank while unloading a railroad car (Sun-Times 2015). Between July 18, 2014 to August 22, 2014, heavy rains filled a secondary containment area on the north side of the canal, which reveled revealed subsurface oil contamination inside the secondary containment. Due to a breach in the secondary containment wall, an estimated 1,000 gallons of oil/water mixture was released into the Chicago Ship and Sanitary Canal (canal). During an unannounced inspection of the facility on August 22, 2014, U.S. Coast Guard personnel observed a sheen in the canal immediately adjacent to the facility. The Coast Guard inspectors filed a report with the National Response Center (NRC), which caused the U.S. Environmental Protection Agency (U.S. EPA) to initiate an emergency response also dispatching the Superfund Technical Assessment and Response Team (START) contractor (TDD: S05-0004-1408-011). On February 11, 2015, during an announced site visit by START personnel related to the August 2014 release, START personnel observed a large amount of green liquid, determined to be antifreeze, to be present in the secondary containment area. Upon further inspection, START also observed pools of the green liquid to be present on the ground between the secondary containment area and sheet piling walls of the canal. Upon the discovery of the antifreeze released outside the containment area, START contacted the U.S. EPA Emergency

Response Branch and the NRC to report the release. As a result, U.S. EPA initiated an emergency response also dispatching additional START personnel to the site.

3.0 EMERGENCY RESPONSE ACTIVITIES

From February 11, 2015 to August 7, 2015, U.S. EPA, START, and the Responsible Party (Olympic Oil) contractor, conducted the removal action. U.S. EPA On-Scene Coordinators (OSC) Mike Beslow and Anita Boseman were the primary site contacts. The START contractor was Tetra Tech and the RP contractors were K-Plus engineering and SET Environmental Inc.

The removal action is discussed in Section 3.0 as four general activities, (1) Responsible Party Oversight (2) Multi-media sampling , (3) Analytical Results (4) Free product removal and containment, The purpose of the investigation is described in each section along with procedures used to complete the task. Supporting documents are described below.

3.1 RESPONSIBLE PARTY OVERSIGHT

3.1.1 Site Preparation

In order to gain access to the site by anyone other than an employee, personnel had to sign in at the front office and receive a visitor pass from Olympic Oil. The secondary containment area was accessible from three locations. The first location was through a locked gate on the east side of the site. The second location was through a locked gate near the truck loading rack at the top of the slope on the south side of the site. The third location was an access path on the west side of the site which had a locked gate along 41st street.

During the removal activities, START personnel used an on-site trailer to work from and store equipment for sampling and monitoring. The trailer was located in the barge area, which is under U.S. Coast Guard Maritime Security (MARSEC) jurisdiction. As a result, the barge area was always gated and locked to prevent any trespassers on site.

Due to the close proximity to the water, Olympic Oil regulations required that any personnel working within 10 feet of the water wear a U.S. Coast Guard Type I-III personal flotation device (PFD).

3.2 MULTI-MEDIA SAMPLING

During the removal action, soil, surface water, and groundwater samples were collected. These samples were collected to determine the extent and severity of contamination in the different environmental media at the site.

3.2.1 Soil Sampling

A total of thirty-five soil samples (Figure 5) were collected from February 12, 2015 to March 6, 2015. All soil samples were analyzed for ethylene glycol by U.S. EPA Method SW 846 8015M. Two of the soil samples were also analyzed for Total Petroleum Hydrocarbons (TPH) by U.S. EPA Method 8015M, which consists of Diesel Range Organics (DRO), Gasoline Range Organics (GRO), and Oil Range Organics (ORO), as well as volatile organic compounds (VOCs) by U.S. EPA Method 8260B, and semi-volatile organic compounds (SVOCs) by U.S. EPA Method 8270D.

Two soil samples (OA-SG-0212-01 & OA-SG-0212-02) were collected just after the free product had been pumped from the containment area on 2/12/15. Sample OA-SG-0212-01 was collected from inside the secondary containment area, and sample OA-SG-0212-02 was collected outside the secondary containment area, between the containment area and canal. Theses samples were analyzed for ethylene glycol, TPH, VOCs, and SVOCs.

A single soil sample (OA-SS-03-0219) was collected on 2/19/15 and spilt with the RP contractor (K-Plus). This sample was analyzed for ethylene glycol.

On 2/25/2015 K-Plus Engineering drilled thirteen soil borings (KP1- KP13) and installed 3 temporary ground monitoring wells (KP5, KP9, and KP11). Soil borings were drilled to a depth of 12 feet and a composite sample was collected from every 4 foot interval. A total of 31 soil sample were collected and analyzed for ethylene glycol. A surface soil sample was also collected on February 25, 2015 from the south end of the containment area where the top 6 inches of soil had been scraped with an excavator. This sample was an ad on to the borings beings collected at the request of the EPA.

3.2.2 Surface Water Sampling

A total of nine surface water samples (Figure 4) were collected from February 11, 2015 to April 9, 2015. Surface water samples consisted of samples collected from the canal as well as from ponding within and outside the secondary containment area. Due to significant snowfall prior to the release, the entire site had almost a foot and a half of snow accumulation when the release occurred. As the snow melted, the released antifreeze mixed with the snowmelt leading to ponding of the released product and snowmelt in the containment area and between the secondary containment area and canal. As a result of the mixture of the released antifreeze and snowmelt, the original mixture of 50/50 ethylene glycol and water was diluted. Due to the dilution of the product by the water from the snowmelt, the ponded water from within and

outside the secondary containment area was classified as surface water and not free product for sampling purposes. All surface water samples were analyzed for ethylene glycol by U.S. EPA Method 8015M, and five of the surface water samples were also analyzed for VOCs by U.S. EPA Method 8260B and SVOCs by U.S. EPA Method 8270D.

One surface water sample (OA-SW-0211-01) was collected on February 11, 2015 and consisted of a released product/snowmelt mix pooled outside of the containment area between the containment wall and sheet pile wall along the canal. This sample was analyzed for ethylene glycol, VOCs, and SVOCs.

Two surface water samples (OA-SW-0213-01 & OA-SW-0213-02) were collected on February 13, 2015. Sample OA-SW-0213-01 was collected from the canal right in front of the outfall near the northeast end of the containment area. This sample was collected using an extendable pole with a 1 liter amber glass dipper bottle attached to the end. Sample OA-SW-0213-02 was collected from inside the northern edge of the containment area, this was a sample of water which had pooled in the containment area after the release. These samples were analyzed for ethylene glycol, VOCs, and SVOCs.

One surface water sample (OA-MH-05-0219) was collected on February 19, 2015 and was collected from manhole (MH) 5 located in the center of the secondary containment area. During the release, free product spilled over into the manhole and had pooled inside the cavity. This was sampled by START and analyzed for ethylene glycol.

Two surface water samples (OA-SW-01-0225 & OA-SW-02-0225) were collected on February 25, 2015. Sample OA-SW-01-0225 was collected from outside the northeast corner of the secondary containment area where the breach occurred. Sample OA-SW-02-0225 was collected from inside the containment area at the northwest corner. Both of these samples were analyzed for ethylene glycol.

One surface water sample (OA-SW-04032015) was collected on April 3, 2015. This sample was collected from the northeast corner of a trench that was excavated along the northern wall of the secondary containment area and was analyzed for ethylene glycol.

One surface water sample (OA-SW-04072015) was collected on April 7, 2015. This sample was collected from the slope on the southern side of the secondary containment area after a sheen was observed in the pooled water at the base. This sample was analyzed for ethylene glycol, VOCs, and SVOCs.

One surface water sample (OA-SW-04092015) was collected on April 9, 2015. The sample was collected from outside of the secondary containment area in the northeast corner where a temporary, recovery sump had been dug. During a site visit, START personnel observed pooled water in the sump which was observed to be a greenish color. Since it was suspected that discoloration was the result of antifreeze contamination, a sample was collected and analyzed for ethylene glycol, VOCs, and SVOCs.

3.2.3 Groundwater Sampling

According to the Agency for Toxic Substances and Disease Registry (ATSDR) toxicological profile for ethylene glycol, ethylene glycol has a low soil organic carbon-water partitioning coefficient (Koc) value which suggests that ethylene glycol is expected to have a very high mobility in soil. As a result, EPA and IEPA were concerned about the product moving into the ground water and also potentially seeping underneath the sheet pile walls of the canal banks into the canal. To monitor if the released product had migrated into the groundwater, three additional monitoring wells (KP-5, KP-9, & KP-11) were installed by K-Plus Engineering on February 25, 2015. These monitoring wells were installed to supplement the single monitoring well (MW-10), which was already in the containment area. After the monitoring wells exhibited signs of groundwater contamination four recovery wells (RW-01 to RW-04) were installed by K-Plus Engineering between February 27, 2015 and March 2, 2015. Monitoring wells that were sampled are shown in Figure 3.

As previously mentioned, a single monitoring well (MW-10) existed in the containment area prior to the release. The well had a total well depth of 15.1 feet below ground surface (bgs). Three samples were collected from MW-10 and analyzed for ethylene glycol. On February 19, 2015, two samples were collected from MW-10 (OA-MW-10-0219 & OA-MW-10-0219), sample OA-MW-10-0219 was taken from the well prior to any purging. This was conducted in order to see if any product had entered the well from the top. Sample OA-MW-10-0219-PP was taken after the well had been purged three well volumes. This was conducted in order to determine whether the released product had migrated into the groundwater. On February 25, 2015, a third sample (MW-10-0225) was collected from MW-10. Using an oil/water interface meter, the depth to water and depth to oil were collected. The depth to oil was found to be 4.4 feet bgs, and the depth to water was found to be 5.4 feet bgs, which indicated that the immiscible layer was 1 foot thick. Sample MW-10-0225 was collected after the well had been purged dry twice in an attempt to get an accurate representation of the amount of product in the groundwater.

On February 25, 2015, three monitoring wells (KP-5, KP-9, & KP-11) were installed in the secondary containment area. Monitoring well KP-11 had a total well depth of 15 feet bgs. An attempt to sample KP-

11 was made on February 25, 2015 and February 26, 2015; however, the well was dry, and a sample could not be collected. Monitoring well KP-9 had a total well depth of 15 feet bgs and was sampled on February 25, 2015. An attempt was made to purge the well three well volumes but the well had gone dry during purging, after waiting for the well to recharge, an attempt was made to sample the well; however, the well had not recharged and no sample could be collected. Therefore, a sample was collected from the purge water of KP-9 (KP9-GW-0225) and spilt between START and K-Plus. Monitoring well KP-5 had a total depth of 15 feet bgs and was sampled on February 26, 2015. Sample KP5-GW-0226 was able to be collected after the well had been purged of three well volumes. Samples KP5-GW-0226 and KP9-GW-0225 were analyzed for ethylene glycol.

Four recovery wells (RW-01 to RW-04) were installed inside the secondary containment area between February 27, 2015 and March 2, 2015. These recovery wells were 4 inches in diameter and installed to a depth of 15 feet bgs. Only two of the four recovery wells produced water (RW-01 & RW-02). A sample (OA-RW01-04072015) was collected from recovery well RW-01 on April 7, 2015 from a 55-gallon collection drum. The water would come out at a flow of only a few drops per minute, so the collection drum was used because it had enough volume for a sample. . A sample (OA-RW-02-04092015) was collected from RW-02 on April 9, 2015. This sample was also collected from a 55-gallon drum. Recovery well RW-02 did not produce water until April 9, 2015, after a significant rainfall event.

3.3 ANALYTICAL RESULTS

All of the samples mentioned in Section 3.2 were sent to ALS Environmental laboratory in Holland, Michigan for their respective analyses. The analytical results from each of the sampled media are summarized in Tables 1 through 3 in Appendix B. The full analytical reports from ALS Environmental can be found in Attachment B.

3.3.1 Soil Analytical Results

As mentioned in Section 3.2.1, each of the soil samples collected were analyzed for ethylene glycol by U.S. EPA Method 8015M (see Table 3 in Appendix B). The analytical results for ethylene glycol ranged from non-detect in 13 of the samples to 73,000 milligrams per kilogram (mg/kg) in sample OA-SG-0212-01.

The IEPA Non-Tiered Approach to Corrective Action (TACO) Soil Migration to Groundwater Remediation Objective for ethylene glycol is 56 mg/kg and the U.S. EPA Removal Management Level (RML) for industrial soil is 4,900 mg/kg. Of the 35 soil samples that were collected, 18 of the samples

had ethylene glycol greater than the IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objective, and seven of the samples had ethylene glycol levels greater than the U.S. EPA RML for industrial soil. Table A below summarizes the samples that had ethylene glycol levels greater than remedial objectives.

TABLE A
ANALYTICAL RESULTS SUMMARY FOR ETHYLENE GLYCOL IN SOIL

Sample ID	Sample Type	Depth	Analytical Result (mg/kg)
OA-SG-0212-01	Grab	0 to 0.5 feet	73,000
OA-SG-0212-02	Grab	0 to 0.5 feet	59,000
OA-SS-03-0219	Grab	0 to 0.5 feet	45,000
KP9-0004-0225 (KP9A)	Composite	0 to 4 feet	760
KP9-0408-0225 (KP9B)	Composite	4 to 8 feet	4,600
KP8-0004-0225 (KP8A)	Composite	0 to 4 feet	1,600
OA-SS-04-0225	Grab	0 to 0.5 feet	49,000
KP11-0004-0225 (KP11A)	Composite	0 to 4 feet	300
KP6-0004-0225 (KP6A)	Composite	0 to 4 feet	320
KP6-0408-0225 (KP6B)	Composite	4 to 8 feet	66
KP-7A-0001-0306-Split	Composite	0 to 1 feet	3,000
KP-7B-0607-0306-Split	Composite	6 to 7 feet	72
KP-10A-0001-0306-Split	Composite	0 to 1 feet	3,200
KP-10B-0607-0306-Split	Composite	6 to 7 feet	340
KP-12A-0001-0306-Split	Composite	0 to 1 feet	3,200
KP-13A-0001-0306-Split	Composite	0 to 1 feet	14,000
KP-1A-0001-0306-Split	Composite	0 to 1 feet	7,300
KP-2A-0004-0306-Split	Composite	0 to 4 feet	22,000

Notes:
mg/kg = milligrams per kilogram
Cells shaded orange are greater than the IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objective
Cells shaded red are greater than both the IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objective and U.S. EPA RML for industrial soil.

As mentioned in Section 3.2, soil samples OA-SG-0212-01 and OA-SG-0212-02 were also analyzed for TPH, VOCs, and SVOCs by U.S. EPA Methods 8015M, 8270D, and 8260B, respectively (see Table 3 in Appendix B). Analytical results for the VOC and SVOC analyses indicated that each sample had detectable levels of several analytes; however, only methyl butyl ketone (2-hexanone) and trichloroethene (TCE) were detected above remedial objectives in sample OA-SG-0212-01. Methyl Butyl Ketone was detected in sample OA-SG-0212-01 at 0.18 mg/kg, which is greater than the IEPA Non-TACO-Soil Migration to Class I Groundwater Remediation Objective of 0.16 mg/kg. Trichloroethene was detected in

sample OA-SG-0212-01 at 0.08 mg/kg, which is greater than the IEPA TACO Tier 1 Industrial/Commercial Soil Component of Class I Groundwater Remediation Objective.

3.3.2 Surface Water Analytical Results

As mentioned in Section 3.2, nine surface water samples were collected at the site, and each of the samples were analyzed for ethylene glycol by U.S. EPA Method 8015M (see Table 1 in Appendix B). The analytical results for ethylene glycol ranged from non-detect to 400,000,000 micrograms per liter (µg/L) in sample OA-SW-0211-01.

Since the U.S. EPA nor IEPA have specific remedial objectives for surface water, the surface water analytical results were compared to the IEPA TACO Tier 1 Class I Groundwater Remediation Objectives, The IEPA Non-TACO Class I Groundwater Remediation Objectives, and the U.S. EPA Maximum Contaminant Loads.

The IEPA Non-TACO Class I Groundwater Remediation Objective for ethylene glycol is 0.014 µg/L. Of the nine surface water samples, six of the samples had ethylene glycol levels greater than the IEPA remediation objective for ethylene glycol.

Five of the nine surface water samples were also analyzed for VOCs and SVOCs by U.S. EPA Methods 8260B and 8270D, respectively (see Table 1 in Appendix B). Each of the samples had detectable levels of VOC and SVOC analytes; however, many of the detections were below remedial objectives. Sample OA-SW-0211-01 detected chloroform (6.7 µg/L) and methylene chloride (36 µg/L) above the IEPA TACO Tier 1 Class I Groundwater Remediation Objectives of 0.2 µg/L and 5 µg/L, respectively. Sample OA-SW-0213-02 detected chloroform (0.51J µg/L) above the IEPA TACO Tier 1 Class I Groundwater Remediation Objective of 0.2 µg/L. Sample OA-SW-04032015 detected 2-Butanone (23 µg/L), benzene (6.9 µg/L), methylene chloride (140 µg/L), and vinyl chloride (3.9 µg/L) above the IEPA TACO Tier I Groundwater Remediation Objectives of 5 µg/L, 5 µg/L, 5 µg/L, and 2 µg/L, respectively. Sample OA-SW-04072015 detected bis(2-ethylhexyl)phthalate (49J µg/L) above the IEPA TACO Tier 1 Class I Groundwater Remediation Objective of 6 µg/L.

3.3.3 Surface Water Analytical Results

As mentioned in Section 3.2, seven groundwater samples were collected at the site, and each of the samples were analyzed for ethylene glycol by U.S. EPA Method 8015M (see Table 2 in Appendix B). Analytical results for ethylene glycol ranged from non-detect to 20,000,000 µg/L in OA-MW-10-0219-

PP. Of the seven groundwater samples, six detected ethylene glycol greater than the IEPA Non-TACO Class I Groundwater Remediation Objectives of 0.014 µg/L.

Two of the groundwater samples were also analyzed for VOCs and SVOCs by U.S. EPA Methods 8260B and 8270D, respectively (see Table 1 in Appendix B). Each of the samples detected VOC and SVOC analytes; however, only sample OA-RW01-04072015 detected an analyte above remediation objectives. Methylene chloride was detected in OA-RW01-04072015 at 310 µg/L, which is greater than the IEPA TACO Tier 1 Class I Groundwater Remediation Objective of 5 µg/L.

3.4 FREE PRODUCT REMOVAL AND CONTAINMENT

The day of the initial response (February 11, 2015) Olympic Oil had been using Future Environmental Inc. (Future) to vacuum the product outside of the containment area prior to U.S. EPA and START's arrival. Approximately 75,000 gallons of antifreeze and water from snowmelt was inside the secondary containment area. Approximately 350 gallons of product had also flowed outside of the secondary containment area through a breach in the containment wall at the northeast corner of the secondary containment area. The product outside the containment area was removed using a temporary sump pump that was set up by Olympic Oil, the temporary sump pump was kept in place during the entirety of the removal.

Most of the free product had been recovered by Future by February 13, 2015. After the majority of product had been recovered, SET Environmental Inc. (SET) was contracted by Olympic Oil to complete the remediation activities of the site. After SET had removed product from the secondary containment area by pumping it into totes, the totes were emptied by Future on March 25 and 26, 2015.

Two manholes are present inside the secondary containment area that consist of a valve pit (VH-01) and a storm drain (MH-05). After the product had been removed from the secondary containment area, the manhole covers were removed, which revealed that antifreeze had migrated into the two manholes.

After the product had been removed from inside and outside the secondary containment area, the soil was observed to be heavily saturated with product. As a result of the remaining impacted soil, rainwater from future rain events that formed pools in the impacted areas would require being pumped out by Future.

Also as a result of the antifreeze-impacted soil in the secondary containment area, Olympic Oil contracted SET to use an excavator and a front loader to scrape and remove the top layer of soil in the containment

area. SET also used the excavator to dig a trench along the inside of the northern secondary containment wall down to the concrete lip of the wall. The trench was already existing from the previous oil spill that occurred the previous year but was dug down to the lip of the wall to inspect the containment all for any damage which could lead to a breach. This SET also used the excavator to scrape the top two feet of soil from an approximate 10-foot by 60-foot area along the southern end of the secondary containment area.

4.0 SUMMARY OF RESPONSE ACTIVITIES

The following is a summary of removal action activities completed from February 11, 2015 to January 31, 2016:

- Surface water, groundwater, and soil samples were collected to assess the level of contamination in the area. These were spilts with K-Plus engineering.
- START documented all site activities and perform periodic inspections and conducted random, unannounced site inspections.
- Three temporary monitoring wells and four recovery wells were installed inside the containment area by CS Drilling. K-plus installed pumps in all the recovery wells to three temporary monitoring wells and four recovery wells were installed inside the containment area by CS Drilling. K-plus installed pumps in all the recovery wells to and pumped and water from the wells into 55 gal drums.
- Subsurface investigations were conducted to determine the level of contamination in the soil.

5.0 FUTURE ACTIVITIES

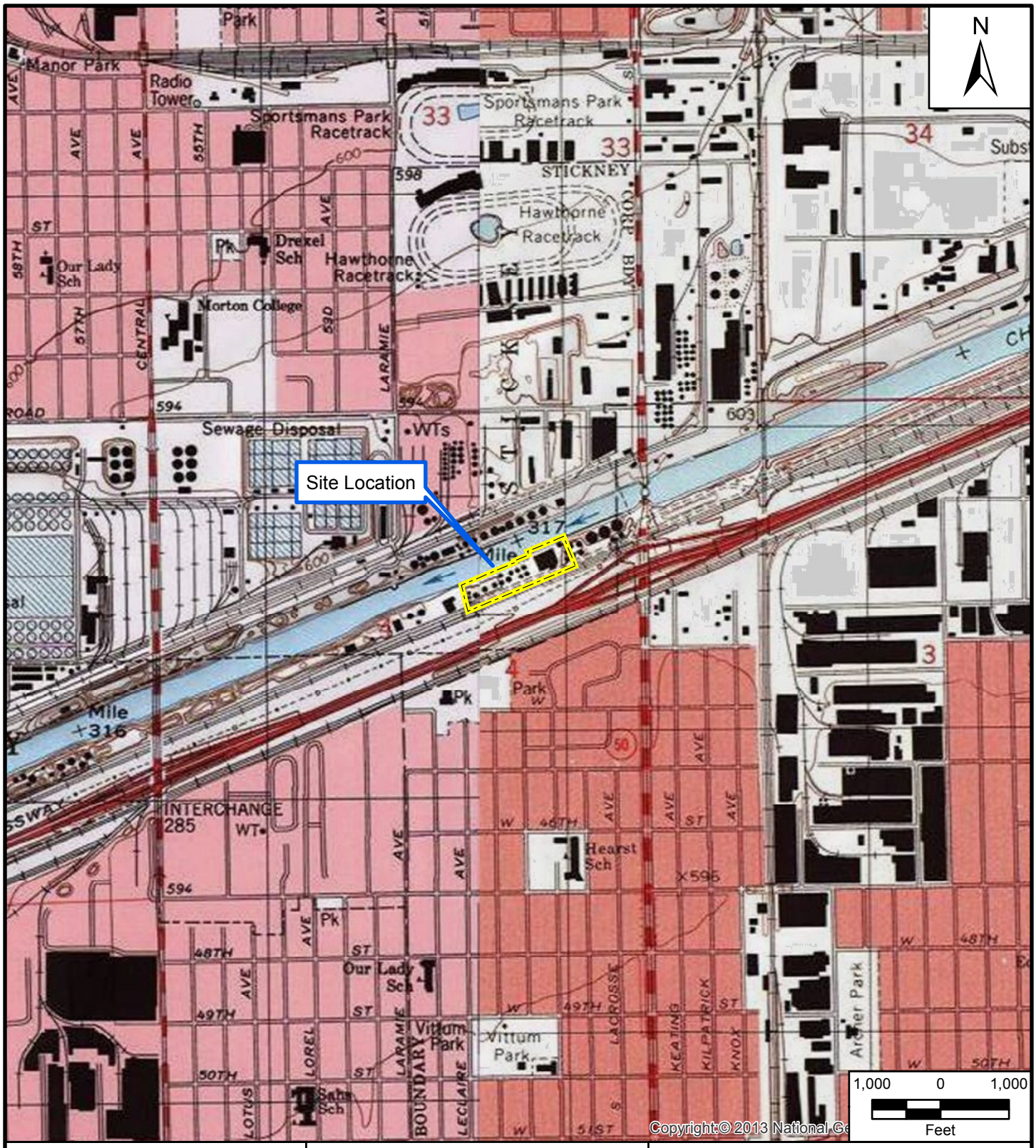
The site is currently enrolled in the Illinois Environmental Protection Agency (IEPA) Site Remediation Program (SRP), and IEPA will continue to monitor the site under their jurisdiction. As a result, no future activities are planned for U.S. EPA at the site.

6.0 REFERENCES

Chicago Sun-Times (Sun-Times). 2015. "The Watchdogs: Water Reclamation District's Toxic Tenant" August 29. On-line Address: http://chicago.suntimes.com/news/7/71/905668/metropolitan-water-reclamation-districts-toxic-tenant-olympic-oil

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. "Toxicological Profile for Ethylene Glycol" March 2007. On-line Address: http://www.atsdr.cdc.gov/toxprofiles/tp96-c6.pdf

APPENDIX A
SITE FIGURES



Reference Map

LEGEND

Approximate Site Boundary

Source: Modified from USGS, Englewood, Illinois and Berwyn, Illinois 7.5-Minute (1:24,000 Scale) Topographic Maps, 1981.

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 1

Site Location Map

TETRA TECH

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EPA Contract No.: EP-S5-13-01 TDD No.: S05-0001-1502-007 Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere Projection: Mercator Auxiliary Sphere Datum:WGS 1984 Units: Meter

Reference Map

Legend

- Approximate Site Boundary
- Containment Area
- Containment Boom

Source: Bing Maps Hybrid (2011-2012).

N

100 0 100

Feet

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 2A

Site Layout Map

TETRA TECH

Prepared For: USEPA

Prepared By: Tetra Tech, Inc

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Date Saved: 1/20/2016

EPA Contract No.: EP-S5-13-01

TDD No.: S05-0001-1502-007

Reference Map

Legend

- Approximate Site Boundary
- Containment Area
- Containment Boom
- Approximate Antifreeze Pipe Break
- Permanent Monitoring Well
- Manholes
- Recovery Wells
- K-Plus Soil Borings
- K-Plus Temporary Wells

Source: Bing Maps Hybrid (2011-2012).

N

25 0 25

Feet

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 2B

Detailed Site Layout Map

TETRA TECH

Prepared For: USEPA | Prepared By: Tetra Tech, Inc

File Path: G:\GIS\905-START IV\Illinois\Olympic Antifreeze ER\mxd\OlympicAntifreeze_2B.mxd

Date Saved: 2/26/2016

EPA Contract No.: EP-S5-13-01

TDD No.: S05-0001-1502-007

Reference Map

Legend

- Approximate Site Boundary
- Containment Area
- Containment Boom
- K-Plus Temporary Wells
- Permanent Monitoring Well
- Manholes
- Recovery Wells
- Surface Water Sample Location

Source: Bing Maps Hybrid (2011-2012).

N

15 0 15

Feet

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 3

Surface Water Sample Location Map

TETRA TECH

Prepared For: USEPA

Prepared By: Tetra Tech, Inc

File Path: G:\GIS\9209-START V\Illinois\Olympic Antifreeze ER\mxd\Olympic\Antifreeze_3.mxd

Date Saved: 2/26/2016

EPA Contract No.: EP-S5-13-01

TDD No.: S05-0001-1502-007

Reference Map

Legend

- Approximate Site Boundary
- Containment Area
- Containment Boom
- K-Plus Temporary Wells
- Permanent Monitoring Well
- Manholes
- Recovery Wells

Source: Bing Maps Hybrid (2011-2012).

N

15 0 15

Feet

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 4

Groundwater Sample Location Map

TETRA TECH

Prepared For: USEPA | Prepared By: Tetra Tech, Inc

File Path: G:\GIS\9209-START V\Illinois\Olympic Antifreeze ER\mxd\Olympicantifreeze_4.mxd

Date Saved: 1/20/2016

EPA Contract No.: EP-S5-13-01

TDD No.: S05-0001-1502-007

Reference Map

Legend

- Approximate Site Boundary
- Containment Area
- Containment Boom
- Soil Sample Location

Source: Bing Maps Hybrid (2011-2012).

N

15 0 15

Feet

Olympic Oil Antifreeze ER
Cicero, Illinois

Figure 5

Soil Sample Location Map

TETRA TECH

Prepared For: USEPA

Prepared By: Tetra Tech, Inc

File Path: G:\GIS\9209-START VI\Illinois\Olympic Antifreeze ER\mxd\Olympic Antifreeze_5.mxd

Date Saved: 1/20/2016

EPA Contract No.: EP-S5-13-01

TDD No.: S05-0001-1502-007

APPENDIX B

TABLES

TABLE 1
OLYMPIC OIL ANTIFREEZE ER
SURFACE WATER ANALYTICAL HITS

			Sample ID	OA-SW-0211-01	OA-SW-0213-01	OA-SW-0213-02	OA-MH-05-0219	OA-SW-01-0225	OA-SW-02-0225	OA-SW-04032015	OA-SW-04072015	OA-SW-04092015
			Sample Date	2/11/2015	2/13/2015	2/13/2015	2/19/2015	2/25/2015	2/25/2015	4/3/2015	4/7/2015	4/9/2015
			Matrix	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water
			Sample Time	11:30	11:30	13:10	13:35	13:55	14:00	10:00	14:45	9:57
	IEPA TACO Tier 1 Class I Groundwater Remediation Objectives (µg/L)[1]	IEPA Non-TACO Remediation Objectives Class I Groundwater (µg/L)[2]	MCL (µg/L)[3]									
Organic Compounds by SW8015M (ug/L)												
Ethylene Glycol	--	0.014	--	**400,000,000**	ND	**3,800 J**	**40,000,000**	ND	ND	**14,000,000**	**5,200,000**	**28,000,000**
Volatile Organic Compounds by SW846 8260B (ug/L)												
1,1,1-Trichloroethane	200	--	200	**8.8**	ND	ND	--	--	--	**88**	ND	--
1,1-Dichloroethane	700	--	--	**32**	ND	ND	--	--	--	**100**	ND	--
1,2-Dichlorobenzene	600	--	600	ND	ND	ND	--	--	--	**6.2**	ND	--
1,2-Dichloropropane	5	--	5	ND	ND	ND	--	--	--	**23**	ND	--
2-Butanone	--	4,200	--	**24 J**	ND	ND	--	--	--	**69**	**130**	--
2-Hexanone	--	35	--	ND	ND	ND	--	--	--	**3.9 J**	ND	--
4-Methyl-2-pentanone	--	--	--	**5.8**	ND	ND	--	--	--	**32**	**130**	--
Acetone	6,300	--	--	**63**	ND	ND	--	--	--	**760**	**520**	--
Benzene	5	--	5	ND	ND	ND	--	--	--	**6.9**	**4.9 J**	--
Carbon disulfide	700	--	--	ND	ND	ND	--	--	--	**1.2**	ND	--
Chlorobenzene	100	--	100	ND	ND	ND	--	--	--	**11**	ND	--
Chloroethane	--	--	--	**12**	ND	ND	--	--	--	**60**	ND	--
Chloroform	0.2	--	--	**6.7**	ND	**0.51 J**	--	--	--	ND	ND	--
Chloromethane	--	--	--	ND	ND	**0.82 J**	--	--	--	ND	ND	--
cis-1,2-Dichloroethene	70	--	70	**4.6 J**	ND	ND	--	--	--	**27**	ND	--
Ethylbenzene	700	--	700	ND	ND	ND	--	--	--	**22**	ND	--
Isopropylbenzene	--	--	--	ND	ND	ND	--	--	--	**3.4**	ND	--
m,p-Xylene	10,000	--	10,000	--	--	--	--	--	--	**100**	**6.6 J**	--
Methyl acetate	--	7,000	--	**69**	ND	ND	--	--	--	ND	**110**	--
Methyl tert-butyl ether	--	--	--	ND	ND	ND	--	--	--	ND	ND	--
Methylcyclohexane	--	--	--	ND	ND	ND	--	--	--	ND	ND	--
Methylene chloride	5	--	--	**36**	ND	ND	--	--	--	**140**	ND	--
o-Xylene	10,000	--	10,000	ND	ND	ND	--	--	--	**36**	**2.2 J**	--
Tetrachloroethene	5	--	5	ND	ND	ND	--	--	--	**2.1**	ND	--
Toluene	1,000	--	1,000	**4.1 J**	**0.51 J**	**0.33 J**	--	--	--	**81**	ND	--
Trichloroethene	5	--	5	ND	ND	ND	--	--	--	**4.4**	ND	--
Vinyl chloride	2	--	2	ND	ND	ND	--	--	--	**3.9**	ND	--
Semi-Volatile Organic Compounds by SW846 8270D (ug/L)												
Acenaphthylene	--	210	--	ND	ND	ND	--	--	--	ND	ND	--
Bis(2-ethylhexyl)phthalate	6	--	--	ND	ND	ND	--	--	--	ND	**49 J**	--
Diethyl phthalate	5,600	--	--	ND	ND	ND	--	--	--	ND	ND	--
Di-n-butyl phthalate	700	--	--	ND	ND	ND	--	--	--	ND	ND	--
Phenol	100	--	--	ND	ND	ND	--	--	--	ND	ND	--

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action (TACO) Tier 1 Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742zz9996beR.html
2 = IEPA Chemicals not in TACO Tier 1 Tables - Class I Groundwater Remediation Objective http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
3 = United States Environmetal Protection Agency (US EPA) Maximum Contaminant Load (MCL) http://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls
ND = indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
-- = Not applicable
ug/L= micrograms per liter
MCL= US EPA Maximum Contaminant Level for Drinking Water
Bold indicates analyte was detected above the sample reporting limit
Analyte was detected above IEPA TACO Tier 1 Class I Groundwater Remediation Objective
Analyte was detected above the IEPA Non-TACO Class I Groundwater Remediation Objective
Analyte was detected above US EPA MCL

TABLE 2
OLYMPIC OIL ANTIFREEZE ER
GROUNDWATER ANALYTICAL HITS

			Sample ID	OA-MW-10-0219	OA-MW-10-0219-PP	MW-10-0225	KP9-GW-0225	KP5-GW-0226	OA-RW01-04072015	OA-RW-02-04092015
			Sample Date	2/19/2015	2/19/2015	2/25/2015	2/25/2015	2/26/2015	4/7/2015	4/9/2015
			Matrix	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
			Sample Time	13:10	13:40	12:02	15:00	9:50	15:00	9:47
	IEPA TACO Tier 1 Class I Groundwater Remediation Objectives (µg/L)[1]	IEPA Non-TACO Remediation Objectives Class I Groundwater (µg/L)[2]	MCL (µg/L)[3]							
Organic Compounds by SW8015M (µg/L)										
Ethylene Glycol	--	0.014	--	**6,300,000**	**20,000,000**	**5,600,000**	**180,000**	**200,000**	ND	**50,000**
Volatile Organic Compounds by 8260B (µg/L)										
1,1,1-Trichloroethane	200	--	200	--	--	--	--	--	**1.3**	ND
1,1-Dichloroethane	700	--	--	--	--	--	--	--	**18**	**7.2**
1,2-Dichlorobenzene	600	--	600	--	--	--	--	--	ND	ND
1,2-Dichloropropane	5	--	5	--	--	--	--	--	ND	ND
2-Butanone	--	4,200	--	--	--	--	--	--	**5.3**	**1.4 J**
2-Hexanone	--	35	--	--	--	--	--	--	ND	ND
4-Methyl-2-pentanone	--	--	--	--	--	--	--	--	**5.2**	ND
Acetone	6,300	--	--	--	--	--	--	--	**76**	**28**
Benzene	5	--	5	--	--	--	--	--	ND	**0.58 J**
Carbon disulfide	700	--	--	--	--	--	--	--	ND	ND
Chlorobenzene	100	--	100	--	--	--	--	--	ND	ND
Chloroethane	--	--	--	--	--	--	--	--	**1.2**	**9**
Chloroform	0.2	--	--	--	--	--	--	--	ND	ND
Chloromethane	--	--	--	--	--	--	--	--	ND	ND
cis-1,2-Dichloroethene	70	--	70	--	--	--	--	--	**5.5**	ND
Ethylbenzene	700	--	700	--	--	--	--	--	ND	ND
Isopropylbenzene	--	--	--	--	--	--	--	--	ND	ND
m,p-Xylene	10,000	--	10,000	--	--	--	--	--	**0.67 J**	**1.7 J**
Methyl acetate	--	7,000	--	--	--	--	--	--	ND	ND
Methyl tert-butyl ether	--	--	--	--	--	--	--	--	ND	ND
Methylcyclohexane	--	--	--	--	--	--	--	--	ND	ND
Methylene chloride	5	--	--	--	--	--	--	--	**310**	**0.91 J**
o-Xylene	10,000	--	10,000	--	--	--	--	--	**0.33 J**	**0.54 J**
Tetrachloroethene	5	--	5	--	--	--	--	--	ND	ND
Toluene	1,000	--	1,000	--	--	--	--	--	**2.2**	**3**
Trichloroethene	5	--	5	--	--	--	--	--	ND	ND
Vinyl chloride	2	--	2	--	--	--	--	--	**1.4**	ND
Semi-Volatile Organic Compounds by SW846 8270D (µg/L)										
Acenaphthylene	--	210	--	--	--	--	--	--	ND	**0.19 J**
Bis(2-ethylhexyl)phthalate	6	--	--	--	--	--	--	--	ND	ND
Diethyl phthalate	5,600	--	--	--	--	--	--	--	**1.9 J**	ND
Di-n-butyl phthalate	700	--	--	--	--	--	--	--	**0.86 J**	ND
Phenol	100	--	--	--	--	--	--	--	**3.3 J**	ND

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action (TACO) Tier 1 Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742zz9996beR.html
2 = IEPA Chemicals not in TACO Tier 1 Tables - Class I Groundwater Remediation Objective http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
3 = United States Environmetal Protection Agency (US EPA) Maximum Contaminant Load (MCL) http://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls
ND = indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
-- = Not applicable
ug/L= micrograms per liter
MCL= US EPA Maximum Contaminant Level for Drinking Water
Bold indicates analyte was detected above the sample reporting limit
Analyte was detected above IEPA TACO Tier 1 Class I Groundwater Remediation Objective
Analyte was detected above the IEPA Non-TACO Class I Groundwater Remediation Objective
Analyte was detected above US EPA MCL

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	OA-SG-0212-01	OA-SG-0212-02	OA-S5-03-0219 (OA-SS-03-0219)	KP9-0004-0225 (KP9A)
					Sample Date	2/12/2015	2/12/2015	2/19/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	15:15	15:47	13:30	9:30
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	**73,000**	**59,000**	**45,000**	**760**
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	**1,100**	**1,800**	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	ND	ND	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	**260**	**1,200**	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	**0.4**	**0.0057 J**	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	**0.2**	**0.036**	--	--
1,2-Dichloropropane	84	23	0.03	--	200	**0.15**	ND	--	--
2-Butanone	--	--	--	17	580,000	ND	**0.0096 J**	--	--
2-Hexanone	--	--	--	0.16	4,000	**0.18**	ND	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	**0.68**	ND	--	--
Acetone	--	100,000	25	--	2,000	ND	**0.046**	--	--
Benzene	100	1.6	0.03	--	510	**0.023 J**	**0.0012 J**	--	--
Carbon disulfide	200,000	720	32	--	10,000	ND	**0.001 J**	--	--
Chloroethane	--	--	--	--	--	**0.15**	**0.28**	--	--
Chloroform	940	0.54	0.6	--	140	ND	**0.0011 J**	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	**0.091**	**0.0019 J**	--	--
Cyclohexane	--	--	--	--	9,200	ND	**0.0025 J**	--	--
Ethylbenzene	200,000	400	13	--	2,500	**0.041**	**0.00048 J**	--	--
m,p-Xylene	410,000	420	200	--	7,100	**0.22**	**0.001 J**	--	--
Methyl acetate	--	--	--	28	3,500,000	**0.086 J**	ND	--	--
Methylene chloride	760	24	0.02	--	9,500	ND	**0.0019 J**	--	--
o-Xylene	410,000	410	190	--	8,400	**0.12**	**0.00052 J**	--	--
Tetrachloroethene	110	20	0.06	--	1,200	**0.36**	ND	--	--
Toluene	410,000	650	12	--	140,000	**0.24**	**0.0019 J**	--	--
Trichloroethene	520	8.9	0.06	--	56	**0.08**	ND	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	ND	**0.014**	--	--
Xylenes, Total	410,000	320	150	--	8,400	**0.34**	**0.0015 J**	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	OA-SG-0212-01	OA-SG-0212-02	OA-S5-03-0219 (OA-SS-03-0219)	KP9-0004-0225 (KP9A)
					Sample Date	2/12/2015	2/12/2015	2/19/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	15:15	15:47	13:30	9:30
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	**0.01**	ND	--	--
Anthracene	610,000	--	12,000	--	680,000	**0.016**	**0.063**	--	--
Benzo(a)anthracene	8	--	2	--	290	**0.14**	**0.32**	--	--
Benzo(a)pyrene	0.8	--	8	--	29	**0.17**	**0.25**	--	--
Benzo(b)fluoranthene	8	--	5	--	290	**0.28**	**0.4**	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	**0.17**	**0.21**	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	**0.083**	**0.13**	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	**26**	**23**	--	--
Chrysene	780	--	160	--	29,000	**0.19**	**0.32**	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	**0.045**	**0.043**	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	**0.74**	**1.3 J**	--	--
Fluoranthene	82,000	--	4,300	--	90,000	**0.19**	**0.48**	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	**0.18**	**0.23**	--	--
Naphthalene	41,000	270	12	--	1,700	**0.016**	**0.022 J**	--	--
Phenanthrene	--	--	--	210	--	**0.05**	**0.19**	--	--
Pyrene	61,000	--	42,000	--	68,000	**0.2**	**0.5**	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	19	23	15	19

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP9-0408-0225 (KP9B)	KP9-0812-0225 (KP9C)	KP8-0004-0225 (KP8A)	KP8-0408-0225 (KP8B)	KP8-0812-0225 (KP8C)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil	Soil
					Sample Time	9:35	9:40	11:35	11:40	11:45
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]					
Organic Compounds by SW8015M (mg/kg)										
Ethylene Glycol	--	--	--	56	4,900	**4,600**	ND	**1,600**	ND	ND
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)										
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP9-0408-0225 (KP9B)	KP9-0812-0225 (KP9C)	KP8-0004-0225 (KP8A)	KP8-0408-0225 (KP8B)	KP8-0812-0225 (KP8C)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil	Soil
					Sample Time	9:35	9:40	11:35	11:40	11:45
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]					
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)										
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--	--
Moisture by E160.3M (%)										
Moisture	--	--	--	--	--	15	16	13	18	16

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	OA-SS-04-0225	KP11-0004-0225 (KP11A)	KP11-0408-0225 (KP11B)	KP11-0812-0225 (KP11C)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	11:50	12:35	12:40	12:45
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	**49,000**	**300**	ND	ND
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	OA-SS-04-0225	KP11-0004-0225 (KP11A)	KP11-0408-0225 (KP11B)	KP11-0812-0225 (KP11C)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	11:50	12:35	12:40	12:45
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	11	17	17	17

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP5-0004-0225 (KP5A)	KP5-0408-0225 (KP5B)	KP5-0812-0225 (KP5C)	KP6-0004-0225 (KP6A)	KP6-0408-0225 (KP6B)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil	Soil
					Sample Time	14:00	14:05	14:10	15:25	15:30
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]					
Organic Compounds by SW8015M (mg/kg)										
Ethylene Glycol	--	--	--	56	4,900	**32**	**22**	**9.9**	**320**	**66**
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)										
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP5-0004-0225 (KP5A)	KP5-0408-0225 (KP5B)	KP5-0812-0225 (KP5C)	KP6-0004-0225 (KP6A)	KP6-0408-0225 (KP6B)
					Sample Date	2/25/2015	2/25/2015	2/25/2015	2/25/2015	2/25/2015
					Matrix	Soil	Soil	Soil	Soil	Soil
					Sample Time	14:00	14:05	14:10	15:25	15:30
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]					
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)										
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--	--
Moisture by E160.3M (%)										
Moisture	--	--	--	--	--	17	17	16	17	18

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-7A-0001-0306-Split	KP-7B-0607-0306-Split	KP-7C-1415-0306-Split	KP-10A-0001-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	8:31	8:33	8:41	9:00
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	**3,000**	**72**	ND	**3,200**
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-7A-0001-0306-Split	KP-7B-0607-0306-Split	KP-7C-1415-0306-Split	KP-10A-0001-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	8:31	8:33	8:41	9:00
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	12	18	16	18

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-10B-0607-0306-Split	KP-10C-1415-0306-Split	KP-12A-0001-0306-Split	KP-12B-0607-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	9:02	9:10	9:22	9:25
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	**340**	ND	**3,200**	**12**
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-10B-0607-0306-Split	KP-10C-1415-0306-Split	KP-12A-0001-0306-Split	KP-12B-0607-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	9:02	9:10	9:22	9:25
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	19	16	21	19

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-12C-1415-0306-Split	KP-13A-0001-0306-Split	KP-13B-0809-0306-Split	KP-13C-1415-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	9:31	9:42	9:46	9:55
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	ND	**14,000**	ND	ND
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-12C-1415-0306-Split	KP-13A-0001-0306-Split	KP-13B-0809-0306-Split	KP-13C-1415-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	9:31	9:42	9:46	9:55
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	17	16	18	12

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-1A-001-0306-Split (KP-1A-0001-0306-Split)	KP-2A-0004-0306-Split	KP-2B-0607-0306-Split	KP-3A-0001-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	11:00	11:10	11:30	11:50
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Organic Compounds by SW8015M (mg/kg)									
Ethylene Glycol	--	--	--	56	4,900	**7,300**	**22,000**	ND	ND
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)									
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--	--	--	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--	--	--	--
1,2-Dichloropropane	84	23	0.03	--	200	--	--	--	--
2-Butanone	--	--	--	17	580,000	--	--	--	--
2-Hexanone	--	--	--	0.16	4,000	--	--	--	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--	--	--	--
Acetone	--	100,000	25	--	2,000	--	--	--	--
Benzene	100	1.6	0.03	--	510	--	--	--	--
Carbon disulfide	200,000	720	32	--	10,000	--	--	--	--
Chloroethane	--	--	--	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--	--	--	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--	--	--	--
Cyclohexane	--	--	--	--	9,200	--	--	--	--
Ethylbenzene	200,000	400	13	--	2,500	--	--	--	--
m,p-Xylene	410,000	420	200	--	7,100	--	--	--	--
Methyl acetate	--	--	--	28	3,500,000	--	--	--	--
Methylene chloride	760	24	0.02	--	9,500	--	--	--	--
o-Xylene	410,000	410	190	--	8,400	--	--	--	--
Tetrachloroethene	110	20	0.06	--	1,200	--	--	--	--
Toluene	410,000	650	12	--	140,000	--	--	--	--
Trichloroethene	520	8.9	0.06	--	56	--	--	--	--
Vinyl chloride	7.9	1.1	0.01	--	170	--	--	--	--
Xylenes, Total	410,000	320	150	--	8,400	--	--	--	--

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-1A-001-0306-Split (KP-1A-0001-0306-Split)	KP-2A-0004-0306-Split	KP-2B-0607-0306-Split	KP-3A-0001-0306-Split
					Sample Date	3/6/2015	3/6/2015	3/6/2015	3/6/2015
					Matrix	Soil	Soil	Soil	Soil
					Sample Time	11:00	11:10	11:30	11:50
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]				
Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)									
2-Methylnaphthalene	--	--	--	2	9,000	--	--	--	--
Anthracene	610,000	--	12,000	--	680,000	--	--	--	--
Benzo(a)anthracene	8	--	2	--	290	--	--	--	--
Benzo(a)pyrene	0.8	--	8	--	29	--	--	--	--
Benzo(b)fluoranthene	8	--	5	--	290	--	--	--	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--	--	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--	--	--	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--	--	--	--
Chrysene	780	--	160	--	29,000	--	--	--	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--	--	--	--
Di-n-butyl phthalate	--	--	2,300	--	--	--	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--	--	--	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--	--	--	--
Naphthalene	41,000	270	12	--	1,700	--	--	--	--
Phenanthrene	--	--	--	210	--	--	--	--	--
Pyrene	61,000	--	42,000	--	68,000	--	--	--	--
Moisture by E160.3M (%)									
Moisture	--	--	--	--	--	17	17	19	19

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
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ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

TABLE 3
OLYMPIC OIL ANTIFREEZE RELEASE ER
SOIL ANALYTICAL HITS

					Sample ID	KP-4A-0001-0306-Split
					Sample Date	3/6/2015
					Matrix	Soil
					Sample Time	12:01
	IEPA TACO Tier 1 Industrial/ Comercial Soil Ingestion Remediation Objectives[1]	IEPA TACO Tier 1 Industrial/ Comercial Soi Inhalation Remediation Objectives[2]	IEPA TACO Tier 1 Industrial/ Commercial Soil Component of Class I Groundwater Ingestion Remediation Objectives[3]	IEPA Non-TACO Soil Migration to Class I Groundwater Remediation Objectives[4]	RML Industrial Soil[5]	
Organic Compounds by SW8015M (mg/kg)						
Ethylene Glycol	--	--	--	56	4,900	ND
Diesel Range Organics (DRO) (C10-C28)	--	--	--	--	--	--
Gasoline Range Organics (GRO) (C6-C10)	--	--	--	--	--	--
Oil Range Organics (ORO) (C28-C40)	--	--	--	--	--	--
Volatile Organic Compounds by SW846 8260B (mg/kg)						
1,1,1-Trichloroethane	--	1,200	2	--	110,000	--
1,1-Dichloroethane	200,000	1,700	23	--	1,600	--
1,2-Dichloropropane	84	23	0.03	--	200	--
2-Butanone	--	--	--	17	580,000	--
2-Hexanone	--	--	--	0.16	4,000	--
4-Methyl-2-pentanone	--	--	--	--	170,000	--
Acetone	--	100,000	25	--	2,000	--
Benzene	100	1.6	0.03	--	510	--
Carbon disulfide	200,000	720	32	--	10,000	--
Chloroethane	--	--	--	--	--	--
Chloroform	940	0.54	0.6	--	140	--
cis-1,2-Dichloroethene	20,000	1,200	0.4	--	7,000	--
Cyclohexane	--	--	--	--	9,200	--
Ethylbenzene	200,000	400	13	--	2,500	--
m,p-Xylene	410,000	420	200	--	7,100	--
Methyl acetate	--	--	--	28	3,500,000	--
Methylene chloride	760	24	0.02	--	9,500	--
o-Xylene	410,000	410	190	--	8,400	--
Tetrachloroethene	110	20	0.06	--	1,200	--
Toluene	410,000	650	12	--	140,000	--
Trichloroethene	520	8.9	0.06	--	56	--
Vinyl chloride	7.9	1.1	0.01	--	170	--
Xylenes, Total	410,000	320	150	--	8,400	--

TABLE 3
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Semi-Volatile Organic Compounds by SW846 8270D (mg/kg)						
2-Methylnaphthalene	--	--	--	2	9,000	--
Anthracene	610,000	--	12,000	--	680,000	--
Benzo(a)anthracene	8	--	2	--	290	--
Benzo(a)pyrene	0.8	--	8	--	29	--
Benzo(b)fluoranthene	8	--	5	--	290	--
Benzo(g,h,i)perylene	--	--	--	27,000	--	--
Benzo(k)fluoranthene	78	--	49	--	2,900	--
Bis(2-ethylhexyl)phthalate	410	31,000	3,600	--	16,000	--
Chrysene	780	--	160	--	29,000	--
Dibenzo(a,h)anthracene	0.8	--	2	--	29	--
Di-n-butyl phthalate	--	--	2,300	--	--	--
Fluoranthene	82,000	--	4,300	--	90,000	--
Indeno(1,2,3-cd)pyrene	8	--	14	--	290	--
Naphthalene	41,000	270	12	--	1,700	--
Phenanthrene	--	--	--	210	--	--
Pyrene	61,000	--	42,000	--	68,000	--
Moisture by E160.3M (%)						
Moisture	--	--	--	--	--	22

Notes:
1 = Illinois Environmental Protection Agency (IEPA) Tiered-Approach to Corrective Action (TACO) Tier 1 Industrial-Commercial Soil Ingestion Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/03
2 = IEPA TACO Tier 1 Industiral-Commercial Soil Inhalation Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
3 = IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives ftp://www.ilga.gov/JCAR/AdminCode/035/03500742ZZ9996bbR.html
4 = IEPA Chemicals not in TACO Tier 1 Tables - Migration to Class 1 Groundwater http://www.epa.illinois.gov/topics/cleanup-programs/taco/other-chemicals/index
5 = United States Environmental Protection Agency (US EPA Regional Removal Management Levels for Chemicals (RMLs) Industrial Soil Supporting Table HQ3, July 2015 http://www.epa.gov/risk/regional-re
ND = Indicates the analyte was analyzed for but not detected
J = Indicates that the analyte was detected but the result is estimated for quality control reasons
mg/kg = Milligrams per kilogram
RML = US EPA Regional Removal Management Level for Industrial Soil
Bold indicates the analyte was detected above the sample reporting limit.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Ingestion Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Inhalation Remediation Objective.
Analyte was detected above IEPA TACO Tier 1 Industrial-Commercial Soil Component of Class I Groundwater Remediation Objectives
Analyte was detected above IEPA Non-TACO Tier 1 Soil Migration To Groundwater Remediation Objectives
Analyte was detected above the US EPA RML

APPENDIX C
START FIELD NOTES

INCH

Rite in the Rain
ALL-WEATHER WRITING PAPER

Name _____

Address _____

Phone _____

START FIELD LOGBOOK

Logbook Tracking Number CH058

Site Name Olympic Oil Antifreeze EB

Issue to Cordell Renner

Date Issued 2/12/15

TDD # 0001/505-0001-1502-007

Clear Vinyl Protective Slipcovers (Item No. 30) are available for this style of notebook.
Helps protect your notebook from wear & tear. Contact your dealer or JL Darling LLC.

CONTENTS

103x402b0001505/5 02007

PAGE	REFERENCE	DATE
	Robert - 504-40-2774 - Olympic Oil	

2-11-2015

1046 START VILLICANA ON-SITE.
WEATHER: OVERCAST, 30s, BREEZY
- OSC BESLOW ON-SITE. HE INFORMED ME THE PRP LOST 40,000 GALLONS OF ANTIFREEZE WHEN A PIPE BURST. THEY HAVE BEEN HAVING FUTURES COME TO COLLECT THE PRODUCT, BUT NOTHING WAS OUTSIDE THE CONTAINMENT.
1100 START RUNNER ARRIVED - ONSITE
1120 START VILLICANA COLLECTED SAMPLE OF PRODUCT OUTSIDE CONTAINMENT
1150 Backhoe Sump pumps installed between containment wall and canal to pump product into totes
1155 Plastic used in area between containment wall & canal removed
1200 Slight sheen in canal
OSC Beslow & START Villicana on lunch

1221 Future truck arrived to pump product from containment area. 6000 gallon truck
1308 13 - 3500, 1 - 3000, + 1 - 6,000 GALLON LOADS HAVE BEEN TAKEN OFF-SITE SO FAR.

2-11-2015

RELEASE OCCURRED SUNDAY EVENING. NOTICED MONDAY @ 0700. NOTIFIED FUTURE IMMEDIATELY. STORM DRAINS ARE PLUGGED. NOTHING WAS SEEN AS OF LAST NIGHT. PIPE WAS FIXED BY 1500 ON MONDAY. DYNAMIC PIPEFITTERS DID THE WORK. A SECOND FAILURE WAS FOUND ON TUESDAY. MINOR CLEANUP STILL REQUIRED. UP THERE ORIGAL FAILED LINE STILL SHUT DOWN.
1329 TWO MORE REPRESENTATIVES FROM IEPA SRP ARRIVED ON-SITE
1349 - 6000 gal Future Truck full. & left site.
3500 gal Future Truck arrived to replace it.
1446 - 3500 gal truck filled.
1450 - Product stopped flowing from crack in containment area. Crack dropped below breech.
1502 - 3500 gal truck off site.
1545 3500 GALLON TRUCK ARRIVED ON-SITE. KENT IS SUCKING UP PRODUCT FROM OUTSIDE THE CONTAINMENT. FOLLOWED BY COLLECTING FROM INSIDE THE CONTAINMENT AREA.

Rite in the Rain

2-11-2015

1555 CHUK & KEVIN FROM IUPA LEFT THE SITE.

1630 3500 GALLON VAC TRUCK IS OFF SITE.

1635 OSC BESKOW OFF-SITE

1637 6,000 GALLON VAC TRUCK ARRIVED ON-SITE

1700 START VULCANA OFF-SITE

2-12-2015

0850 START Renner arrived on site, was escorted by Robert from Olympic Oil

0855 Future Truck arrived on site to continue removing product from containment area

0900 No product breached the containment wall over night, area between containment wall & canal is free of any visible free product

0930 Future Truck operator stated that product was not flowing toward the Northeast corner in the containment area and he wouldn't be able to vaccum remaining product w/o assistance since he is the only one removing product.

0940 OSC Beskow on site, meeting with START, EPA, and Delta oil employees on progress of spill

Meeting Notes:

In Attendance: Robert, OSC Beskow, START, Kent, Nick

- Remove Material: 77,500 gal pumped out as of 9am 2/12/15 according to Delta
- Mix below earth
  - ↳ Material = Standing Product

Rite in the Rain

2-12-2015

- K-Plus will assist Delta with NRC report

- Delta claims that ~350 gal of 50/50 glycol/water mix released from containment area supposedly not a reportable quantity to NRC

- OSC Baslow recommended to report spill to NRC because ~~of as~~ the below release was all of spill (40,000 gal) and not only the material that escaped outside containment area.

- Deliverable List from Delta:
  - Action Item from August 2014 spill
  -

2-12-2015

- Continue to monitor hourly to watch for any material release
- Review ~~specia~~ SPCC and Response Plan to to meet CERCLA & OPA Criteria

- Increase Alarm from usual to audio as well, lower level alarm

- Determine what repairs are needed in containment area (K-Plus)
- Pipe inspections

Meeting ended @ 1045

Day- SET on site, replaced boom. 3500 Future truck on site

2nd Meeting @ 1145

Nick Robert, Kent from Delta, START Denver, EPA

* Discussed actions for Feb. 12th & 13th
  - K-Plus recommendation vs. OSC Baslow recommendation
  - Discussed CFR regulations for reporting
  - How clean is clean? * EPA to determine

TACO level for Ethylene Glycol

Rite in the Rain

02-12-2015

1300- START collected 2 soil samples: OA55-0212-0001 & 0002. One was outside the containment area where the product breached the containment wall & one was inside the containment area. Both sample locations were marked w/ flags.

1450- START & EPA OFFSITE

02-12-2015

0855 START Renner arrived on site, checked in, and spoke w/ Reggie

0930 START Renner offsite, Checked out, to go to office to collect bottleware & GPS

1050- START Renner onsite, Checked in, spoke w/ Reggie

1100- Met w/ Kent & discussed today's (2/13) goals
- SET will be arriving @ 1300 to remove remaining product

1230- EPA (Osc Boles), MWED (Mark), & SET on site
SET to remove remaining product in secondary containment

1405- Manhole cover in northeast area of secondary containment removed by SET. Free product observed in manhole.

1510- SET moved to tank containment area to remove product.

1630- SET emptied truck into totes provided by RP

1640- START, SET offsite

Rite in the Rain

02-16-2015

1000 - START Renner on site, was informed SET will not be working today due to holiday

1015 - Inspected spill areas, limited free product visible in Tank & secondary containment areas.

No visible product observed in areas outside of secondary containment

02-19-2015

1230 - EPA, K-Plus, START on site

Bob - OSC

Renner - START

Jessica - K-Plus

Jim - EPA

Well MW-10

Div: 5 ft

Total Depth: 15 ft

Samples were collected from MW-10, MH-05, Surface Soils

Splits were collected @ each sample point for K-Plus & EPA.

1345 - K-Plus off site @

1350 - EPA & START off-site

Rite in the Rain

02-17-15 1800 cm Backlog

Conference Call @ 1800 w/ Olympic personnel, EPA, IEPA, START, K-Plus, /

Personel:

Kent
Tom Dramond
Ian Boyle } Olympic Oil
Dan Caplice
Kevin Chow - EPA
Mike Below - EPA
Charlie - EPA
Anita Bozeman - EPA
Mark - IEPA
Chuck - IEPA
Moai Shebra - EPA

Purpose of call was to discuss further response plans by Olympic Oil to address Ethylene Glycol reelease.

Olympic:
50,000 gal of 50/50 Ethylene Glycol product released
First few Days: Future vac trucks on site removing visible free product from secondary containment area & outside containment area

02-17

75,000 gal removed from area
(50,000 gal of product & 25,000 gal of snow melt

24-hour surveillence on area, checked every hour

Saturated soil is being "gradually mopped up"

02-17: Pulled 1 gal of product from Tank 882 area & 1.5 gal out of secondary containment. Done by Olympic employees.

Over 99.6% of product contained in areas
350 gal outside containment wall

Future Actions:
- Get soil data back & look @ objectives based off 4C Tier tables
- Evaluating & Repairing containment wall
- Evaluation of piping

EPA (Mike Below) -
"What is the immediate action for the saturated soil?"

Rite in the Rain

K-Plus: Remove free product puddles. Hourly monitoring. Until soil data results come back no further action will be taken

EPA (Bed(w)): There is a threat of release & migration of product in soil.

Olympic: Response plan will depend on soil sample results.

EPA: Top layer of soil acting as a sponge (Kevin Chan) Your (Olympic) only mopping up material, product migrate & you (Olympic) don't know where it would migrate to.

Olympic: There is not a way to tell what soil was impacted by release & what soil wasn't.

EPA: Olympic needs to investigate the threat of release from the soil

Olympic: Does not agree w/ EPA.

EPA: Advised surface soil scrape.
Soil = Product Pool, which raise a concern of release into the canal

Olympic: Doesn't believe that there is a threat to the canal due to area outside the containment area being dry
Does not know the extent of contaminated soil.

EPA: Other possible actions to taken
Move forward w/ notices of liability
↳ EPA will take action or force Olympic to if olympic refuses to take some sort of immediate action

End call @1245

Rite in the Rain

2-18-15 Backlog

0905- START Illest on site, PF, NW wind @ 16 MPH, mostly clear

0930- START escorted to trailer by Kent K. & update on planned activities for the day. SET Environmental on site

0945- SET cleared snow & ice on hill to allow end loader to drive up & down path

1015- Began excavation of secondary containment area.

1020- EPA OSC Beslow on site

1050- Began excavation on north side of secondary containment area on the outside near water. Using a spider equipped w/ a bike jacket & harness to effectively dig on outside of wall.

1105- OSC Beslow met w/ Kent & ~~discuss~~ ca received a verbal agreement renewing EPA's current access agreement

~~1120- Excavator uncovered a buried ledge while working on north side of containment area (see photo)~~

~~Work on inside of containment area is finished as they won't be able to get to planned depth w/ the concrete footing of the containment wall present~~

1130- SET on lunch

1120- (Bad log) - Excavator uncovers a buried concrete ledge while working on the north side of the secondary containment area (see photo) work on this side is finished as they won't be able to get to planned depth w/ concrete present

1200- SET returns from lunch and begins working in secondary containment area

1215 - Illinois EPA on site

1230- Excavating moist soil from area on the south side of secondary containment area

1257. SET begins loading bagged, used booms to complete loading roll off #1

Rite in the Rain

1335 - work halted while roll off #2 is lined
1332 - Excavation of trench along northside of ~~property~~ ~~begins~~. ~~northside~~ on secondary contain ment area. begins

1345 - Excavation of trench along northside of secondary containment area continues

1400 - Tetra Tech offsite for lunch

1425 - Excavation of trench along northside of secondary Containment Continues

1445 - Excavation of trench complete.

1500 - Excavator cleaning up left over loose material in the area and preparing to be finished for the day

1510 - SET begins collecting surface soil samples

1520 - Trench = 2.5' wide x ~140' long
Excavation on south side of secondary Containment area = 10' wide x 60' long
1550 - SET completed surface soil samples
1600 - SET completed w/ all site activities START is off site

02-19-2014 Phone call w/ Olympic

Personel:
Tom Diamond - Attorney (Olympic)
Kent K - Plant manager (Olympic)
Dan Caprice - KeePlus (Olympic)
Mike Beslow - EPA OSC
Kevin Chow - EPA attorney
Mark & Susan - MWRD
Mark & Chuck - IEPA
START Renner - EPA
Illinois Attorney General

EPA would like to do sampling @ Olympic
Need to issue a verbal notice
Sampling event conducted by EPA.

EPA is concerned that Ethylene Glycol migrated into GW. & wants Olympic to prove that it hasn't.

Olympic will states they will prepare a sampling plan for water & soil & will attempt to sample monitoring well & if that does not work install a new well
↳ Olympic does not understand why immediate sampling is necessary

Rite in the Rain

EPA-(Bellas) - a Paper on degradation of Ethylene Glycol show 2-12 day half life in soil
If MW-10 can be sampled other actions can wait

Olympic - Will sample well
Will not allow access to site for geoprobe
5 Claims 2-3 days will not make a difference

Attorney General: Wants to have plans for the containment area

Call ended @ 1015

1230- START & K-Plus on-site.
1245- Escorted to containment area by Olympic.
1250- K-Plus & START begin to set up sampling equipment.
1310- START & K-Plus collect a sample from MW-10 prior to purging.
1320- Sample (OA-MW10-0219) collected @ 1310.
1320- MW-10 is being purged 3 well volumes
1340- Post-Purge sample collected (OA-MW-10-0219-PP)
1400- START & K-Plus off-site

02-25-15

0800- SET on site w/ 6 man crew, Vactruck & 2 pickup truck w/ trailers

0830- START on site, CS Drilling on site w/ Geoprobe & van.
K-Plus on site Jessica & Phil

0922- CS Drilling began KP9 borehole
(0-4'):
0-1.5'- Sandy clay, gray/brown, soft, fine grain sand
1.5-4'- Clay, tightly packed, dense, gray, hard

(4-8'):
4-6'- Sandy Clay, Gray, wet, soft
6-8'- Clay, gray, dense, hard

(8-12'): Clay, gray, dense, hard, tightly packed

0940- KP9 boring completed
Sample names: KP9-0004-0225 = KP9A
KP9-0408-0225 = KP9B
KP9-0812-0225 = KP9C

Rite in the Rain

02-25

0945
~~1045~~-1130- CS Drilling attempted to install a well @ KP9, they were unable to due to interference from a railroad tie

0945- SET beginning to Vac out MW-10 & VH-01
Gauged MW-10 prior to purging. Used a Steel groundwater pump to purge MW-10

MW-10: TD=15.1', DTW=5.4', DTO (Depth to Oil) =4.4', Stick Up=1', 1' of oil in well

1010- MW-10 was purged until dry, ~5 gal was purged from well.

1040- EPA OSC Bislow on site

1100- SET completed cleaning of VH-01 (Valve pit in north-east corner of containment area), used a heated pressure washer & detergent.

1113- SET began to clean out MH-05, manhole in center of containment area.

1120- CS began bore hole KP8

1130- KP8 02-25

(0-4'):
0-6"- Clay mixed w/ gravel, hard, moist, gray
6"-3'- Clay mixed w/ sand & gravel & Black fill, Black (fill), gray (clay), hard, dry, friable (Black fill was petroleum order)
3-3.5'- concrete
3.5-4'- Clay, gray, hard moist

(4-8'):
4-6'- Clay, gray, hard, moist, dense
6-7'- Sandy gravelly clay, wet, soft
7-8'- Clay, gray, hard, moist, dense

(8-12'):
8-10'- Clay, gray, hard, moist dense
10-11'- Sandy gravelly clay, gray
11-12'- Clay, gray hard, moist, tenr

1145- KP8 boring completed, Well installed @ KP8
TD=15', Screen set @ 5-15'

1146- START collected surface soil sample on South end of containment area where soil was scraped off. Split sample w/ Kt.
Sample: OA-SS-04-0225, 10ft west of MW-10
Rite in the Rain

2-25

1202- MW-10 Sample collected after purging dry twice. a Total of 10-gal of water was purged from MW-10.

1215- SET completed cleaning of MH-05 & purging MW-10. SET completed work but remains on site.

1245- Lunch

1230- KP11 began
(0-4'):
0-2'- Clay w/ some gravel & sand, hard, dry, friable
2-4'- Silty clay w/ some sand, gray, soft, moist

(4-8')- SAA

(8-12')- Clay, hard, dense, gray, moist
1245- KP11 boring completed, Lunch break
1320- Well installed @ KP-11
TD = 15', Screen = 5-15'

2-25

1350- Boring KP5 began
(0-4'): Clay w/ some gravel & sand, gray, moist

(4-8'): Clay, gray, dense, wet, hard

(8-12'): SAA

~~1410~~ 1410:- KP5 completed

1415- Well installed @ KP5

1505- Well completed @ KP5

1515- Well @ KP8 was purged ~1.5 gal but upon returning to sample the well would not produce water. The purge water was used as a sample for KP8.

1520- KP6 boring began
1530- KP6 complete

1535- KP11 was ~~already~~ near dry & would not produce water for an adequate sample.

Rite in the Rain

1545- K-Plus & CS Drilling completed work for the day

1600- K-Plus offsite

1615- SET & CS drilling offsite

Note: Spoke w/ K-Plus will be returning @ 0900 on 02-26 to attempt to sample wells installed today

02-26

0930- START & K-Plus arrived on site

1000- Call w/ EPA, Olympic, MUND, & EPA, Attorney general

0945- Began sampling KP5,

1010- Completed sampling KP5

1015- Attempted to sample KP11, no water could be obtained.

1030- K-Plus offsite

1045- START offsite

Rite in the Rain

02-27-2015

0730- K-Plus (Phil Montes & Dan Caplice) CS Drilling (2 guys), START Leave on site

CS Drilling brought a Drilling truck w/ trailer to install 4 recovery wells in the Secondary containment area

0820- CS Drilling cut well down @ KPII so drilling could get into containment area

CS Drilling will be using a Kerosene heater so hydrolics don't freeze

0830- When the CS Drilling drove over the area ~~to the~~ directly to the West of KPII water began flowing in the tire track. It has a sheen on it (see photo) & appear to be coming from the South slope

0840- Began CS drilling first recovery well in NE corner.

0930- First recovery well completed. START collected sample of pooling water in tire tread.

02-27-2015

Split sample w/ Phil from K-Plus. Dug a hole & let water fill then sampled. Used a wide mouth poly jar to fill 1L amber.

0940- Reggie from Olympic is using a shop vac to remove water coming from the slope & pooling. Dumped water from shop vac into a tote.

0944- First recovery well in the NE corner is 15' deep. CS will put ~10' of coarse sand & then a bentonite plug around the well. Well is 6" in diameter.
TD = 15', Screen 5-15'

0955- Olympic passed vacuuming up water w/ the shop vac. The water is turning into slush

Backlog - 0930- K-Plus Dan Caplice off-site to grab pumps for recovery wells

Rite in the Rain

02-27-2015

CS drilling will not be decontaminating auger between wells. Since the wells are not going to be used for sampling.

1000 - CS cut down the stick up of recovery well 1

1010 - Spoke w/ Kent the plan is to pump water from recovery wells into totes. If the water in the wells is too much for totes larger frac tanks will be brought in.

1020 - CS Drilling moving to next recovery well.

1030 - Recovery well #2 is to the west of MH-05, about 5ft west of MH-05. Began installing well.

1035 - CS Drilling concerned about getting drill rig stuck on slope. Kent says they have nothing that could pull the rig out. Recovery Well #3 will be moved slightly east from the original plan so the rig doesn't have to reverse up the slope.

2-27-2015

~~1130 - Olympic began to vacuum pooled water again.~~ CL

1145 - Recovery well #2 completed.
TD = 15', 10' of sand w/ 3' bentonite plug, 10' screen 5-15'.
(See Photo for screen details)

1155 - CS Drilling breaks for lunch.

1200 - K-Plus & START break for lunch

1240 - CS Drilling, K-Plus, START return from lunch

~~1250 - Olympic attempts to vac up some pooled water but was unable to due to the water being partly frozen.~~ CL

1250 - Drill rig was getting stuck in the mud trying to get to Recovery Well #3, on the east side @ MH-05. Had to adjust placement of well to ~10 ft southwest of MH-05.

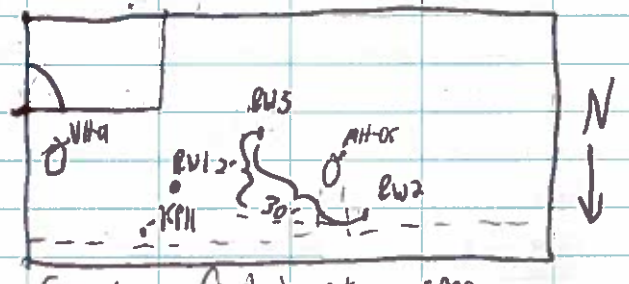
Rite in the Rain

02-27

1255- Site ~~conditions~~ conditions are wet & muddy the sun is melting snow & the drill rig is sinking in the soft clay. (See Photo)

1300- Recovery well #3 started.

1311- Employee from Olympic came to vacuum up the pooled water put the drill rig was on top of area. (See photo)



Secondary Containment area

1330- Phil (K-Plus) spoke with Dan Caplice (K-Plus) due to muddy conditions & tight space in the containment unit the 4th Recovery Well in the NW corner will not be installed today, but will be installed on a later date by a Geoprobe.

02-27

1405- Recovery well #3 complete TD=15'3", Screen 5'5"-15'3", 12 ft of sand & 3 ft of bentonite plug around well.

1405- Drums filled w/ auguered soil from well installation are being left on site. Total of 14 drums in containment area.

1412- Drillers begining to clean up & prepare to end work. 3 wells installed from 0830 - 1405 today.

1500- CS Drilling offsite, left tire ditch in containment area due to mud.

1510- Dan Caplice on site. said that CS Drilling will be returning monday w/ a Geoprobe to install Recovery well #4. Olympic employees are vaccuming out pooled water. (See Photo). Dumped water into 5 gal buckets then into totes.
Dan Also said pump will be arriving on monday to pump out recovery wells

Rite in the Rain

1520- Phil (K-Plus) offsite

1530- Spoke w/ Dan Caplice (K-Plus). Drillers will be on site 03-12-2015 to install Recovery Well #4 & install pumps into recovery wells.

1545- START offsite

3-2-2015 14°, Sunny, WNW 9 mph

0730- K-Plus (Phil) & CS Drilling onsite

0745- START Renne on site

0750- CS Drilling is preparing drill rig at top of slope.

0820- RW #4 is in the NW corner of the property near KP9 borehole. The rig is set up & drilling will begin shortly.

0830- RW#4 moving ~4 ft east to make sure the rail road tie that was hit @ KP9 was not hit again

0830- Drillers began to drill & install well

1010- Drillers will decon equipment near truck at the top of the slope. Will be careful to keep & decon water inside the containment area.

~~1015~~ 1030- Recovery well ~~#4~~ completed @ 1030
TD- 15'-1", Screen - 15'-5"

Rite in the Rain

3-2

1030- Drillers inquired about drums in containment area, the drums will be left on site for now. Total of 17 drums in containment area.

1120- Phil (K-Plus) offsite to grab water tape from K-Plus office. Expecting Don Laplace (K-Plus) & OSC Bosemen (EPA) on site this afternoon

1310- OSC Bosemen will not be coming to site today

1339- START offsite for lunch. K-Plus has not arrived yet.

1410- Phil (K-Plus) back on site w/ water tape. Informed START that Don will not be on site & Phil will be installing pumps in the recovery well.

RW#1 DTW - 15.2' from stickup, SW - 4.4'
↳ ~~10.8'~~, 11.8' - DTW
RW#2 - SW - 3.2', Dry
RW#3 - SW - 3.2', Dry

3-2

RW#4 - SW - 2.6', Dry

1418- ~~All~~ RW 2, 3, 4 are Dry.
RW#1 has 3.2' of water.

1450- K-Plus received 2 Grundfos Redi-Flo 3" pumps w/ timer control boxes & tubing

1600- K-Plus & START begin installing pump into RW#1

1615- K-Plus & START completed installing pump in RW#1. Set to pump every 60 min for 3 min on until well is dry.

1630- K-Plus & START offsite. Activities completed for the day

Rite in the Rain

3-3-2015

0745 - START Villicana on site
0900 - START Renner on site.

0910 - Kent opens the gate to let START into trailer & shipping area.

0915 - START Renner & Villicana inspected pump in RW#1. Pump was on & appeared to be working. Overnight it had pumped out ~3-5 gal of GW.

0945 - START Villicana offsite. START Renner to wait for K-Plus to arrive @ 1045.

1130 Phil (K-Plus) on site

1145 - Olympic Supplied 4-55 gal drums to collect groundwater in from each recovery well.

1200 2 pumps did not come yesterday, they are currently stuck in indianapolis & will be arriving tomorrow.

1223 - Received extension cord from Kent. Installed well @ RW #2

3-3-2015

1245 - K-Plus & START successfully installed pump @ RW #2. There are now 2 pumps installed @ RW#1 & RW#2

1300 - K-Plus & START offsite

Rite in the Rain

3-4-2015

0930- START Vlenner onsite

1009- EPA OSC Bowman on site

1030- EPA would like to see pump controllers in a safer setup (currently in cardboard boxes), possibly use plastic totes.

1050- K-Plus - Phil Montana on site

1100- EPA OSC offsite
Packages arrive for K-Plus 2 pumps & 2 R-100 controllers for pumps.
One of the pumps arrived w/ a broken hose connector.

1110- K-Plus is setting up controller in trailer

1230- K-Plus to Hardware store for extension cords

1320- K-Plus began installing last 2 recovery wells

1400- 3rd recovery well completed well is dry.

1445- 4th & final recovery well installed

1530- 4th recovery well completed
K-Plus & START offsite @ 1600

Rite in the Rain

3-25-2014 2015 ca

John Zellers
John.Zellers@DeltaCOGroup.com
224-877-2046

0930 - START Renner & OSC Boseman on site

0945 - Spoke w/ new plant operations manager John Zellers.

0950 - OSC Boseman requested an updated FRC to show the change in personel including himself, John gave START & EPA his contact info.

1000 - OSC Boseman requested manifests for all wastes removed from containment area & antifreeze spill

1010 - START inspected wells & the containment area. No water recovered from wells 2-4, some water in RW #1. Trench on the north side of containment area is filled w/ water (Brown murky but no sheen). See photo, large puddles in & around containment area due to snow melt & rain.

1015 - START & EPA spoke w/ Kent (Plant manager) about manifests.

1025 - No sheen observed in containment area

1030. Future is to arrive @ 11 to vaccum out water in & around containment area. START to remain onsite to oversee

1035 - OSC Boseman offsite

1130 - Future arrived onsite, Tom from Future w/ a 3500 gal vac truck.

3-25-2014 ca 2015

Backnote: 1010 - No totes w/ glycol on site were removed Monday, March 23rd

1158 - Flooded ~~area~~ entrance area leading into containment area was vaccumed out by Future

1230 - Future completed entrance area & moved to puddles in containment area

1300 - Future move to MW-05 in center of containment area

1350 - Future moves to trench.

1340 - Future truck is full

1400 - Future is offsite will return tomorrow.

1530 - START is offsite

Rite in the Rain

~~5-26-2014~~ 2015

0930- START Renner on site, checked in and spoke w/ Plant Manager Kent, gate to site was unlocked & START inspected site — an

1000- Water level remains the same as yesterday in containment area. — an

1015- RW #1 continues to be the only well producing water. A large puddle remains in the contained area but no sheen observed. Sheen was observed in puddles in & around the containment area. — an

1100- Future vac truck arrived on site — an

1115- Future begins to pump water from containment area. A sheen was observed in front of the east entrance to the containment area — an

1130- Future pumped out puddle in the middle of the containment area & manhole (MH-05), A sheen was observed in MH-05 — an

1200- Future pumped out the trench at the north side of the containment area — an

1230- Future pumped out the puddle in front of the east entrance — an

1245- Future goes to pump out 2 totes filled w/ waste oil on the north side of the building

1430- Future off-site — an

1500- START off-site — an

04/03/2015

0900- START Renner onsite, High winds, Sunny 50°F

0910- START checks in @ front desk & meets with Kent — an

0920- Kent escorts START to trailer & containment area. — an

0930- START observed pooled water in the ~~containment area~~ trench & other areas inside of the containment area — an

0931- A ~~[illegible]~~ sheen was observed in multiple spots inside of the containment area (see photos) — an

0940- RW #1 continues to be the only recovery well producing water. Olympic oil placed boom around an area in the containment zone where had observed sheen around it — an

0945- No sheen was observed in the cans & there was no water or sheen pooled out side of the containment wall — an

0950- EPA OSC Bieseman arrived on site

0957- EPA requested a sample be grabbed from the sheen in the trench, Sample (OA-SW-0403-2015) was collected @ 1000

1042- START & EPA off site. — an

EPA received FRP — an

Rite in the Rain

4-7-2015 47°F, Overcast

1030 - START is on a call with EPA (Mike Beslow, Anita Bosemen) Debbie Keating)

1033 - Sharepoint site is not working to send photos, both TDD's for Olympic should be billed. Ethylene & Fingerprinting

1037 - Ramon (OSC) performed SPCC inspection

1040 - 50% of time to the oil TDD & 50% to the antifreeze TDD

1045 - EPA wants slope sample & RW#1 sample

1050 - Meeting with Olympic oil

Recovery well #1 & slope Dry

↳ SVOC's, VOC's, 8015B, Fingerprinting

1400 - START arrived @ Olympic oil for a site visit & to sample RW#1 & water running down the slope in the containment area

1430 - START signed in @ the front desk & met w/ Reggie w/ olympic who opened the gate to the tank & containment area

1445 - START prepared bottleware for sampling, 0% sheen net & 4 oz glass jar for fingerprinting, 2-1L Ambers (SVOC's & 8015B), 3 VOA's (VOC's) from RW#1 & water running down the slope

1500 - Conducted site inspection; sheen is limited to near slope. Water is visible in trench but there is a slight sheen on the water, less severe than

04-7-2015

on 04-03-2015 visit.

1510 - RW#1 continues to be the only well producing

2nd 55 gal drum is 1/2 full

1515 - No sheen is visible outside of the containment area or in the canal

1517 - Boom in canal is in good condition

1520 - Samples collected from slope & RW#1, (OA-SW-04072015 & OA-RW01-04072015) collected @ 1519; unable to grab a sheen sample from RW#1. Samples were collected from RW#1 using a bailer in the 55 gal drum. No visible sheen was in the drum water & a sheen net could not be used because there was not a removal top on the drum

1520 - SW-04072015 was sampled by using a 1 Liter amber glass dipper bottle & using a sheen net

1530 - START off-site to office to prep & ship samples

Rite in the Rain

4-9-2015

0900 - START Leaner on-site, 58°F, Overcast & Rainy —a

0915 - START signed in @ front desk & met with Plant manager Kent. —a

0930 - Kent escorted START to the containment area —a

0935 - Observed additional pools @ the base of the slope in the containment area where the sheen was observed on 4-7-2015. No sheen was observed in the containment area. There was a sheen observed in the area outside of the containment area @ the east entrance where water collects. —a

0940 - RW #2 appears to be producing water so START will sample. & called EPA-OSC Bussema to inform about sampling —a

0945 - START Sampled RW #2 using a bailer, which was dipped into the opening in the 55 gal collection drum, OA-RW02-04092015 collected @ 0947 —a

0950 - John Zeller (Plant manager) came out to observe START collecting sample from RW02 —a

0955 - START inspected outside containment area and observed a white sheen inside of the boom area on Canal (see photo) & water was pooled outside of the containment wall. There was a green coloring to the pooled water so START grabbed a sample to test for ethylene glycol, (OA-SW-04092015) collected @ 0957. sample is outside of the containment area on the north side.

Rite in the Rain
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4-9-2015

1000 - START completed inspection, collected 6 samples from 2 locations, observed a sheen in the east section outside of the containment area (a rainbow sheen) and a sheen in the brown area of the canal (white sheen) and a puddle in the sump pool outside of the containment wall between the canal & the containment wall which had a green color.

1015 - START offsite

1030 - Conference call w/ EPA (Anita Bowman, Mike Beslow), Olympic Oil (Kent & John Zeller), START Rennie, & KT (Dan Caplice), Topic was to discuss next steps for Olympic

1040 - OSC Beslow wants to know if there is still a threat of release of ethylene glycol into the environment

1045 - OSC Beslow would like to close out Ethylene glycol energency response.

1050 - Concrete wall @ 2' high, between outside wall & containment area

1055 - KT to submit report & results to EPA

Rite in the Rain

APPENDIX D

PHOTOGRAPHIC DOCUMENTATION

OFFICIAL PHOTOGRAPH NO. 1
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of the secondary containment area partially filled with antifreeze (ethylene glycol) along with antifreeze outside of the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 2
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of the antifreeze released outside the secondary containment area and its proximity to the Chicago Ship and Sanitary Canal.

OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	North	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech
Subject:	View of the antifreeze within the secondary containment area.		

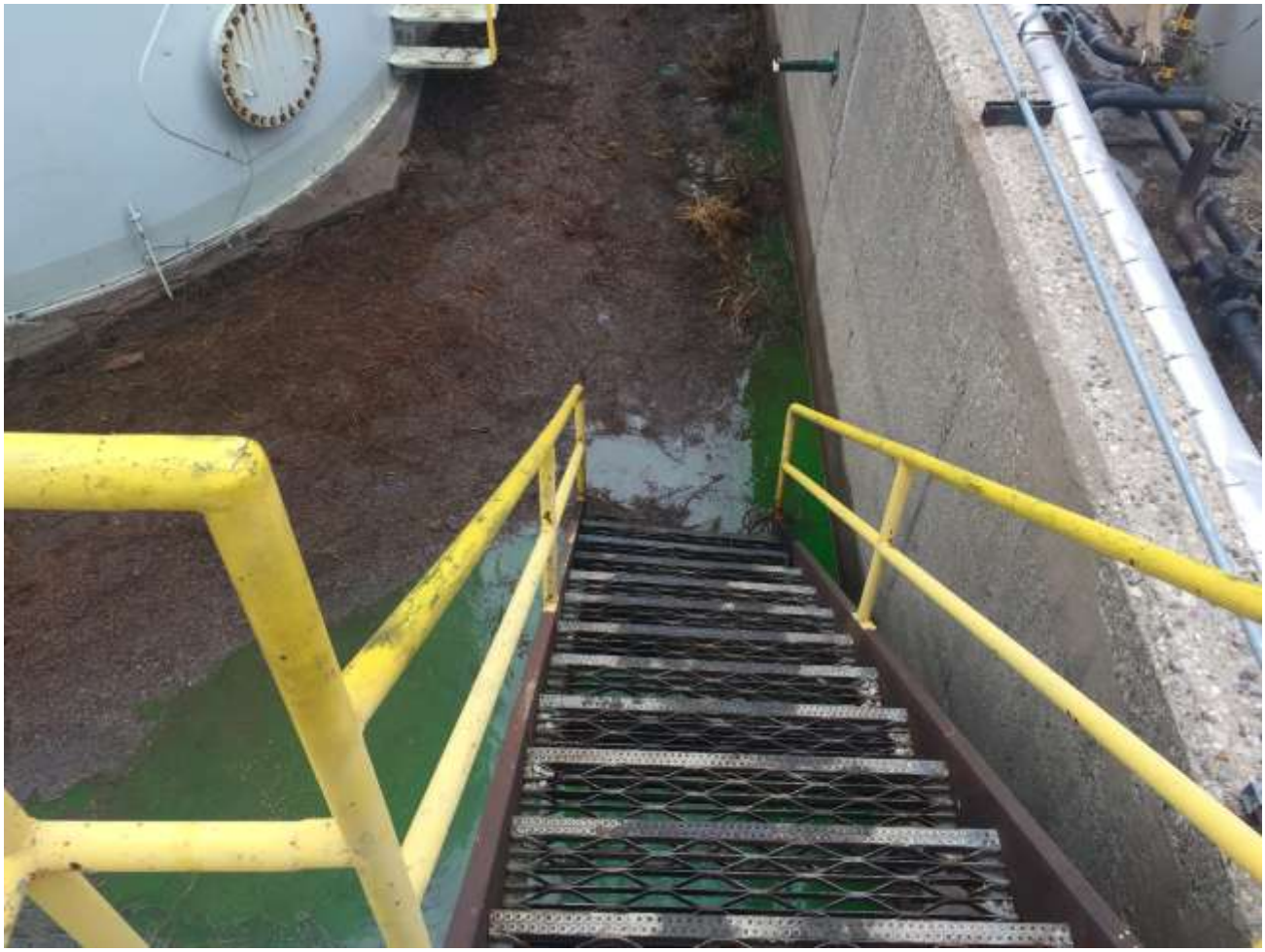
OFFICIAL PHOTOGRAPH NO. 4
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech

Subject: View of Olympic Oil personnel attempting to use a submersible pump to pump the released antifreeze into 300-gallon totes.

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech
Subject:	View of Olympic Oil personnel pumping antifreeze into 300-gallon totes.		



OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech

Subject: View of released antifreeze released within the primary containment area of an aboveground storage tank containing antifreeze.

OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech

Subject: View of the section of pipe that ruptured causing the release of approximately 40,000 gallons of antifreeze into the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech

Subject: View of the location of the ruptured pipe that led to the release of 40,000 gallons of antifreeze into the secondary containment area after it had been repaired.

OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 11, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Cordell Renner, Tetra Tech

Subject: View of the area where antifreeze had been released outside the containment area after much of it had been pumped into 300-gallon totes.

OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	February 13, 2015
Photographer:	Future Environmental Employee	**Witness:**	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)

Subject: View of Tetra Tech START personnel collecting a surface water sample from the Chicago Ship and Sanitary Canal.

OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 13, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of antifreeze observed within a catch basin that is located within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	South	**Date:**	February 13, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of a vacuum truck that was used to remove the antifreeze from the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 13
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 16, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Kent, Olympic Oil Plant Manager

Subject: View of the secondary containment area after much of the visible antifreeze had been pumped out.

OFFICIAL PHOTOGRAPH NO. 14
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of Olympic Oil's contractors excavating soil in the area where the antifreeze was released outside of the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 15
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of released antifreeze that had been pumped into 300-gallon totes.

OFFICIAL PHOTOGRAPH NO. 16
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	North	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of Olympic Oil's contractors excavating a trench within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 17
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of the bottom of the trench that was excavated within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 18
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of the excavated area outside the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 19
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	South	**Date:**	February 18, 2015
Photographer:	Andrew Kleist, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	OSC Mike Beslow, EPA

Subject: View of Olympic Oil's contractor collecting a sample at the bottom of the excavation area outside the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 20
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northwest	**Date:**	February 25, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of Olympic Oil's contractor using a Geoprobe rig to install a monitoring well within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 21
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	NA	**Date:**	February 25, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of Olympic Oil's vacuuming out free product that was observed in the catch basin.

OFFICIAL PHOTOGRAPH NO. 22
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 18, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of Olympic Oil's contractor using a hollow-stem auger drill rig to install a recovery well within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 23
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	February 27, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of three recovery wells installed within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 24
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	February 27, 2015
Photographer:	Phil, K-Plus Engineering	**Witness:**	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)

Subject: View of START personnel collecting a sample of pooled water within the secondary containment area that was exhibiting a sheen.

OFFICIAL PHOTOGRAPH NO. 25
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	South	**Date:**	February 27, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of Olympic Oil's contractor using a shop vac to collect the pooled water within the secondary containment area that was exhibiting a sheen.

OFFICIAL PHOTOGRAPH NO. 26
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	March 2, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of a submersible pump being used in an attempt to recover free product from the recovery well.

OFFICIAL PHOTOGRAPH NO. 27
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	March 2, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of Olympic Oil's contractor using a hollow-stem auger drill rig to install a recovery well within the secondary containment area.

OFFICIAL PHOTOGRAPH NO. 28
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	March 3, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of submersible pumps being used at two recovery wells in an attempt to recover free product from within the recovery well.

OFFICIAL PHOTOGRAPH NO. 29
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	March 9, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of sorbent boom not properly aligned with containment boom within the Chicago Ship and Sanitary Canal.

OFFICIAL PHOTOGRAPH NO. 30
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	March 10, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering
Subject:	View of water accumulation within the secondary containment.		

OFFICIAL PHOTOGRAPH NO. 31
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southeast	**Date:**	March 10, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of water pouring from the catch basin into the secondary containment area. Note: water adjacent to the catch basin is exhibiting a petroleum sheen.

OFFICIAL PHOTOGRAPH NO. 32
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	West	**Date:**	March 10, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of a petroleum sheen observed within the sorbent and containment booms in the Chicago Ship and Sanitary Canal.

OFFICIAL PHOTOGRAPH NO. 33
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Southwest	**Date:**	March 20, 2015
Photographer:	Cordell Renner, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	Phil, K-Plus Engineering

Subject: View of standing water within the secondary containment area that was exhibiting a sheen.

OFFICIAL PHOTOGRAPH NO. 34
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	West	**Date:**	August 7, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of the secondary containment area after it had been filled in with gravel.

OFFICIAL PHOTOGRAPH NO. 35
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	East	**Date:**	August 7, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of Olympic Oil personnel placing down oil-absorbent pads to areas of pooled water in order to absorb the petroleum sheen.

OFFICIAL PHOTOGRAPH NO. 36
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	August 7, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of the area outside the secondary containment area after it had been filled with gravel.

OFFICIAL PHOTOGRAPH NO. 37
U.S. ENVIRONMENTAL PROTECTION AGENCY

TDD No.:	0001/S05-0001-1502-007	**Location:**	Olympic Oil, 5000 W. 41st Street, Cicero, Illinois
Orientation:	Northeast	**Date:**	August 7, 2015
Photographer:	Matt Villicana, Tetra Tech, Inc. (Tetra Tech)	**Witness:**	NA

Subject: View of the area outside the secondary containment area after it had been filled with gravel.

ATTACHMENT A

USEPA POLLUTION SITUATION REPORTING (POLREP) NO. 1 THROUGH NO. 4

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Olympic Oil Antifreeze Release - Removal Polrep
Initial Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #1**
Initial
Olympic Oil Antifreeze Release

Cicero, IL
Latitude: 41.8174730 Longitude: -87.7481785

To: Mark Johnson, ATSDR
Marc Miller, Illinois DNR
Todd Rettig, Illinois DNR
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Greg Schweitzer, NOAA
Wayne Babcock, U.S. Department of Interior
Robert Burr, U.S. Department of Interior
Valencia Darby, U.S. DOI
Carolyn Bohlen, U.S. EPA
Sam Borries, U.S. EPA
Yolanda Bouchee-Cureton, U.S. EPA
Jaime Brown, U.S. EPA
Mark Durno, U.S. EPA
Jason El-Zein, U.S. EPA
HQ EOC, U.S. EPA
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Mick Hans, U.S. EPA
Matt Mankowski, U.S. EPA
Thomas Marks, U.S. EPA
Mike Ribordy, U.S. EPA
Ellen Riley, U.S. EPA
Carol Ropski, U.S. EPA
Brian Schlieger, U.S. EPA
Larry Schmitt, U.S. EPA
Annette Trowbridge, U.S. Fish & Wildlife
mark leibrock, MWRD
Chris Holy, IL EPA

From: Mike Beslow, OSC
Date: 2/13/2015
Reporting Period: 2/11-13

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	2/11/2015	**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency Response

1.1.2 Site Description
The site is located in an industrial area in Cicero, IL. It is an industial lubricant blending and facility located on the Chicago Sanitary and Shipping Canal. Approximately 40,000 gallons of an Ethylene Glycol mixture was released from Tank 883 on the property roughly on 2/8/2015. An additional 9,500 gallons of the same product was released to the secondary containment of Tank 882 in a separate incident during the overnight hours between Monday 2/9 and Tuesday 2/10.

1.1.2.1 Location
The address is 5000 W. 41st Street, Cicero, IL; however, the facility geographically falls within the city and Fire jurisdiction of Stickney, IL.

1.1.2.2 Description of Threat
On Wednesday, February 11, 2015, an EPA START contractor conducted a periodic inspection of the site under FPN E14539 due to an oil spill that occurred in August, 2014. Approximately 25,000 gallons of Ethylene Glycol mixture was observed standing in the secondary containment area and was continuouly releasing from a breach in the containment wall. It was puddling on the outside of the northeast corner of the secondary containment between the containment wall and the sea wall to the canal approximately two feet from the wall. Upon the arrival of the OSC product was continuing to be released from secondary containment in close proximity to the channel.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
There is no evidence that any product was released in the canal although there is potential for the product to have saturated into the soil outside of the containment. It has not been determined if there is a possible pathway to the water. On 2/11 sump pumps were set up to remove the product puddled outside the containment area into totes. Vac trucks were used to remove product from the containment area.

Visible cracks in the northeast corner of the containment are the suspected cause of the breach of containment subsurface in and around the containment area.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
On Wednesday, February 11, 2015 , EPA was notified by the START contractor regarding a release of Ethylene Glycol that occurred on 2/8/2015 and had breached the secondary containment at the site and had puddled between the containment wall and sea wall for the canal. EPA Mobilized the Superfund Technical Assessment and Response Team (START) to provide support with the inspection, documentation, and sampling. The responsible party (RP) brought in Future vacuum trucks to remove the free product in the containment area. By the end of the day all visible product had been removed from outside the containment area. The spill zone was monitored by the RP hourly through the night.

Thursday, February 12, 2015, Free product began to be removed by Future from the area near Tank 383

where the release occurred (uphill of the secondary containment area). SET was brought in by the RP to assist in the clean-up/removal activities.

Friday, February 13, SET continued vaccuming up the remainder of the free product that still stood in the containment areas.

2.1.2 Response Actions to Date
Visible free product has removed from outside the containment area and continues to be removed from the secondary and tank containment area.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities
Planned response activities include:

- The continued removal of free product from the secondary and tank containment area.
- Determine the extent of soil contamination as a result of the release

2.2.1.2 Next Steps
Work with IL EPA to determine appropriate cleanup standards

2.2.2 Issues
The PRP delayed letting EPA or and other agency of the initial release and EPA is unaware of any notifications made by the PRP.

EPA has made courtesy calls to the appropriate agencies informing them of the release.

2.3 Logistics Section
No information available at this time.

2.4 Finance Section

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	$10,000.00	$0.00	$10,000.00	100.00%
Intramural Costs				

Total Site Costs	$10,000.00	$0.00	$10,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

IL EPA
MWRD

EPA has notified Stickney Fire Cheif, Suburban Cook County LEPC, and National Response Center

4. Personnel On Site

Personnal on site include:

Olympic Oil Employees
IEPA
EPA
START
SET
Future

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Olympic Oil Antifreeze Release - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #2**
Site Status
Olympic Oil Antifreeze Release

Cicero, IL
Latitude: 41.8174730 Longitude: -87.7481785

To:
Mark Johnson, ATSDR
Marc Miller, Illinois DNR
Todd Rettig, Illinois DNR
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Greg Schweitzer, NOAA
Wayne Babcock, U.S. Department of Interior
Robert Burr, U.S. Department of Interior
Valencia Darby, U.S. DOI
Carolyn Bohlen, U.S. EPA
Sam Borries, U.S. EPA
Yolanda Bouchee-Cureton, U.S. EPA
Jaime Brown, U.S. EPA
Mark Durno, U.S. EPA
Jason El-Zein, U.S. EPA
HQ EOC, U.S. EPA
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Mick Hans, U.S. EPA
Matt Mankowski, U.S. EPA
Thomas Marks, U.S. EPA
Mike Ribordy, U.S. EPA
Ellen Riley, U.S. EPA
Carol Ropski, U.S. EPA
Brian Schlieger, U.S. EPA
Larry Schmitt, U.S. EPA
Annette Trowbridge, U.S. Fish & Wildlife
mark leibrock, MWRD
Chris Holy, IL EPA

From: Mike Beslow, OSC
Date: 2/25/2015
Reporting Period: 2/14-25

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	2/11/2015	**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency Response

1.1.2 Site Description
The site is located in an industrial area in Cicero, IL. It is an industial lubricant blending and facility located on the Chicago Sanitary and Shipping Canal. Approximately 40,000 gallons of an Ethylene Glycol mixture was released from Tank 883 on the property roughly on 2/8/2015. An additional 9,500 gallons of the same product was released to the secondary containment of Tank 882 in a separate incident during the overnight hours between Monday 2/9 and Tuesday 2/10.

1.1.2.1 Location
The address is 5000 W. 41st Street, Cicero, IL; however, the facility geographically falls within the city and Fire jurisdiction of Stickney, IL.

1.1.2.2 Description of Threat
On Wednesday, February 11, 2015, an EPA START contractor conducted a periodic inspection of the site under FPN E14539 due to an oil spill that occurred in August, 2014. Approximately 25,000 gallons of Ethylene Glycol mixture was observed standing in the secondary containment area and was continuouly releasing from a breach in the containment wall. It was puddling on the outside of the northeast corner of the secondary containment between the containment wall and the sea wall to the canal approximately two feet from the wall. Upon the arrival of the OSC product was continuing to be released from secondary containment in close proximity to the channel.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
Ethylene Glycol has been identified in the ground water on the site approximately 20ft from the canal bank. Based on the composition of Ethylene Glycol, and the way it travels through soil, it is likely that the product is migrating towards and into the canal.

Visible cracks in the northeast corner of the containment are the suspected cause of the breach of containment subsurface in and around the containment area.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
Friday, February 13, SET continued vaccuming up the remainder of the free product that still stood in the containment areas. Olympic expressed that SET would be returning on Monday, February 16 to continue vaccuming the pooling product.

On Monday, February 16th Olympic expressed that SET would not be on site because it was a holiday and would return the following day.

On Tuesday, February 17th, Olympic expressed SET would not be returning because there was no longer pooling.

On Thursday, February 19th, Olympic had SET back to the site to remove the top 6 inches of soil

2.1.2 Response Actions to Date
Visible free product has removed from outside the containment area and continues to be removed from the secondary and tank containment area.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities
Planned response activities include:

- The continued removal of free product from the secondary and tank containment area.
- Determine the extent of soil contamination as a result of the release

2.2.1.2 Next Steps
Work with IL EPA to determine appropriate cleanup standards

2.2.2 Issues
The PRP delayed letting EPA or and other agency of the initial release and EPA is unaware of any notifications made by the PRP.

EPA has made courtesy calls to the appropriate agencies informing them of the release.

2.3 Logistics Section
No information available at this time.

2.4 Finance Section

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	$10,000.00	$0.00	$10,000.00	100.00%
Intramural Costs				
Total Site Costs	$10,000.00	$0.00	$10,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this

report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

IL EPA
MWRD

EPA has notified Stickney Fire Cheif, Suburban Cook County LEPC, and National Response Center

4. Personnel On Site

Personnal on site include:

Olympic Oil Employees
IEPA
EPA
START
SET
Future

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Olympic Oil Antifreeze Release - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #3**
Olympic Oil Antifreeze Release

Cicero, IL
Latitude: 41.8174730 Longitude: -87.7481785

To:
Mark Johnson, ATSDR
Marc Miller, Illinois DNR
Todd Rettig, Illinois DNR
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Greg Schweitzer, NOAA
Wayne Babcock, U.S. Department of Interior
Robert Burr, U.S. Department of Interior
Valencia Darby, U.S. DOI
Carolyn Bohlen, U.S. EPA
Sam Borries, U.S. EPA
Yolanda Bouchee-Cureton, U.S. EPA
Jaime Brown, U.S. EPA
Mark Durno, U.S. EPA
Jason El-Zein, U.S. EPA
HQ EOC, U.S. EPA
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Mick Hans, U.S. EPA
Matt Mankowski, U.S. EPA
Thomas Marks, U.S. EPA
Mike Ribordy, U.S. EPA
Ellen Riley, U.S. EPA
Carol Ropski, U.S. EPA
Brian Schlieger, U.S. EPA
Larry Schmitt, U.S. EPA
Annette Trowbridge, U.S. Fish & Wildlife
mark leibrock, MWRD
Chris Holy, IL EPA

From: Anita Boseman, OSC
Date: 3/13/2015
Reporting Period:

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	2/11/2015	**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency Response

1.1.2 Site Description
The site is located in an industrial area in Cicero, IL. It is an industial lubricant blending and facility located on the Chicago Sanitary and Shipping Canal. Approximately 40,000 gallons of an Ethylene Glycol mixture was released from Tank 883 on the property roughly on 2/8/2015. An additional 9,500 gallons of the same product was released to the secondary containment of Tank 882 in a separate incident during the overnight hours between Monday 2/9 and Tuesday 2/10.

1.1.2.1 Location
The address is 5000 W. 41st Street, Cicero, IL; however, the facility geographically falls within the city and Fire jurisdiction of Stickney, IL.

1.1.2.2 Description of Threat
On Wednesday, February 11, 2015, an EPA START contractor conducted a periodic inspection of the site under FPN E14539 due to an oil spill that occurred in August, 2014. Approximately 25,000 gallons of Ethylene Glycol mixture was observed standing in the secondary containment area and was continuouly releasing from a breach in the containment wall. It was puddling on the outside of the northeast corner of the secondary containment between the containment wall and the sea wall to the canal approximately two feet from the wall. Upon the arrival of the OSC product was continuing to be released from secondary containment in close proximity to the channel.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
Ethylene Glycol has been identified in the ground water on the site approximately 20ft from the canal bank. Based on the composition of Ethylene Glycol, and the way it travels through soil, it is likely that the product is migrating towards and into the canal.

Visible cracks in the northeast corner of the containment are the suspected cause of the breach of containment subsurface in and around the containment area.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
Friday, February 13, SET continued vaccuming up the remainder of the free product that still stood in the containment areas. Olympic expressed that SET would be returning on Monday, February 16 to continue vaccuming the pooling product.

On Monday, February 16th Olympic expressed that SET would not be on site because it was a holiday and would return the following day.

On Tuesday, February 17th, Olympic expressed SET would not be returning because there was no longer pooling.

On Thursday, February 19th, Olympic had SET back to the site to remove the top 6 inches of soil

On Wednesday, February 25th, Olympic had SET and CS drilling on site with a geoprobe. SET cleaned out VH-01 (the valve pit at the entrance of the containment area) and MH-05 (the manhole in the center for the containment area) with a vacuum truck and power washer and used a grunfos pump to pump out MW-10 (the well in the center of the containment area which showed levels of elthylene glycol contamination). CS drilling completed five soil borings inside the containment area and collected samples which START spilt with K-Plus. Three wells were installed as well by CS.

On Thursday, February 26th, START and K-Plus sampled the new well installed by CS at KP5. The other 2 wells were dry.

On Friday, February 27th, Olympic had SET , CS drilling and K-plus on site to install 4 recovery wells in the containment area soil. Three recovery wells were installed by CS drilling.

On the week of March 2nd, Olympic had CS drilling and K-plus back to the site to install the 4th and final recovery well. All four wells were installed successfully only RW #1 had produced water. 3" grunfos pumps were installed in each of the 4 wells and set to run for 3 minutes every 60 minutes. Only well RW #1 produced water which is draining into a 55 gallon drum.

On the week of March 9th, START continued to perform daily inspections on site until further notice.

2.1.2 Response Actions to Date
Visible free product has removed from outside the containment area and continues to be removed from the secondary and tank containment area.

The top 6" of soil has been removed form the containment area.

Soil, ground water and surface water samples were collected by K-plus and START

CS drilling drilled soil borings, installed ground water wells and recovery wells

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Eltylene Glycol Mix	Liquid Waste	75000 gal			

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities
Planned response activities include:

- Continue to pump recovery wells

2.2.1.2 Next Steps
Work with IL EPA to determine appropriate cleanup standards

2.2.2 Issues
The PRP delayed letting EPA or and other agency of the initial release and EPA is unaware of any notifications made by the PRP.

EPA has made courtesy calls to the appropriate agencies informing them of the release.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	$10,000.00	$0.00	$10,000.00	100.00%
Intramural Costs				
Total Site Costs	$10,000.00	$0.00	$10,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

IL EPA
MWRD

EPA has notified Stickney Fire Cheif, Suburban Cook County LEPC, and National Response Center

4. Personnel On Site

Personnal on site include:

Olympic Oil Employees
IEPA
EPA
START
SET
Future

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Olympic Oil Antifreeze Release - Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Subject: **POLREP #4**
Olympic Oil Antifreeze Release

Cicero, IL
Latitude: 41.8174730 Longitude: -87.7481785

To:
Mark Johnson, ATSDR
Marc Miller, Illinois DNR
Todd Rettig, Illinois DNR
Bruce Everetts, Illinois EPA
John Kim, Illinois EPA
Greg Schweitzer, NOAA
Wayne Babcock, U.S. Department of Interior
Robert Burr, U.S. Department of Interior
Valencia Darby, U.S. DOI
Carolyn Bohlen, U.S. EPA
Sam Borries, U.S. EPA
Yolanda Bouchee-Cureton, U.S. EPA
Jaime Brown, U.S. EPA
Mark Durno, U.S. EPA
Jason El-Zein, U.S. EPA
HQ EOC, U.S. EPA
Charlie Gebien, U.S. EPA
John Glover, U.S. EPA
Mick Hans, U.S. EPA
Matt Mankowski, U.S. EPA
Thomas Marks, U.S. EPA
Mike Ribordy, U.S. EPA
Ellen Riley, U.S. EPA
Carol Ropski, U.S. EPA
Brian Schlieger, U.S. EPA
Larry Schmitt, U.S. EPA
Annette Trowbridge, U.S. Fish & Wildlife
mark leibrock, MWRD
Chris Holy, IL EPA

From: Anita Boseman, OSC
Date: 3/23/2015
Reporting Period: 3/11/2015-3/20/2015

1. Introduction

1.1 Background

Site Number:		**Contract Number:**	
D.O. Number:		**Action Memo Date:**	
Response Authority:	CERCLA	**Response Type:**	Emergency
Response Lead:	EPA	**Incident Category:**	
NPL Status:		**Operable Unit:**	
Mobilization Date:	2/11/2015	**Start Date:**	
Demob Date:		**Completion Date:**	
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	
FPN#:		**Reimbursable Account #:**	

1.1.1 Incident Category
Emergency Response

1.1.2 Site Description
The site is located in an industrial area in Cicero, IL. It is an industial lubricant blending and facility located on the Chicago Sanitary and Shipping Canal. Approximately 40,000 gallons of an Ethylene Glycol mixture was released from Tank 883 on the property roughly on 2/8/2015. An additional 9,500 gallons of the same product was released to the secondary containment of Tank 882 in a separate incident during the overnight hours between Monday 2/9 and Tuesday 2/10.

1.1.2.1 Location
The address is 5000 W. 41st Street, Cicero, IL; however, the facility geographically falls within the city and Fire jurisdiction of Stickney, IL.

1.1.2.2 Description of Threat
On Wednesday, February 11, 2015, an EPA START contractor conducted a periodic inspection of the site under FPN E14539 due to an oil spill that occurred in August, 2014. Approximately 25,000 gallons of Ethylene Glycol mixture was observed standing in the secondary containment area and was continuouly releasing from a breach in the containment wall. It was puddling on the outside of the northeast corner of the secondary containment between the containment wall and the sea wall to the canal approximately two feet from the wall. Upon the arrival of the OSC product was continuing to be released from secondary containment in close proximity to the channel.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
Ethylene Glycol has been identified in the ground water on the site approximately 20ft from the canal bank. Based on the composition of Ethylene Glycol, and the way it travels through soil, it is likely that the product is migrating towards and into the canal.

Visible cracks in the northeast corner of the containment are the suspected cause of the breach of containment subsurface in and around the containment area.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
Friday, February 13, SET continued vaccuming up the remainder of the free product that still stood in the containment areas. Olympic expressed that SET would be returning on Monday, February 16 to continue vaccuming the pooling product.

On Monday, February 16th Olympic expressed that SET would not be on site because it was a holiday and would return the following day.

On Tuesday, February 17th, Olympic expressed SET would not be returning because there was no longer pooling.

On Thursday, February 19th, Olympic had SET back to the site to remove the top 6 inches of soil

On Wednesday, February 25th, Olympic had SET and CS drilling on site with a geoprobe. SET cleaned out VH-01 (the valve pit at the entrance of the containment area) and MH-05 (the manhole in the center for the containment area) with a vacuum truck and power washer and used a grunfos pump to pump out MW-10 (the well in the center of the containment area which showed levels of elthylene glycol contamination). CS drilling completed five soil borings inside the containment area and collected samples which START spilt with K-Plus. Three wells were installed as well by CS.

On Thursday, February 26th, START and K-Plus sampled the new well installed by CS at KP5. The other 2 wells were dry.

On Friday, February 27th, Olympic had SET , CS drilling and K-plus on site to install 4 recovery wells in the containment area soil. Three recovery wells were installed by CS drilling.

On the week of March 2nd, Olympic had CS drilling and K-plus back to the site to install the 4th and final recovery well. All four wells were installed successfully only RW #1 had produced water. 3" grunfos pumps were installed in each of the 4 wells and set to run for 3 minutes every 60 minutes. Only well RW #1 produced water which is draining into a 55 gallon drum.

On the week of March 9th, START performed daily inspections of the site. RW #1 continued to be the only well producing water. Due to snow melt and run-off from precipitation events water built up in the trench along the north wall of the containment area. This water was pumped out by Future and stored in the totes onsite. The white boom on the river became detached on 3/9 but was repaired by the next visit on 3/10. K-Plus will continue to monitor wells and Future will continue to remove water in the containment area as necessary. There were no further actions during this week.

During the week of March 16th, START conducted two site visits on 3/18 and 3/20, Vacuum operations continue as needed due to run-off and snow melt into the containment area. K-Plus also continues to monitor the site and recovery wells. RW #1 continues to be the only well that is producing water. No other actions were taken this week.

2.1.2 Response Actions to Date

Visible free product has removed from outside the containment area and continues to be removed from the secondary and tank containment area.

The top 6" of soil has been removed form the containment area.

Soil, ground water and surface water samples were collected by K-plus and START

CS drilling drilled soil borings, installed ground water wells and recovery wells

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)

2.1.4 Progress Metrics

Waste Stream	*Medium*	*Quantity*	*Manifest #*	*Treatment*	*Disposal*
Non-Hazardous Waste Water	Liquid Waste	3000 gal	013337822		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013337823		Ortek Inc.

Non-Hazardous Waste Water	Liquid Waste	3500 gal	013932707		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013932708		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013937528		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3000 gal	013937529		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013937530		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013337825		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013337819		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013337817		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013337820		Ortek Inc.
Used Anti-freeze	Liquid Waste	3500 gal	013937525		Ortek Inc.
Used Anti-freeze	Liquid Waste	3500 gal	013937526		Ortek Inc.
Used Anti-freeze	Liquid Waste	3500 gal	013937527		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	6000 gal	013335752		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3500 gal	013937512		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	3200 gal	013335753		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	6000 gal	013335750		Ortek Inc.
Non-Hazardous Waste Water	Liquid Waste	1250 gal	013932941		Ortek Inc.

2.2 Planning Section

2.2.1 Anticipated Activities

2.2.1.1 Planned Response Activities

Planned response activities include:

- Continue to pump recovery wells
- Continue to vacuum up water in the containment area

2.2.1.2 Next Steps

Work with IL EPA to determine appropriate cleanup standards

2.2.2 Issues

The PRP delayed letting EPA or and other agency of the initial release and EPA is unaware of any notifications made by the PRP.

EPA has made courtesy calls to the appropriate agencies informing them of the release.

2.3 Logistics Section

No information available at this time.

2.4 Finance Section

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
TAT/START	$10,000.00	$0.00	$10,000.00	100.00%
Intramural Costs				
Total Site Costs	$10,000.00	$0.00	$10,000.00	100.00%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

No information available at this time.

3. Participating Entities

3.1 Unified Command

3.2 Cooperating Agencies

IL EPA
MWRD

EPA has notified Stickney Fire Cheif, Suburban Cook County LEPC, and National Response Center

4. Personnel On Site

Personnal on site include:

Olympic Oil Employees
IEPA
EPA
START
SET
Future

5. Definition of Terms

No information available at this time.

6. Additional sources of information

No information available at this time.

7. Situational Reference Materials

No information available at this time.

ATTACHMENT B

LABORATORY REPORTS

24-Feb-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X90260001S051502007** Work Order: **1502920**

Dear Matt,

ALS Environmental received 4 samples on 21-Feb-2015 01:30 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 14.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 24-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: **1502920**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1502920-01	OA-MW-10-0219	Water		2/19/2015 13:10	2/21/2015 13:30	☐
1502920-02	OA-S5-03-0219	Soil		2/19/2015 13:30	2/21/2015 13:30	☐
1502920-03	OA-MH-05-0219	Water		2/19/2015 13:35	2/21/2015 13:30	☐
1502920-04	OA-MW-10-0219-PP	Water		2/19/2015 13:40	2/21/2015 13:30	☐

ALS Group USA, Corp

Date: 24-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: 1502920

Case Narrative

Samples for the above noted Work Order were received on 02/21/2015. The attached ""Sample Receipt Checklist"" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the ""Work Order Acknowledgement"". Methodologies are also documented in the ""Analytical Result"" section for each sample. Quality control results are listed in the ""QC Report"" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The ""Qualifiers"" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

GC-FID:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *24-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-MW-10-0219
Collection Date: 2/19/2015 01:10 PM

Work Order: 1502920
Lab ID: 1502920-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**6,300**		**17**	**120**	**mg/L**	25	2/23/2015 18:56

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-S5-03-0219
Collection Date: 2/19/2015 01:30 PM

Work Order: 1502920
Lab ID: 1502920-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**45,000**		**430**	**570**	**mg/Kg-dry**	100	2/23/2015 21:18
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**15**		**0.025**	**0.050**	**% of sample**	1	2/23/2015 14:45

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-MH-05-0219
Collection Date: 2/19/2015 01:35 PM

Work Order: 1502920
Lab ID: 1502920-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**40,000**		**67**	**500**	**mg/L**	100	2/23/2015 19:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *24-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-MW-10-0219-PP
Collection Date: 2/19/2015 01:40 PM

Work Order: 1502920
Lab ID: 1502920-04
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**20,000**		**130**	**1,000**	**mg/L**	200	2/23/2015 19:22

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 24-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
WorkOrder: **1502920**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 24-Feb-15

Client: Tetra Tech EM Inc.
Work Order: 1502920
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158002** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB1-R158002-R158002** Units: **mg/Kg** Analysis Date: **2/23/2015 09:05 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154190** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

MBLK Sample ID: **MB-R158002-R158002** Units: **mg/L** Analysis Date: **2/23/2015 06:31 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154227** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS1-R158002-R158002** Units: **mg/Kg** Analysis Date: **2/23/2015 08:01 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154191** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	432.9	5.0	500	0	86.6	50-150	0			

LCS Sample ID: **LCS-R158002-R158002** Units: **mg/L** Analysis Date: **2/23/2015 05:26 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154228** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	435.5	5.0	500	0	87.1	50-150	0			

MS Sample ID: **1502920-02A MS** Units: **mg/Kg** Analysis Date: **2/23/2015 08:13 PM**
Client ID: **OA-S5-03-0219** Run ID: **GC11_150223A** SeqNo: **3154198** Prep Date: **2/23/2015** DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	85330	960	50000	38180	94.3	50-150	0			

MS Sample ID: **1502765-02B MS** Units: **mg/L** Analysis Date: **2/23/2015 05:39 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154237** Prep Date: **2/23/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	958.4	10	1000	0	95.8	50-150	0			

MSD Sample ID: **1502920-02A MSD** Units: **mg/Kg** Analysis Date: **2/23/2015 08:26 PM**
Client ID: **OA-S5-03-0219** Run ID: **GC11_150223A** SeqNo: **3154200** Prep Date: **2/23/2015** DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	85180	960	50000	38180	94	50-150	85330	0.173	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1502920
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158002** Instrument ID **GC11** Method: **SW8015M**

MSD Sample ID: **1502765-02B MSD** Units: **mg/L** Analysis Date: **2/23/2015 05:52 PM**

Client ID: Run ID: **GC11_150223A** SeqNo: **3154240** Prep Date: **2/23/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	935.9	10	1000	0	93.6	50-150	958.4	2.37	30	

The following samples were analyzed in this batch:

1502920-01A 1502920-02A 1502920-03A
1502920-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1502920
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158012** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R158012** Units: **% of sample** Analysis Date: **2/23/2015 02:45 PM**
Client ID: Run ID: **MOIST_150223C** SeqNo: **3154617** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R158012** Units: **% of sample** Analysis Date: **2/23/2015 02:45 PM**
Client ID: Run ID: **MOIST_150223C** SeqNo: **3154616** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1502876-04B DUP** Units: **% of sample** Analysis Date: **2/23/2015 02:45 PM**
Client ID: Run ID: **MOIST_150223C** SeqNo: **3154598** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	14.18	0.050	0	0	0		14.5	2.23	20	

DUP Sample ID: **1502920-02A DUP** Units: **% of sample** Analysis Date: **2/23/2015 02:45 PM**
Client ID: **OA-S5-03-0219** Run ID: **MOIST_150223C** SeqNo: **3154610** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.54	0.050	0	0	0		15.27	7.98	20	

The following samples were analyzed in this batch: 1502920-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Chain of Custody Form

Page _____ of _____

COC ID: 123456

- ☐ Cincinnati, OH +1 513 733 5336
- ☒ Holland, MI +1 616 399 6070
- ☐ Salt Lake City, UT +1 801 266 7700
- ☐ Everett, WA +1 425 356 2600
- ☐ Houston, TX +1 281 530 5656
- ☐ Spring City, PA +1 610 948 4903
- ☐ Fort Collins, CO +1 970 490 1511
- ☐ Middletown, PA +1 717 944 5541
- ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1502920

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	Ethylene Glycol Method 8015
Work Order		Project Number	103X9026000150S1502007	B	
Company Name	Tetra Tech	Bill To Company	Tetra Tech Inc.	C	
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	
Address	15. Wacker Dr.	Address	1 S. Wacker Dr	E	
				F	
City/State/Zip	Chicago/ IL / 60606	City/State/Zip	Chicago/ IL / 60606	G	
Phone	~~(847)~~ 708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-MW-10-0219	02-19-15	1310	Water	8	2	X										
2	OA-SS-03-0219	02-19-15	1330	Soil	8	1	X										
3	OA-MW-05-0219	02-19-15	1335	Water	8	1	X										
4	OA-MW-10-0219-PP	02-19-15	1340	Water	8	1	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Cordell Reeves

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date: 2/20/15 ~~02-19-15~~	Time: ~~1500~~ 1320	Received by:	Notes:
Relinquished by:	Date: 2/20/15	Time: 1800	Received by (Laboratory): 2/21/15 1330	Cooler Temp.
Logged by (Laboratory): DFS	Date: 2/23/15	Time: 0930	Checked by (Laboratory):	4.2°C

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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From: (216) 405-5409
Pete Wesson
ALS Environmental
3352 128th Ave

HOLLAND, MI 49424

Origin ID: HLMA

FedEx Express

J9540501140Jw

Ship Date: 20FEB15
ActWgt: 35.0 LB
CAD: 2264840/INET3610

Dims: 11 X 20 X 14 IN

Delivery Address Bar Code

Ref #
Invoice #
PO #
Dept #

SHIP TO: (616) 399-6070

BILL SENDER

Sample Receiving
ALS Environmental
3352 128TH AVE

HOLLAND, MI 49424

1 of 2

TRK# 7729 6289 9421

0201

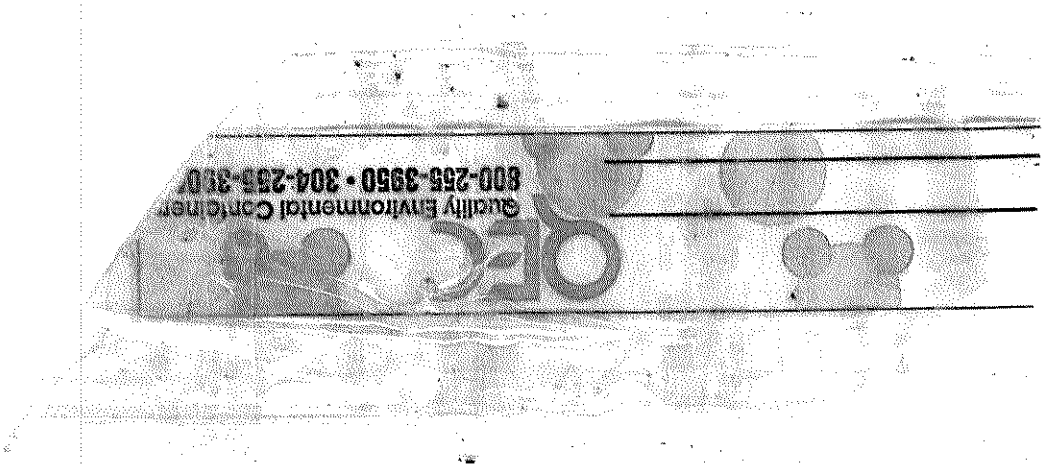
MASTER

68 HLMA

SATURDAY 12:00P
PRIORITY OVERNIGHT

49424
MI-US
GRR

537/42/D3CE/CE4B



ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **21-Feb-15 13:30**

Work Order: **1502920** Received by: **DS**

Checklist completed by Diane Shaw (eSignature) 23-Feb-15 (Date) Reviewed by: Joseph Ribar (eSignature) 23-Feb-15 (Date)

Matrices: Water, Soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	4.2 c	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	2/23/2015 10:02:39 AM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

25-Feb-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze Feb. 2015** Work Order: **1502765**

Dear Matt, Revision: **1**

ALS Environmental received 5 samples on 19-Feb-2015 12:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 86.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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ALS Group USA, Corp

Date: 25-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Work Order: **1502765**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1502765-01	OA-SW-0211-01	Water		2/11/2015 11:30	2/19/2015 12:45	☐
1502765-02	OA-SW-0213-01	Water		2/13/2015 11:30	2/19/2015 12:45	☐
1502765-03	OA-SW-0213-02	Water		2/13/2015 13:10	2/19/2015 12:45	☐
1502765-04	OA-SG-0212-01	Soil		2/12/2015 15:15	2/19/2015 12:45	☐
1502765-05	OA-SG-0212-02	Soil		2/12/2015 15:47	2/19/2015 12:45	☐

Revision: 1

ALS Group USA, Corp

Date: 25-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Work Order: 1502765

Case Narrative

Samples for the above noted Work Order were received on 02/19/2015. The attached ""Sample Receipt Checklist"" documents the status of custody seals, container integrity, preservation, and temperature compliance. Sample 1502765-01 was received after the hold time had expired for Semi-Volatiles.

Samples were analyzed according to the analytical methodology previously transmitted in the ""Work Order Acknowledgement"". Methodologies are also documented in the ""Analytical Result"" section for each sample. Quality control results are listed in the ""QC Report"" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The ""Qualifiers"" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
Batch 67885 MS/MSD data for Volatiles is not related to this project's samples. No data requires qualification.

Batch R157796 MS/MSD data for Volatiles is not related to this project's samples. No data requires qualification.

Batch R157808 MS/MSD data for Volatiles is not related to this project's samples. No data requires qualification.

Sample 1502765-04 was analyzed for Volatiles using the Methanol preserved sample.

Extractable Organics :
Batch 67856 sample 1502765-01 Semi-Volatiles' reporting limits are elevated due to not being able to concentrate the sample extract down to the desired final volume. The surrogate recoveries are unavailable due to dilution below the calibration range for this sample.

Batch 67860 sample 1502765-04 for Semi-Volatiles had one low acid surrogate recovery due to matrix interference. The reporting limits for acid compounds may be biased low in this sample.

Batch 67861 MS/MSD data for DRO is not related to this project's samples. No data requires qualification.

Metals:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0211-01
Collection Date: 2/11/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **RM**
Ethylene glycol	**400,000**		**1,300**	**10,000**	**mg/L**	2000	2/20/2015 11:47
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 2/24/15		Analyst: **RM**
1,1`-Biphenyl	U	H	76	4,000	µg/L	20	2/24/2015 10:32
2,4,5-Trichlorophenol	U	H	200	4,000	µg/L	20	2/24/2015 10:32
2,4,6-Trichlorophenol	U	H	220	4,000	µg/L	20	2/24/2015 10:32
2,4-Dichlorophenol	U	H	180	8,000	µg/L	20	2/24/2015 10:32
2,4-Dimethylphenol	U	H	1,400	4,000	µg/L	20	2/24/2015 10:32
2,4-Dinitrophenol	U	H	540	4,000	µg/L	20	2/24/2015 10:32
2,4-Dinitrotoluene	U	H	220	4,000	µg/L	20	2/24/2015 10:32
2,6-Dinitrotoluene	U	H	180	4,000	µg/L	20	2/24/2015 10:32
2-Chloronaphthalene	U	H	100	4,000	µg/L	20	2/24/2015 10:32
2-Chlorophenol	U	H	260	4,000	µg/L	20	2/24/2015 10:32
2-Methylnaphthalene	U	H	100	4,000	µg/L	20	2/24/2015 10:32
2-Methylphenol	U	H	160	4,000	µg/L	20	2/24/2015 10:32
2-Nitroaniline	U	H	270	16,000	µg/L	20	2/24/2015 10:32
2-Nitrophenol	U	H	220	4,000	µg/L	20	2/24/2015 10:32
3&4-Methylphenol	U	H	160	4,000	µg/L	20	2/24/2015 10:32
3,3´-Dichlorobenzidine	U	H	3,100	4,000	µg/L	20	2/24/2015 10:32
3-Nitroaniline	U	H	270	16,000	µg/L	20	2/24/2015 10:32
4,6-Dinitro-2-methylphenol	U	H	960	16,000	µg/L	20	2/24/2015 10:32
4-Bromophenyl phenyl ether	U	H	190	4,000	µg/L	20	2/24/2015 10:32
4-Chloro-3-methylphenol	U	H	250	4,000	µg/L	20	2/24/2015 10:32
4-Chloroaniline	U	H	250	16,000	µg/L	20	2/24/2015 10:32
4-Chlorophenyl phenyl ether	U	H	190	4,000	µg/L	20	2/24/2015 10:32
4-Nitroaniline	U	H	240	16,000	µg/L	20	2/24/2015 10:32
4-Nitrophenol	U	H	410	16,000	µg/L	20	2/24/2015 10:32
Acenaphthene	U	H	90	4,000	µg/L	20	2/24/2015 10:32
Acenaphthylene	U	H	99	4,000	µg/L	20	2/24/2015 10:32
Acetophenone	U	H	72	800	µg/L	20	2/24/2015 10:32
Anthracene	U	H	580	4,000	µg/L	20	2/24/2015 10:32
Atrazine	U	H	100	800	µg/L	20	2/24/2015 10:32
Benzaldehyde	U	H	370	800	µg/L	20	2/24/2015 10:32
Benzo(a)anthracene	U	H	460	4,000	µg/L	20	2/24/2015 10:32
Benzo(a)pyrene	U	H	82	4,000	µg/L	20	2/24/2015 10:32
Benzo(b)fluoranthene	U	H	590	4,000	µg/L	20	2/24/2015 10:32
Benzo(g,h,i)perylene	U	H	560	4,000	µg/L	20	2/24/2015 10:32
Benzo(k)fluoranthene	U	H	140	4,000	µg/L	20	2/24/2015 10:32
Bis(2-chloroethoxy)methane	U	H	260	4,000	µg/L	20	2/24/2015 10:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0211-01
Collection Date: 2/11/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroethyl)ether	U	H	270	4,000	µg/L	20	2/24/2015 10:32
Bis(2-chloroisopropyl)ether	U	H	260	4,000	µg/L	20	2/24/2015 10:32
Bis(2-ethylhexyl)phthalate	U	H	120	4,000	µg/L	20	2/24/2015 10:32
Butyl benzyl phthalate	U	H	82	4,000	µg/L	20	2/24/2015 10:32
Caprolactam	U	H	3,800	8,000	µg/L	20	2/24/2015 10:32
Carbazole	U	H	130	8,000	µg/L	20	2/24/2015 10:32
Chrysene	U	H	570	4,000	µg/L	20	2/24/2015 10:32
Dibenzo(a,h)anthracene	U	H	540	4,000	µg/L	20	2/24/2015 10:32
Dibenzofuran	U	H	220	4,000	µg/L	20	2/24/2015 10:32
Diethyl phthalate	U	H	200	16,000	µg/L	20	2/24/2015 10:32
Dimethyl phthalate	U	H	220	16,000	µg/L	20	2/24/2015 10:32
Di-n-butyl phthalate	U	H	110	4,000	µg/L	20	2/24/2015 10:32
Di-n-octyl phthalate	U	H	94	4,000	µg/L	20	2/24/2015 10:32
Fluoranthene	U	H	620	4,000	µg/L	20	2/24/2015 10:32
Fluorene	U	H	82	4,000	µg/L	20	2/24/2015 10:32
Hexachlorobenzene	U	H	180	4,000	µg/L	20	2/24/2015 10:32
Hexachlorobutadiene	U	H	190	4,000	µg/L	20	2/24/2015 10:32
Hexachlorocyclopentadiene	U	H	140	16,000	µg/L	20	2/24/2015 10:32
Hexachloroethane	U	H	380	4,000	µg/L	20	2/24/2015 10:32
Indeno(1,2,3-cd)pyrene	U	H	560	4,000	µg/L	20	2/24/2015 10:32
Isophorone	U	H	240	4,000	µg/L	20	2/24/2015 10:32
Naphthalene	U	H	98	4,000	µg/L	20	2/24/2015 10:32
Nitrobenzene	U	H	270	4,000	µg/L	20	2/24/2015 10:32
N-Nitrosodi-n-propylamine	U	H	260	4,000	µg/L	20	2/24/2015 10:32
N-Nitrosodiphenylamine	U	H	650	4,000	µg/L	20	2/24/2015 10:32
Pentachlorophenol	U	H	180	16,000	µg/L	20	2/24/2015 10:32
Phenanthrene	U	H	690	4,000	µg/L	20	2/24/2015 10:32
Phenol	U	H	260	4,000	µg/L	20	2/24/2015 10:32
Pyrene	U	H	520	4,000	µg/L	20	2/24/2015 10:32
Surr: 2,4,6-Tribromophenol	*0*	S		*38-115*	*%REC*	20	2/24/2015 10:32
Surr: 2-Fluorobiphenyl	*0*	S		*32-100*	*%REC*	20	2/24/2015 10:32
Surr: 2-Fluorophenol	*0*	S		*22-59*	*%REC*	20	2/24/2015 10:32
Surr: 4-Terphenyl-d14	*0*	S		*23-112*	*%REC*	20	2/24/2015 10:32
Surr: Nitrobenzene-d5	*0*	S		*31-93*	*%REC*	20	2/24/2015 10:32
Surr: Phenol-d6	*0*	S		*13-36*	*%REC*	20	2/24/2015 10:32
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260**					Analyst: **AK**
1,1,1-Trichloroethane	**8.8**		**0.96**	**5.0**	**µg/L**	5	2/19/2015 16:39
1,1,2,2-Tetrachloroethane	U		1.7	5.0	µg/L	5	2/19/2015 16:39
1,1,2-Trichloroethane	U		1.3	5.0	µg/L	5	2/19/2015 16:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0211-01
Collection Date: 2/11/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		2.3	5.0	µg/L	5	2/19/2015 16:39
1,1-Dichloroethane	**32**		**1.1**	**5.0**	**µg/L**	5	2/19/2015 16:39
1,1-Dichloroethene	U		1.2	5.0	µg/L	5	2/19/2015 16:39
1,2,4-Trichlorobenzene	U		0.96	5.0	µg/L	5	2/19/2015 16:39
1,2-Dibromo-3-chloropropane	U		2.1	5.0	µg/L	5	2/19/2015 16:39
1,2-Dibromoethane	U		1.7	5.0	µg/L	5	2/19/2015 16:39
1,2-Dichlorobenzene	U		1.1	5.0	µg/L	5	2/19/2015 16:39
1,2-Dichloroethane	U		1.3	5.0	µg/L	5	2/19/2015 16:39
1,2-Dichloropropane	U		1.3	5.0	µg/L	5	2/19/2015 16:39
1,3-Dichlorobenzene	U		1.0	5.0	µg/L	5	2/19/2015 16:39
1,4-Dichlorobenzene	U		1.0	5.0	µg/L	5	2/19/2015 16:39
2-Butanone	**24**	J	**4.3**	**25**	**µg/L**	5	2/19/2015 16:39
2-Hexanone	U		0.76	25	µg/L	5	2/19/2015 16:39
4-Methyl-2-pentanone	**5.8**		**0.74**	**5.0**	**µg/L**	5	2/19/2015 16:39
Acetone	**63**		**16**	**50**	**µg/L**	5	2/19/2015 16:39
Benzene	U		1.3	5.0	µg/L	5	2/19/2015 16:39
Bromodichloromethane	U		0.80	5.0	µg/L	5	2/19/2015 16:39
Bromoform	U		0.50	5.0	µg/L	5	2/19/2015 16:39
Bromomethane	U		5.0	5.0	µg/L	5	2/19/2015 16:39
Carbon disulfide	U		1.3	5.0	µg/L	5	2/19/2015 16:39
Carbon tetrachloride	U		0.69	5.0	µg/L	5	2/19/2015 16:39
Chlorobenzene	U		0.94	5.0	µg/L	5	2/19/2015 16:39
Chloroethane	**12**		**1.1**	**5.0**	**µg/L**	5	2/19/2015 16:39
Chloroform	**6.7**		**1.2**	**5.0**	**µg/L**	5	2/19/2015 16:39
Chloromethane	U		1.3	5.0	µg/L	5	2/19/2015 16:39
cis-1,2-Dichloroethene	**4.6**	J	**1.2**	**5.0**	**µg/L**	5	2/19/2015 16:39
cis-1,3-Dichloropropene	U		1.2	5.0	µg/L	5	2/19/2015 16:39
Cyclohexane	U		1.5	5.0	µg/L	5	2/19/2015 16:39
Dibromochloromethane	U		0.83	5.0	µg/L	5	2/19/2015 16:39
Dichlorodifluoromethane	U		2.0	5.0	µg/L	5	2/19/2015 16:39
Ethylbenzene	U		1.1	5.0	µg/L	5	2/19/2015 16:39
Isopropylbenzene	U		1.3	5.0	µg/L	5	2/19/2015 16:39
Methyl acetate	**69**		**3.1**	**10**	**µg/L**	5	2/19/2015 16:39
Methyl tert-butyl ether	U		0.59	5.0	µg/L	5	2/19/2015 16:39
Methylcyclohexane	U		1.6	5.0	µg/L	5	2/19/2015 16:39
Methylene chloride	**36**		**3.2**	**25**	**µg/L**	5	2/19/2015 16:39
o-Xylene	U		1.1	5.0	µg/L	5	2/19/2015 16:39
Styrene	U		0.88	5.0	µg/L	5	2/19/2015 16:39
Tetrachloroethene	U		1.2	5.0	µg/L	5	2/19/2015 16:39
Toluene	**4.1**	J	**0.98**	**5.0**	**µg/L**	5	2/19/2015 16:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0211-01
Collection Date: 2/11/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,2-Dichloroethene	U		1.4	5.0	µg/L	5	2/19/2015 16:39
trans-1,3-Dichloropropene	U		0.94	5.0	µg/L	5	2/19/2015 16:39
Trichloroethene	U		1.7	5.0	µg/L	5	2/19/2015 16:39
Trichlorofluoromethane	U		1.9	5.0	µg/L	5	2/19/2015 16:39
Vinyl chloride	U		0.95	5.0	µg/L	5	2/19/2015 16:39
Xylenes, Total	U		3.1	15	µg/L	5	2/19/2015 16:39
Surr: 1,2-Dichloroethane-d4	*94.5*			*75-120*	*%REC*	5	2/19/2015 16:39
Surr: 4-Bromofluorobenzene	*93.4*			*80-110*	*%REC*	5	2/19/2015 16:39
Surr: Dibromofluoromethane	*96.4*			*85-115*	*%REC*	5	2/19/2015 16:39
Surr: Toluene-d8	*96.0*			*85-110*	*%REC*	5	2/19/2015 16:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-01
Collection Date: 2/13/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	U		0.67	5.0	mg/L	1	2/23/2015 18:44
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 2/19/15		Analyst: **RM**
1,1`-Biphenyl	U		0.10	5.4	µg/L	1	2/20/2015 03:02
2,4,5-Trichlorophenol	U		0.27	5.4	µg/L	1	2/20/2015 03:02
2,4,6-Trichlorophenol	U		0.29	5.4	µg/L	1	2/20/2015 03:02
2,4-Dichlorophenol	U		0.24	11	µg/L	1	2/20/2015 03:02
2,4-Dimethylphenol	U		1.9	5.4	µg/L	1	2/20/2015 03:02
2,4-Dinitrophenol	U		0.72	5.4	µg/L	1	2/20/2015 03:02
2,4-Dinitrotoluene	U		0.29	5.4	µg/L	1	2/20/2015 03:02
2,6-Dinitrotoluene	U		0.24	5.4	µg/L	1	2/20/2015 03:02
2-Chloronaphthalene	U		0.14	5.4	µg/L	1	2/20/2015 03:02
2-Chlorophenol	U		0.35	5.4	µg/L	1	2/20/2015 03:02
2-Methylnaphthalene	U		0.14	5.4	µg/L	1	2/20/2015 03:02
2-Methylphenol	U		0.21	5.4	µg/L	1	2/20/2015 03:02
2-Nitroaniline	U		0.37	22	µg/L	1	2/20/2015 03:02
2-Nitrophenol	U		0.30	5.4	µg/L	1	2/20/2015 03:02
3&4-Methylphenol	U		0.21	5.4	µg/L	1	2/20/2015 03:02
3,3´-Dichlorobenzidine	U		4.2	5.4	µg/L	1	2/20/2015 03:02
3-Nitroaniline	U		0.37	22	µg/L	1	2/20/2015 03:02
4,6-Dinitro-2-methylphenol	U		1.3	22	µg/L	1	2/20/2015 03:02
4-Bromophenyl phenyl ether	U		0.25	5.4	µg/L	1	2/20/2015 03:02
4-Chloro-3-methylphenol	U		0.34	5.4	µg/L	1	2/20/2015 03:02
4-Chloroaniline	U		0.34	22	µg/L	1	2/20/2015 03:02
4-Chlorophenyl phenyl ether	U		0.25	5.4	µg/L	1	2/20/2015 03:02
4-Nitroaniline	U		0.32	22	µg/L	1	2/20/2015 03:02
4-Nitrophenol	U		0.55	22	µg/L	1	2/20/2015 03:02
Acenaphthene	U		0.12	5.4	µg/L	1	2/20/2015 03:02
Acenaphthylene	U		0.13	5.4	µg/L	1	2/20/2015 03:02
Acetophenone	U		0.097	1.1	µg/L	1	2/20/2015 03:02
Anthracene	U		0.78	5.4	µg/L	1	2/20/2015 03:02
Atrazine	U		0.14	1.1	µg/L	1	2/20/2015 03:02
Benzaldehyde	U		0.50	1.1	µg/L	1	2/20/2015 03:02
Benzo(a)anthracene	U		0.62	5.4	µg/L	1	2/20/2015 03:02
Benzo(a)pyrene	U		0.11	5.4	µg/L	1	2/20/2015 03:02
Benzo(b)fluoranthene	U		0.80	5.4	µg/L	1	2/20/2015 03:02
Benzo(g,h,i)perylene	U		0.76	5.4	µg/L	1	2/20/2015 03:02
Benzo(k)fluoranthene	U		0.19	5.4	µg/L	1	2/20/2015 03:02
Bis(2-chloroethoxy)methane	U		0.36	5.4	µg/L	1	2/20/2015 03:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-01
Collection Date: 2/13/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroethyl)ether	U		0.37	5.4	µg/L	1	2/20/2015 03:02
Bis(2-chloroisopropyl)ether	U		0.35	5.4	µg/L	1	2/20/2015 03:02
Bis(2-ethylhexyl)phthalate	U		0.16	5.4	µg/L	1	2/20/2015 03:02
Butyl benzyl phthalate	U		0.11	5.4	µg/L	1	2/20/2015 03:02
Caprolactam	U		5.1	11	µg/L	1	2/20/2015 03:02
Carbazole	U		0.17	11	µg/L	1	2/20/2015 03:02
Chrysene	U		0.77	5.4	µg/L	1	2/20/2015 03:02
Dibenzo(a,h)anthracene	U		0.73	5.4	µg/L	1	2/20/2015 03:02
Dibenzofuran	U		0.30	5.4	µg/L	1	2/20/2015 03:02
Diethyl phthalate	U		0.26	22	µg/L	1	2/20/2015 03:02
Dimethyl phthalate	U		0.30	22	µg/L	1	2/20/2015 03:02
Di-n-butyl phthalate	U		0.15	5.4	µg/L	1	2/20/2015 03:02
Di-n-octyl phthalate	U		0.13	5.4	µg/L	1	2/20/2015 03:02
Fluoranthene	U		0.84	5.4	µg/L	1	2/20/2015 03:02
Fluorene	U		0.11	5.4	µg/L	1	2/20/2015 03:02
Hexachlorobenzene	U		0.24	5.4	µg/L	1	2/20/2015 03:02
Hexachlorobutadiene	U		0.26	5.4	µg/L	1	2/20/2015 03:02
Hexachlorocyclopentadiene	U		0.20	22	µg/L	1	2/20/2015 03:02
Hexachloroethane	U		0.51	5.4	µg/L	1	2/20/2015 03:02
Indeno(1,2,3-cd)pyrene	U		0.75	5.4	µg/L	1	2/20/2015 03:02
Isophorone	U		0.32	5.4	µg/L	1	2/20/2015 03:02
Naphthalene	U		0.13	5.4	µg/L	1	2/20/2015 03:02
Nitrobenzene	U		0.36	5.4	µg/L	1	2/20/2015 03:02
N-Nitrosodi-n-propylamine	U		0.35	5.4	µg/L	1	2/20/2015 03:02
N-Nitrosodiphenylamine	U		0.88	5.4	µg/L	1	2/20/2015 03:02
Pentachlorophenol	U		0.24	22	µg/L	1	2/20/2015 03:02
Phenanthrene	U		0.93	5.4	µg/L	1	2/20/2015 03:02
Phenol	U		0.35	5.4	µg/L	1	2/20/2015 03:02
Pyrene	U		0.70	5.4	µg/L	1	2/20/2015 03:02
Surr: 2,4,6-Tribromophenol	*70.5*			*38-115*	*%REC*	1	2/20/2015 03:02
Surr: 2-Fluorobiphenyl	*56.2*			*32-100*	*%REC*	1	2/20/2015 03:02
Surr: 2-Fluorophenol	*31.4*			*22-59*	*%REC*	1	2/20/2015 03:02
Surr: 4-Terphenyl-d14	*73.2*			*23-112*	*%REC*	1	2/20/2015 03:02
Surr: Nitrobenzene-d5	*50.7*			*31-93*	*%REC*	1	2/20/2015 03:02
Surr: Phenol-d6	*18.3*			*13-36*	*%REC*	1	2/20/2015 03:02
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260**				Analyst: **AK**
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	2/19/2015 15:50
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	2/19/2015 15:50
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	2/19/2015 15:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-01
Collection Date: 2/13/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	2/19/2015 15:50
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	2/19/2015 15:50
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	2/19/2015 15:50
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	2/19/2015 15:50
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	2/19/2015 15:50
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	2/19/2015 15:50
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	2/19/2015 15:50
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	2/19/2015 15:50
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	2/19/2015 15:50
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	2/19/2015 15:50
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	2/19/2015 15:50
2-Butanone	U		0.87	5.0	µg/L	1	2/19/2015 15:50
2-Hexanone	U		0.15	5.0	µg/L	1	2/19/2015 15:50
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	2/19/2015 15:50
Acetone	U		3.1	10	µg/L	1	2/19/2015 15:50
Benzene	U		0.25	1.0	µg/L	1	2/19/2015 15:50
Bromodichloromethane	U		0.16	1.0	µg/L	1	2/19/2015 15:50
Bromoform	U		0.099	1.0	µg/L	1	2/19/2015 15:50
Bromomethane	U		1.0	1.0	µg/L	1	2/19/2015 15:50
Carbon disulfide	U		0.26	1.0	µg/L	1	2/19/2015 15:50
Carbon tetrachloride	U		0.14	1.0	µg/L	1	2/19/2015 15:50
Chlorobenzene	U		0.19	1.0	µg/L	1	2/19/2015 15:50
Chloroethane	U		0.21	1.0	µg/L	1	2/19/2015 15:50
Chloroform	U		0.25	1.0	µg/L	1	2/19/2015 15:50
Chloromethane	U		0.25	1.0	µg/L	1	2/19/2015 15:50
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	2/19/2015 15:50
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	2/19/2015 15:50
Cyclohexane	U		0.31	1.0	µg/L	1	2/19/2015 15:50
Dibromochloromethane	U		0.17	1.0	µg/L	1	2/19/2015 15:50
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	2/19/2015 15:50
Ethylbenzene	U		0.22	1.0	µg/L	1	2/19/2015 15:50
Isopropylbenzene	U		0.25	1.0	µg/L	1	2/19/2015 15:50
Methyl acetate	U		0.62	2.0	µg/L	1	2/19/2015 15:50
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	2/19/2015 15:50
Methylcyclohexane	U		0.32	1.0	µg/L	1	2/19/2015 15:50
Methylene chloride	U		0.64	5.0	µg/L	1	2/19/2015 15:50
o-Xylene	U		0.21	1.0	µg/L	1	2/19/2015 15:50
Styrene	U		0.18	1.0	µg/L	1	2/19/2015 15:50
Tetrachloroethene	U		0.25	1.0	µg/L	1	2/19/2015 15:50
Toluene	**0.51**	J	**0.20**	**1.0**	**µg/L**	1	2/19/2015 15:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-01
Collection Date: 2/13/2015 11:30 AM

Work Order: 1502765
Lab ID: 1502765-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	2/19/2015 15:50
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	2/19/2015 15:50
Trichloroethene	U		0.34	1.0	µg/L	1	2/19/2015 15:50
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	2/19/2015 15:50
Vinyl chloride	U		0.19	1.0	µg/L	1	2/19/2015 15:50
Xylenes, Total	U		0.62	3.0	µg/L	1	2/19/2015 15:50
Surr: 1,2-Dichloroethane-d4	*98.8*			*75-120*	*%REC*	1	2/19/2015 15:50
Surr: 4-Bromofluorobenzene	*95.8*			*80-110*	*%REC*	1	2/19/2015 15:50
Surr: Dibromofluoromethane	*99.2*			*85-115*	*%REC*	1	2/19/2015 15:50
Surr: Toluene-d8	*96.2*			*85-110*	*%REC*	1	2/19/2015 15:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-02
Collection Date: 2/13/2015 01:10 PM

Work Order: 1502765
Lab ID: 1502765-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **RM**
Ethylene glycol	**3.8**	J	**0.67**	**5.0**	**mg/L**	1	2/20/2015 00:16
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 2/19/15		Analyst: **RM**
1,1`-Biphenyl	U		0.095	5.0	µg/L	1	2/20/2015 03:22
2,4,5-Trichlorophenol	U		0.25	5.0	µg/L	1	2/20/2015 03:22
2,4,6-Trichlorophenol	U		0.27	5.0	µg/L	1	2/20/2015 03:22
2,4-Dichlorophenol	U		0.22	10	µg/L	1	2/20/2015 03:22
2,4-Dimethylphenol	U		1.8	5.0	µg/L	1	2/20/2015 03:22
2,4-Dinitrophenol	U		0.67	5.0	µg/L	1	2/20/2015 03:22
2,4-Dinitrotoluene	U		0.27	5.0	µg/L	1	2/20/2015 03:22
2,6-Dinitrotoluene	U		0.23	5.0	µg/L	1	2/20/2015 03:22
2-Chloronaphthalene	U		0.13	5.0	µg/L	1	2/20/2015 03:22
2-Chlorophenol	U		0.32	5.0	µg/L	1	2/20/2015 03:22
2-Methylnaphthalene	U		0.13	5.0	µg/L	1	2/20/2015 03:22
2-Methylphenol	U		0.20	5.0	µg/L	1	2/20/2015 03:22
2-Nitroaniline	U		0.34	20	µg/L	1	2/20/2015 03:22
2-Nitrophenol	U		0.28	5.0	µg/L	1	2/20/2015 03:22
3&4-Methylphenol	U		0.20	5.0	µg/L	1	2/20/2015 03:22
3,3´-Dichlorobenzidine	U		3.9	5.0	µg/L	1	2/20/2015 03:22
3-Nitroaniline	U		0.34	20	µg/L	1	2/20/2015 03:22
4,6-Dinitro-2-methylphenol	U		1.2	20	µg/L	1	2/20/2015 03:22
4-Bromophenyl phenyl ether	U		0.23	5.0	µg/L	1	2/20/2015 03:22
4-Chloro-3-methylphenol	U		0.31	5.0	µg/L	1	2/20/2015 03:22
4-Chloroaniline	U		0.32	20	µg/L	1	2/20/2015 03:22
4-Chlorophenyl phenyl ether	U		0.23	5.0	µg/L	1	2/20/2015 03:22
4-Nitroaniline	U		0.30	20	µg/L	1	2/20/2015 03:22
4-Nitrophenol	U		0.51	20	µg/L	1	2/20/2015 03:22
Acenaphthene	U		0.11	5.0	µg/L	1	2/20/2015 03:22
Acenaphthylene	U		0.12	5.0	µg/L	1	2/20/2015 03:22
Acetophenone	U		0.090	1.0	µg/L	1	2/20/2015 03:22
Anthracene	U		0.72	5.0	µg/L	1	2/20/2015 03:22
Atrazine	U		0.13	1.0	µg/L	1	2/20/2015 03:22
Benzaldehyde	U		0.46	1.0	µg/L	1	2/20/2015 03:22
Benzo(a)anthracene	U		0.57	5.0	µg/L	1	2/20/2015 03:22
Benzo(a)pyrene	U		0.10	5.0	µg/L	1	2/20/2015 03:22
Benzo(b)fluoranthene	U		0.74	5.0	µg/L	1	2/20/2015 03:22
Benzo(g,h,i)perylene	U		0.70	5.0	µg/L	1	2/20/2015 03:22
Benzo(k)fluoranthene	U		0.17	5.0	µg/L	1	2/20/2015 03:22
Bis(2-chloroethoxy)methane	U		0.33	5.0	µg/L	1	2/20/2015 03:22

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-02
Collection Date: 2/13/2015 01:10 PM

Work Order: 1502765
Lab ID: 1502765-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bis(2-chloroethyl)ether	U		0.34	5.0	µg/L	1	2/20/2015 03:22
Bis(2-chloroisopropyl)ether	U		0.32	5.0	µg/L	1	2/20/2015 03:22
Bis(2-ethylhexyl)phthalate	U		0.15	5.0	µg/L	1	2/20/2015 03:22
Butyl benzyl phthalate	U		0.10	5.0	µg/L	1	2/20/2015 03:22
Caprolactam	U		4.7	10	µg/L	1	2/20/2015 03:22
Carbazole	U		0.16	10	µg/L	1	2/20/2015 03:22
Chrysene	U		0.71	5.0	µg/L	1	2/20/2015 03:22
Dibenzo(a,h)anthracene	U		0.67	5.0	µg/L	1	2/20/2015 03:22
Dibenzofuran	U		0.28	5.0	µg/L	1	2/20/2015 03:22
Diethyl phthalate	U		0.24	20	µg/L	1	2/20/2015 03:22
Dimethyl phthalate	U		0.27	20	µg/L	1	2/20/2015 03:22
Di-n-butyl phthalate	U		0.14	5.0	µg/L	1	2/20/2015 03:22
Di-n-octyl phthalate	U		0.12	5.0	µg/L	1	2/20/2015 03:22
Fluoranthene	U		0.77	5.0	µg/L	1	2/20/2015 03:22
Fluorene	U		0.10	5.0	µg/L	1	2/20/2015 03:22
Hexachlorobenzene	U		0.22	5.0	µg/L	1	2/20/2015 03:22
Hexachlorobutadiene	U		0.24	5.0	µg/L	1	2/20/2015 03:22
Hexachlorocyclopentadiene	U		0.18	20	µg/L	1	2/20/2015 03:22
Hexachloroethane	U		0.47	5.0	µg/L	1	2/20/2015 03:22
Indeno(1,2,3-cd)pyrene	U		0.69	5.0	µg/L	1	2/20/2015 03:22
Isophorone	U		0.30	5.0	µg/L	1	2/20/2015 03:22
Naphthalene	U		0.12	5.0	µg/L	1	2/20/2015 03:22
Nitrobenzene	U		0.33	5.0	µg/L	1	2/20/2015 03:22
N-Nitrosodi-n-propylamine	U		0.32	5.0	µg/L	1	2/20/2015 03:22
N-Nitrosodiphenylamine	U		0.81	5.0	µg/L	1	2/20/2015 03:22
Pentachlorophenol	U		0.22	20	µg/L	1	2/20/2015 03:22
Phenanthrene	U		0.86	5.0	µg/L	1	2/20/2015 03:22
Phenol	U		0.32	5.0	µg/L	1	2/20/2015 03:22
Pyrene	U		0.65	5.0	µg/L	1	2/20/2015 03:22
Surr: 2,4,6-Tribromophenol	*66.1*			*38-115*	*%REC*	1	2/20/2015 03:22
Surr: 2-Fluorobiphenyl	*54.9*			*32-100*	*%REC*	1	2/20/2015 03:22
Surr: 2-Fluorophenol	*29.3*			*22-59*	*%REC*	1	2/20/2015 03:22
Surr: 4-Terphenyl-d14	*69.9*			*23-112*	*%REC*	1	2/20/2015 03:22
Surr: Nitrobenzene-d5	*49.5*			*31-93*	*%REC*	1	2/20/2015 03:22
Surr: Phenol-d6	*17.4*			*13-36*	*%REC*	1	2/20/2015 03:22
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260**				Analyst: **AK**
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	2/19/2015 16:14
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	2/19/2015 16:14
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	2/19/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-02
Collection Date: 2/13/2015 01:10 PM

Work Order: 1502765
Lab ID: 1502765-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	2/19/2015 16:14
1,1-Dichloroethane	U		0.21	1.0	µg/L	1	2/19/2015 16:14
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	2/19/2015 16:14
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	2/19/2015 16:14
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	2/19/2015 16:14
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	2/19/2015 16:14
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	2/19/2015 16:14
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	2/19/2015 16:14
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	2/19/2015 16:14
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	2/19/2015 16:14
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	2/19/2015 16:14
2-Butanone	U		0.87	5.0	µg/L	1	2/19/2015 16:14
2-Hexanone	U		0.15	5.0	µg/L	1	2/19/2015 16:14
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	2/19/2015 16:14
Acetone	U		3.1	10	µg/L	1	2/19/2015 16:14
Benzene	U		0.25	1.0	µg/L	1	2/19/2015 16:14
Bromodichloromethane	U		0.16	1.0	µg/L	1	2/19/2015 16:14
Bromoform	U		0.099	1.0	µg/L	1	2/19/2015 16:14
Bromomethane	U		1.0	1.0	µg/L	1	2/19/2015 16:14
Carbon disulfide	U		0.26	1.0	µg/L	1	2/19/2015 16:14
Carbon tetrachloride	U		0.14	1.0	µg/L	1	2/19/2015 16:14
Chlorobenzene	U		0.19	1.0	µg/L	1	2/19/2015 16:14
Chloroethane	U		0.21	1.0	µg/L	1	2/19/2015 16:14
Chloroform	**0.51**	J	**0.25**	**1.0**	**µg/L**	1	2/19/2015 16:14
Chloromethane	**0.82**	J	**0.25**	**1.0**	**µg/L**	1	2/19/2015 16:14
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	2/19/2015 16:14
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	2/19/2015 16:14
Cyclohexane	U		0.31	1.0	µg/L	1	2/19/2015 16:14
Dibromochloromethane	U		0.17	1.0	µg/L	1	2/19/2015 16:14
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	2/19/2015 16:14
Ethylbenzene	U		0.22	1.0	µg/L	1	2/19/2015 16:14
Isopropylbenzene	U		0.25	1.0	µg/L	1	2/19/2015 16:14
Methyl acetate	U		0.62	2.0	µg/L	1	2/19/2015 16:14
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	2/19/2015 16:14
Methylcyclohexane	U		0.32	1.0	µg/L	1	2/19/2015 16:14
Methylene chloride	U		0.64	5.0	µg/L	1	2/19/2015 16:14
o-Xylene	U		0.21	1.0	µg/L	1	2/19/2015 16:14
Styrene	U		0.18	1.0	µg/L	1	2/19/2015 16:14
Tetrachloroethene	U		0.25	1.0	µg/L	1	2/19/2015 16:14
Toluene	**0.33**	J	**0.20**	**1.0**	**µg/L**	1	2/19/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SW-0213-02
Collection Date: 2/13/2015 01:10 PM

Work Order: 1502765
Lab ID: 1502765-03
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	2/19/2015 16:14
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	2/19/2015 16:14
Trichloroethene	U		0.34	1.0	µg/L	1	2/19/2015 16:14
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	2/19/2015 16:14
Vinyl chloride	U		0.19	1.0	µg/L	1	2/19/2015 16:14
Xylenes, Total	U		0.62	3.0	µg/L	1	2/19/2015 16:14
Surr: 1,2-Dichloroethane-d4	*97.2*			*75-120*	*%REC*	1	2/19/2015 16:14
Surr: 4-Bromofluorobenzene	*93.2*			*80-110*	*%REC*	1	2/19/2015 16:14
Surr: Dibromofluoromethane	*99.9*			*85-115*	*%REC*	1	2/19/2015 16:14
Surr: Toluene-d8	*96.6*			*85-110*	*%REC*	1	2/19/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-01
Collection Date: 2/12/2015 03:15 PM

Work Order: 1502765
Lab ID: 1502765-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015M**			Prep: SW3541 / 2/19/15		Analyst: **IT**
DRO (C10-C28)	**1,100**		**17**	**51**	**mg/Kg-dry**	10	2/20/2015 13:39
ORO (C28-C40)	**260**		**1.8**	**5.1**	**mg/Kg-dry**	1	2/20/2015 12:40
Surr: 4-Terphenyl-d14	*67.1*			*39-133*	*%REC*	1	2/20/2015 12:40
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **RM**
Ethylene glycol	**73,000**		**920**	**1,200**	**mg/Kg-dry**	200	2/20/2015 12:39
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015**			Prep: SW5035 / 2/19/15		Analyst: **IT**
GRO (C6-C10)	U		1,300	3,100	µg/Kg-dry	1	2/19/2015 17:09
Surr: Toluene-d8	*109*			*50-150*	*%REC*	1	2/19/2015 17:09
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 2/19/15		Analyst: **RM**
1,1`-Biphenyl	U		6.1	400	µg/Kg-dry	1	2/20/2015 03:42
2,4,5-Trichlorophenol	U		10	200	µg/Kg-dry	1	2/20/2015 03:42
2,4,6-Trichlorophenol	U		6.9	200	µg/Kg-dry	1	2/20/2015 03:42
2,4-Dichlorophenol	U		12	200	µg/Kg-dry	1	2/20/2015 03:42
2,4-Dimethylphenol	U		66	400	µg/Kg-dry	1	2/20/2015 03:42
2,4-Dinitrophenol	U		37	810	µg/Kg-dry	1	2/20/2015 03:42
2,4-Dinitrotoluene	U		13	200	µg/Kg-dry	1	2/20/2015 03:42
2,6-Dinitrotoluene	U		21	200	µg/Kg-dry	1	2/20/2015 03:42
2-Chloronaphthalene	U		1.9	8.2	µg/Kg-dry	1	2/20/2015 03:42
2-Chlorophenol	U		12	200	µg/Kg-dry	1	2/20/2015 03:42
2-Methylnaphthalene	**10**		**3.4**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
2-Methylphenol	U		17	200	µg/Kg-dry	1	2/20/2015 03:42
2-Nitroaniline	U		16	810	µg/Kg-dry	1	2/20/2015 03:42
2-Nitrophenol	U		14	200	µg/Kg-dry	1	2/20/2015 03:42
3&4-Methylphenol	U		20	200	µg/Kg-dry	1	2/20/2015 03:42
3-Nitroaniline	U		14	810	µg/Kg-dry	1	2/20/2015 03:42
4,6-Dinitro-2-methylphenol	U		34	400	µg/Kg-dry	1	2/20/2015 03:42
4-Bromophenyl phenyl ether	U		11	200	µg/Kg-dry	1	2/20/2015 03:42
4-Chloro-3-methylphenol	U		9.5	200	µg/Kg-dry	1	2/20/2015 03:42
4-Chloroaniline	U		12	810	µg/Kg-dry	1	2/20/2015 03:42
4-Chlorophenyl phenyl ether	U		12	200	µg/Kg-dry	1	2/20/2015 03:42
4-Nitroaniline	U		11	810	µg/Kg-dry	1	2/20/2015 03:42
4-Nitrophenol	U		8.1	810	µg/Kg-dry	1	2/20/2015 03:42
Acenaphthene	U		1.2	8.2	µg/Kg-dry	1	2/20/2015 03:42
Acenaphthylene	U		1.5	8.2	µg/Kg-dry	1	2/20/2015 03:42
Acetophenone	U		6.1	400	µg/Kg-dry	1	2/20/2015 03:42
Anthracene	**16**		**1.6**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Atrazine	U		12	400	µg/Kg-dry	1	2/20/2015 03:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-01
Collection Date: 2/12/2015 03:15 PM

Work Order: 1502765
Lab ID: 1502765-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		16	400	µg/Kg-dry	1	2/20/2015 03:42
Benzo(a)anthracene	**140**		**1.6**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Benzo(a)pyrene	**170**		**2.7**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Benzo(b)fluoranthene	**280**		**2.4**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Benzo(g,h,i)perylene	**170**		**3.2**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Benzo(k)fluoranthene	**83**		**1.7**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Bis(2-chloroethoxy)methane	U		13	200	µg/Kg-dry	1	2/20/2015 03:42
Bis(2-chloroethyl)ether	U		13	200	µg/Kg-dry	1	2/20/2015 03:42
Bis(2-chloroisopropyl)ether	U		17	200	µg/Kg-dry	1	2/20/2015 03:42
Bis(2-ethylhexyl)phthalate	**26,000**		**330**	**10,000**	**µg/Kg-dry**	25	2/20/2015 14:22
Butyl benzyl phthalate	U		15	200	µg/Kg-dry	1	2/20/2015 03:42
Caprolactam	U		18	400	µg/Kg-dry	1	2/20/2015 03:42
Carbazole	U		12	200	µg/Kg-dry	1	2/20/2015 03:42
Chrysene	**190**		**1.9**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Dibenzo(a,h)anthracene	**45**		**3.0**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Dibenzofuran	U		13	200	µg/Kg-dry	1	2/20/2015 03:42
Diethyl phthalate	U		13	400	µg/Kg-dry	1	2/20/2015 03:42
Dimethyl phthalate	U		14	400	µg/Kg-dry	1	2/20/2015 03:42
Di-n-butyl phthalate	**740**		**5.9**	**400**	**µg/Kg-dry**	1	2/20/2015 03:42
Di-n-octyl phthalate	U		13	200	µg/Kg-dry	1	2/20/2015 03:42
Fluoranthene	**190**		**2.9**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Fluorene	U		2.7	8.2	µg/Kg-dry	1	2/20/2015 03:42
Hexachlorobenzene	U		11	200	µg/Kg-dry	1	2/20/2015 03:42
Hexachlorobutadiene	U		14	200	µg/Kg-dry	1	2/20/2015 03:42
Hexachlorocyclopentadiene	U		13	400	µg/Kg-dry	1	2/20/2015 03:42
Hexachloroethane	U		19	200	µg/Kg-dry	1	2/20/2015 03:42
Indeno(1,2,3-cd)pyrene	**180**		**2.7**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Isophorone	U		14	200	µg/Kg-dry	1	2/20/2015 03:42
Naphthalene	**16**		**3.0**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Nitrobenzene	U		16	200	µg/Kg-dry	1	2/20/2015 03:42
N-Nitrosodi-n-propylamine	U		16	200	µg/Kg-dry	1	2/20/2015 03:42
N-Nitrosodiphenylamine	U		73	200	µg/Kg-dry	1	2/20/2015 03:42
Pentachlorophenol	U		7.9	400	µg/Kg-dry	1	2/20/2015 03:42
Phenanthrene	**50**		**1.6**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Phenol	U		14	200	µg/Kg-dry	1	2/20/2015 03:42
Pyrene	**200**		**2.8**	**8.2**	**µg/Kg-dry**	1	2/20/2015 03:42
Surr: 2,4,6-Tribromophenol	*47.9*			*34-140*	*%REC*	1	2/20/2015 03:42
Surr: 2-Fluorobiphenyl	*58.1*			*12-100*	*%REC*	1	2/20/2015 03:42
Surr: 2-Fluorophenol	*94.3*			*33-117*	*%REC*	1	2/20/2015 03:42
Surr: 4-Terphenyl-d14	*74.4*			*25-137*	*%REC*	1	2/20/2015 03:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-01
Collection Date: 2/12/2015 03:15 PM

Work Order: 1502765
Lab ID: 1502765-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	*61.8*			*37-107*	*%REC*	1	2/20/2015 03:42
Surr: Phenol-d6	*15.6*	S		*40-106*	*%REC*	1	2/20/2015 03:42
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260B**		Prep: SW5035 / 2/19/15		Analyst: **AK**
1,1,1-Trichloroethane	**400**		**14**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
1,1,2,2-Tetrachloroethane	U		16	37	µg/Kg-dry	1	2/19/2015 21:04
1,1,2-Trichloroethane	U		13	37	µg/Kg-dry	1	2/19/2015 21:04
1,1,2-Trichlorotrifluoroethane	U		14	37	µg/Kg-dry	1	2/19/2015 21:04
1,1-Dichloroethane	**200**		**14**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
1,1-Dichloroethene	U		16	37	µg/Kg-dry	1	2/19/2015 21:04
1,2,4-Trichlorobenzene	U		19	37	µg/Kg-dry	1	2/19/2015 21:04
1,2-Dibromo-3-chloropropane	U		18	37	µg/Kg-dry	1	2/19/2015 21:04
1,2-Dibromoethane	U		15	37	µg/Kg-dry	1	2/19/2015 21:04
1,2-Dichlorobenzene	U		15	37	µg/Kg-dry	1	2/19/2015 21:04
1,2-Dichloroethane	U		18	37	µg/Kg-dry	1	2/19/2015 21:04
1,2-Dichloropropane	**150**		**12**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
1,3-Dichlorobenzene	U		15	37	µg/Kg-dry	1	2/19/2015 21:04
1,4-Dichlorobenzene	U		14	37	µg/Kg-dry	1	2/19/2015 21:04
2-Butanone	U		91	250	µg/Kg-dry	1	2/19/2015 21:04
2-Hexanone	**180**		**9.1**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
4-Methyl-2-pentanone	**680**		**12**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Acetone	U		78	120	µg/Kg-dry	1	2/19/2015 21:04
Benzene	**23**	J	**15**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Bromodichloromethane	U		8.3	37	µg/Kg-dry	1	2/19/2015 21:04
Bromoform	U		7.3	37	µg/Kg-dry	1	2/19/2015 21:04
Bromomethane	U		14	92	µg/Kg-dry	1	2/19/2015 21:04
Carbon disulfide	U		18	37	µg/Kg-dry	1	2/19/2015 21:04
Carbon tetrachloride	U		11	37	µg/Kg-dry	1	2/19/2015 21:04
Chlorobenzene	U		15	37	µg/Kg-dry	1	2/19/2015 21:04
Chloroethane	**150**		**78**	**120**	**µg/Kg-dry**	1	2/19/2015 21:04
Chloroform	U		15	37	µg/Kg-dry	1	2/19/2015 21:04
Chloromethane	U		21	120	µg/Kg-dry	1	2/19/2015 21:04
cis-1,2-Dichloroethene	**91**		**15**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
cis-1,3-Dichloropropene	U		13	37	µg/Kg-dry	1	2/19/2015 21:04
Cyclohexane	U		17	37	µg/Kg-dry	1	2/19/2015 21:04
Dibromochloromethane	U		6.8	37	µg/Kg-dry	1	2/19/2015 21:04
Dichlorodifluoromethane	U		17	37	µg/Kg-dry	1	2/19/2015 21:04
Ethylbenzene	**41**		**14**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Isopropylbenzene	U		16	37	µg/Kg-dry	1	2/19/2015 21:04
m,p-Xylene	**220**		**28**	**74**	**µg/Kg-dry**	1	2/19/2015 21:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-01
Collection Date: 2/12/2015 03:15 PM

Work Order: 1502765
Lab ID: 1502765-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl acetate	**86**	J	**50**	**250**	**µg/Kg-dry**	1	2/19/2015 21:04
Methyl tert-butyl ether	U		16	37	µg/Kg-dry	1	2/19/2015 21:04
Methylcyclohexane	U		17	37	µg/Kg-dry	1	2/19/2015 21:04
Methylene chloride	U		14	37	µg/Kg-dry	1	2/19/2015 21:04
o-Xylene	**120**		**16**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Styrene	U		14	37	µg/Kg-dry	1	2/19/2015 21:04
Tetrachloroethene	**360**		**16**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Toluene	**240**		**14**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
trans-1,2-Dichloroethene	U		11	37	µg/Kg-dry	1	2/19/2015 21:04
trans-1,3-Dichloropropene	U		12	37	µg/Kg-dry	1	2/19/2015 21:04
Trichloroethene	**80**		**17**	**37**	**µg/Kg-dry**	1	2/19/2015 21:04
Trichlorofluoromethane	U		10	37	µg/Kg-dry	1	2/19/2015 21:04
Vinyl chloride	U		17	37	µg/Kg-dry	1	2/19/2015 21:04
Xylenes, Total	**340**		**44**	**110**	**µg/Kg-dry**	1	2/19/2015 21:04
Surr: 1,2-Dichloroethane-d4	*102*			*70-130*	*%REC*	1	2/19/2015 21:04
Surr: 4-Bromofluorobenzene	*102*			*70-130*	*%REC*	1	2/19/2015 21:04
Surr: Dibromofluoromethane	*93.8*			*70-130*	*%REC*	1	2/19/2015 21:04
Surr: Toluene-d8	*99.4*			*70-130*	*%REC*	1	2/19/2015 21:04
MOISTURE			Method: **E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	2/19/2015 14:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-02
Collection Date: 2/12/2015 03:47 PM

Work Order: 1502765
Lab ID: 1502765-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID		Method: **SW8015M**			Prep: SW3541 / 2/19/15		Analyst: **IT**
DRO (C10-C28)	**1,800**		**35**	**110**	**mg/Kg-dry**	5	2/20/2015 13:09
ORO (C28-C40)	**1,200**		**37**	**110**	**mg/Kg-dry**	5	2/20/2015 13:09
Surr: 4-Terphenyl-d14	*97.2*			*39-133*	*%REC*	5	2/20/2015 13:09
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **RM**
Ethylene glycol	**59,000**		**970**	**1,300**	**mg/Kg-dry**	200	2/20/2015 13:05
GASOLINE RANGE ORGANICS BY GC-FID		Method: **SW8015**			Prep: SW5035 / 2/19/15		Analyst: **IT**
GRO (C6-C10)	U		1,500	3,700	µg/Kg-dry	1	2/19/2015 17:34
Surr: Toluene-d8	*59.7*			*50-150*	*%REC*	1	2/19/2015 17:34
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3541 / 2/19/15		Analyst: **RM**
1,1`-Biphenyl	U		25	1,700	µg/Kg-dry	1	2/20/2015 04:02
2,4,5-Trichlorophenol	U		42	820	µg/Kg-dry	1	2/20/2015 04:02
2,4,6-Trichlorophenol	U		29	820	µg/Kg-dry	1	2/20/2015 04:02
2,4-Dichlorophenol	U		49	820	µg/Kg-dry	1	2/20/2015 04:02
2,4-Dimethylphenol	U		270	1,700	µg/Kg-dry	1	2/20/2015 04:02
2,4-Dinitrophenol	U		150	3,400	µg/Kg-dry	1	2/20/2015 04:02
2,4-Dinitrotoluene	U		54	820	µg/Kg-dry	1	2/20/2015 04:02
2,6-Dinitrotoluene	U		88	820	µg/Kg-dry	1	2/20/2015 04:02
2-Chloronaphthalene	U		8.0	34	µg/Kg-dry	1	2/20/2015 04:02
2-Chlorophenol	U		51	820	µg/Kg-dry	1	2/20/2015 04:02
2-Methylnaphthalene	U		14	34	µg/Kg-dry	1	2/20/2015 04:02
2-Methylphenol	U		69	820	µg/Kg-dry	1	2/20/2015 04:02
2-Nitroaniline	U		66	3,400	µg/Kg-dry	1	2/20/2015 04:02
2-Nitrophenol	U		57	820	µg/Kg-dry	1	2/20/2015 04:02
3&4-Methylphenol	U		81	820	µg/Kg-dry	1	2/20/2015 04:02
3-Nitroaniline	U		57	3,400	µg/Kg-dry	1	2/20/2015 04:02
4,6-Dinitro-2-methylphenol	U		140	1,700	µg/Kg-dry	1	2/20/2015 04:02
4-Bromophenyl phenyl ether	U		46	820	µg/Kg-dry	1	2/20/2015 04:02
4-Chloro-3-methylphenol	U		39	820	µg/Kg-dry	1	2/20/2015 04:02
4-Chloroaniline	U		51	3,400	µg/Kg-dry	1	2/20/2015 04:02
4-Chlorophenyl phenyl ether	U		50	820	µg/Kg-dry	1	2/20/2015 04:02
4-Nitroaniline	U		47	3,400	µg/Kg-dry	1	2/20/2015 04:02
4-Nitrophenol	U		34	3,400	µg/Kg-dry	1	2/20/2015 04:02
Acenaphthene	U		5.1	34	µg/Kg-dry	1	2/20/2015 04:02
Acenaphthylene	U		6.2	34	µg/Kg-dry	1	2/20/2015 04:02
Acetophenone	U		25	1,700	µg/Kg-dry	1	2/20/2015 04:02
Anthracene	**63**		**6.7**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Atrazine	U		52	1,700	µg/Kg-dry	1	2/20/2015 04:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-02
Collection Date: 2/12/2015 03:47 PM

Work Order: 1502765
Lab ID: 1502765-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzaldehyde	U		65	1,700	µg/Kg-dry	1	2/20/2015 04:02
Benzo(a)anthracene	**320**		**6.7**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Benzo(a)pyrene	**250**		**11**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Benzo(b)fluoranthene	**400**		**10**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Benzo(g,h,i)perylene	**210**		**13**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Benzo(k)fluoranthene	**130**		**7.2**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Bis(2-chloroethoxy)methane	U		53	820	µg/Kg-dry	1	2/20/2015 04:02
Bis(2-chloroethyl)ether	U		53	820	µg/Kg-dry	1	2/20/2015 04:02
Bis(2-chloroisopropyl)ether	U		71	820	µg/Kg-dry	1	2/20/2015 04:02
Bis(2-ethylhexyl)phthalate	**23,000**		**280**	**8,400**	**µg/Kg-dry**	5	2/20/2015 14:43
Butyl benzyl phthalate	U		64	820	µg/Kg-dry	1	2/20/2015 04:02
Caprolactam	U		74	1,700	µg/Kg-dry	1	2/20/2015 04:02
Carbazole	U		51	820	µg/Kg-dry	1	2/20/2015 04:02
Chrysene	**320**		**8.1**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Dibenzo(a,h)anthracene	**43**		**13**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Dibenzofuran	U		53	820	µg/Kg-dry	1	2/20/2015 04:02
Diethyl phthalate	U		54	1,700	µg/Kg-dry	1	2/20/2015 04:02
Dimethyl phthalate	U		57	1,700	µg/Kg-dry	1	2/20/2015 04:02
Di-n-butyl phthalate	**1,300**	J	**25**	**1,700**	**µg/Kg-dry**	1	2/20/2015 04:02
Di-n-octyl phthalate	U		55	820	µg/Kg-dry	1	2/20/2015 04:02
Fluoranthene	**480**		**12**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Fluorene	U		11	34	µg/Kg-dry	1	2/20/2015 04:02
Hexachlorobenzene	U		48	820	µg/Kg-dry	1	2/20/2015 04:02
Hexachlorobutadiene	U		57	820	µg/Kg-dry	1	2/20/2015 04:02
Hexachlorocyclopentadiene	U		53	1,700	µg/Kg-dry	1	2/20/2015 04:02
Hexachloroethane	U		79	820	µg/Kg-dry	1	2/20/2015 04:02
Indeno(1,2,3-cd)pyrene	**230**		**11**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Isophorone	U		57	820	µg/Kg-dry	1	2/20/2015 04:02
Naphthalene	**22**	J	**13**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Nitrobenzene	U		66	820	µg/Kg-dry	1	2/20/2015 04:02
N-Nitrosodi-n-propylamine	U		65	820	µg/Kg-dry	1	2/20/2015 04:02
N-Nitrosodiphenylamine	U		300	820	µg/Kg-dry	1	2/20/2015 04:02
Pentachlorophenol	U		33	1,700	µg/Kg-dry	1	2/20/2015 04:02
Phenanthrene	**190**		**6.8**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Phenol	U		58	820	µg/Kg-dry	1	2/20/2015 04:02
Pyrene	**500**		**11**	**34**	**µg/Kg-dry**	1	2/20/2015 04:02
Surr: 2,4,6-Tribromophenol	*57.1*			*34-140*	*%REC*	1	2/20/2015 04:02
Surr: 2-Fluorobiphenyl	*67.0*			*12-100*	*%REC*	1	2/20/2015 04:02
Surr: 2-Fluorophenol	*77.5*			*33-117*	*%REC*	1	2/20/2015 04:02
Surr: 4-Terphenyl-d14	*73.4*			*25-137*	*%REC*	1	2/20/2015 04:02

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-02
Collection Date: 2/12/2015 03:47 PM

Work Order: 1502765
Lab ID: 1502765-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Nitrobenzene-d5	*62.8*			*37-107*	*%REC*	1	2/20/2015 04:02
Surr: Phenol-d6	*65.5*			*40-106*	*%REC*	1	2/20/2015 04:02
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260**				Analyst: **JDW**
1,1,1-Trichloroethane	**5.7**	J	**0.29**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
1,1,2,2-Tetrachloroethane	U		0.19	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,1,2-Trichloroethane	U		0.25	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,1,2-Trichlorotrifluoroethane	U		0.36	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,1-Dichloroethane	**36**		**0.33**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
1,1-Dichloroethene	U		0.29	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2,4-Trichlorobenzene	U		0.27	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2-Dibromo-3-chloropropane	U		0.26	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2-Dibromoethane	U		0.26	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2-Dichlorobenzene	U		0.26	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2-Dichloroethane	U		0.36	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,2-Dichloropropane	U		0.34	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
1,3-Dichlorobenzene	U		0.25	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
2-Butanone	**9.6**	J	**1.0**	**13**	**µg/Kg-dry**	1.01	2/19/2015 14:47
2-Hexanone	U		0.39	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
4-Methyl-2-pentanone	U		0.26	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Acetone	**46**		**1.2**	**13**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Benzene	**1.2**	J	**0.32**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Bromodichloromethane	U		0.27	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Bromoform	U		0.20	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Bromomethane	U		0.46	13	µg/Kg-dry	1.01	2/19/2015 14:47
Carbon disulfide	**1.0**	J	**0.48**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Carbon tetrachloride	U		0.26	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Chlorobenzene	U		0.29	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Chloroethane	**280**		**0.82**	**7.3**	**µg/Kg-dry**	1	2/19/2015 20:38
Chloroform	**1.1**	J	**0.34**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Chloromethane	U		0.40	13	µg/Kg-dry	1.01	2/19/2015 14:47
cis-1,2-Dichloroethene	**1.9**	J	**0.39**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
cis-1,3-Dichloropropene	U		0.23	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Cyclohexane	**2.5**	J	**0.42**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Dibromochloromethane	U		0.22	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Dichlorodifluoromethane	U		0.43	13	µg/Kg-dry	1.01	2/19/2015 14:47
Ethylbenzene	**0.48**	J	**0.25**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Isopropylbenzene	U		0.25	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
m,p-Xylene	**1.0**	J	**0.49**	**3.3**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Methyl acetate	U		1.0	13	µg/Kg-dry	1.01	2/19/2015 14:47

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: *25-Feb-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
Sample ID: OA-SG-0212-02
Collection Date: 2/12/2015 03:47 PM

Work Order: 1502765
Lab ID: 1502765-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.33	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Methylcyclohexane	U		0.36	13	µg/Kg-dry	1.01	2/19/2015 14:47
Methylene chloride	**1.9**	J	**0.37**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
o-Xylene	**0.52**	J	**0.26**	**3.3**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Styrene	U		0.24	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Tetrachloroethene	U		0.39	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Toluene	**1.9**	J	**0.31**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
trans-1,2-Dichloroethene	U		0.38	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
trans-1,3-Dichloropropene	U		0.24	13	µg/Kg-dry	1.01	2/19/2015 14:47
Trichloroethene	U		0.30	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Trichlorofluoromethane	U		1.5	6.5	µg/Kg-dry	1.01	2/19/2015 14:47
Vinyl chloride	**14**		**0.40**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Xylenes, Total	**1.5**	J	**0.75**	**6.5**	**µg/Kg-dry**	1.01	2/19/2015 14:47
Surr: 1,2-Dichloroethane-d4	*108*			*70-120*	*%REC*	1.01	2/19/2015 14:47
Surr: 1,2-Dichloroethane-d4	*100*			*70-120*	*%REC*	1	2/19/2015 20:38
Surr: 4-Bromofluorobenzene	*88.8*			*75-120*	*%REC*	1.01	2/19/2015 14:47
Surr: 4-Bromofluorobenzene	*100*			*75-120*	*%REC*	1	2/19/2015 20:38
Surr: Dibromofluoromethane	*99.5*			*85-115*	*%REC*	1.01	2/19/2015 14:47
Surr: Dibromofluoromethane	*93.3*			*85-115*	*%REC*	1	2/19/2015 20:38
Surr: Toluene-d8	*106*			*85-120*	*%REC*	1.01	2/19/2015 14:47
Surr: Toluene-d8	*98.0*			*85-120*	*%REC*	1	2/19/2015 20:38
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**23**		**0.025**	**0.050**	**% of sample**	1	2/19/2015 14:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

Revision: 1

ALS Group USA, Corp

Date: 25-Feb-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze Feb. 2015
WorkOrder: **1502765**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
µg/Kg-dry	Micrograms per Kilogram Dry Weight
µg/L	Micrograms per Liter
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 25-Feb-15

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67861** Instrument ID **GC8** Method: **SW8015M**

MBLK Sample ID: **DBLKS1-67861-67861** Units: **mg/Kg** Analysis Date: **2/20/2015 09:41 AM**
Client ID: Run ID: **GC8_150220A** SeqNo: **3152047** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	U	5.0								
ORO (C28-C40)	U	5.0								
Surr: 4-Terphenyl-d14	*1.561*	0	*2*	0	*78*	*39-133*	0			

LCS Sample ID: **DLCSS1-67861-67861** Units: **mg/Kg** Analysis Date: **2/20/2015 10:10 AM**
Client ID: Run ID: **GC8_150220A** SeqNo: **3152049** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	163.7	5.0	200	0	81.8	61-109	0			
ORO (C28-C40)	169.7	5.0	200	0	84.9	61-119	0			
Surr: 4-Terphenyl-d14	*1.328*	0	*2*	0	*66.4*	*39-133*	0			

MS Sample ID: **1502628-01B MS** Units: **mg/Kg** Analysis Date: **2/20/2015 10:40 AM**
Client ID: Run ID: **GC8_150220A** SeqNo: **3152051** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	981.6	8.1	647	84.77	139	48-110	0			S
ORO (C28-C40)	525.5	8.1	647	49.99	73.5	39-140	0			
Surr: 4-Terphenyl-d14	*2.12*	0	*3.235*	0	*65.5*	*39-133*	0			

MSD Sample ID: **1502628-01B MSD** Units: **mg/Kg** Analysis Date: **2/20/2015 11:10 AM**
Client ID: Run ID: **GC8_150220A** SeqNo: **3152053** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C28)	383.7	8.3	332.2	84.77	90	48-110	981.6	87.6	30	R
ORO (C28-C40)	355.2	8.3	332.2	49.99	91.9	39-140	525.5	38.7	30	R
Surr: 4-Terphenyl-d14	*2.591*	0	*3.322*	0	*78*	*39-133*	2.12	*20*	*30*	

The following samples were analyzed in this batch: 1502765-04C 1502765-05C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157892** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MBLKW-R157892-R157892** Units: **mg/L** Analysis Date: **2/19/2015 10:58 PM**
Client ID: Run ID: **GC11_150219A** SeqNo: **3152179** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

MBLK Sample ID: **MBLKS-R157892-R157892** Units: **mg/Kg** Analysis Date: **2/19/2015 11:11 PM**
Client ID: Run ID: **GC11_150219A** SeqNo: **3152186** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCSW-R157892-R157892** Units: **mg/L** Analysis Date: **2/19/2015 11:24 PM**
Client ID: Run ID: **GC11_150219A** SeqNo: **3152180** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	85.03	5.0	100	0	85	50-150	0			

LCS Sample ID: **LCSS-R157892-R157892** Units: **mg/Kg** Analysis Date: **2/19/2015 11:37 PM**
Client ID: Run ID: **GC11_150219A** SeqNo: **3152187** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	78.96	5.0	100	0	79	50-150	0			

MS Sample ID: **1502765-03B MS** Units: **mg/L** Analysis Date: **2/20/2015 12:29 AM**
Client ID: **OA-SW-0213-02** Run ID: **GC11_150219A** SeqNo: **3152184** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	95.13	5.0	100	3.753	91.4	50-150	0			

MS Sample ID: **1502765-05C MS** Units: **mg/Kg** Analysis Date: **2/20/2015 01:18 PM**
Client ID: **OA-SG-0212-02** Run ID: **GC11_150219A** SeqNo: **3152190** Prep Date: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	146700	1,000	100000	45360	101	50-150	0			

MSD Sample ID: **1502765-03B MSD** Units: **mg/L** Analysis Date: **2/20/2015 12:41 AM**
Client ID: **OA-SW-0213-02** Run ID: **GC11_150219A** SeqNo: **3152185** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	84.2	5.0	100	3.753	80.4	50-150	95.13	12.2	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157892** Instrument ID **GC11** Method: **SW8015M**

MSD Sample ID: **1502765-05C MSD** Units: **mg/Kg** Analysis Date: **2/20/2015 01:31 PM**

Client ID: **OA-SG-0212-02** Run ID: **GC11_150219A** SeqNo: **3152191** Prep Date: DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	149100	1,000	100000	45360	104	50-150	146700	1.6	30	

The following samples were analyzed in this batch:

1502765-01B	1502765-02B	1502765-03B
1502765-04C	1502765-05C	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R158002** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB1-R158002-R158002** Units: **mg/Kg** Analysis Date: **2/23/2015 09:05 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154190** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

MBLK Sample ID: **MB-R158002-R158002** Units: **mg/L** Analysis Date: **2/23/2015 06:31 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154227** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS1-R158002-R158002** Units: **mg/Kg** Analysis Date: **2/23/2015 08:01 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154191** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	432.9	5.0	500	0	86.6	50-150	0			

LCS Sample ID: **LCS-R158002-R158002** Units: **mg/L** Analysis Date: **2/23/2015 05:26 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154228** Prep Date: **2/23/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	435.5	5.0	500	0	87.1	50-150	0			

MS Sample ID: **1502920-02A MS** Units: **mg/Kg** Analysis Date: **2/23/2015 08:13 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154198** Prep Date: **2/23/2015** DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	85330	960	50000	38180	94.3	50-150	0			

MS Sample ID: **1502765-02B MS** Units: **mg/L** Analysis Date: **2/23/2015 05:39 PM**
Client ID: **OA-SW-0213-01** Run ID: **GC11_150223A** SeqNo: **3154237** Prep Date: **2/23/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	958.4	10	1000	0	95.8	50-150	0			

MSD Sample ID: **1502920-02A MSD** Units: **mg/Kg** Analysis Date: **2/23/2015 08:26 PM**
Client ID: Run ID: **GC11_150223A** SeqNo: **3154200** Prep Date: **2/23/2015** DF: **200**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	85180	960	50000	38180	94	50-150	85330	0.173	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R158002** Instrument ID **GC11** Method: **SW8015M**

MSD Sample ID: **1502765-02B MSD** Units: **mg/L** Analysis Date: **2/23/2015 05:52 PM**

Client ID: **OA-SW-0213-01** Run ID: **GC11_150223A** SeqNo: **3154240** Prep Date: **2/23/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	935.9	10	1000	0	93.6	50-150	958.4	2.37	30	

The following samples were analyzed in this batch: 1502765-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67886** Instrument ID **GC9** Method: **SW8015**

MS Sample ID: **1502746-01A MS** Units: **µg/Kg** Analysis Date: **2/19/2015 05:59 PM**

Client ID: Run ID: **GC9_150219A** SeqNo: **3151507** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	722100	3,400	682100	0	106	70-130	0			
Surr: Toluene-d8	*6609*	0	*6821*	0	*96.9*	*50-150*	0			

MSD Sample ID: **1502746-01A MSD** Units: **µg/Kg** Analysis Date: **2/19/2015 06:24 PM**

Client ID: Run ID: **GC9_150219A** SeqNo: **3151508** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	710900	3,400	682100	0	104	70-130	722100	1.56	30	
Surr: Toluene-d8	*6055*	0	*6821*	0	*88.8*	*50-150*	6609	*8.76*	*30*	

The following samples were analyzed in this batch: 1502765-04A 1502765-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-67856-67856** Units: **µg/L** Analysis Date: **2/19/2015 06:26 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151985** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	10								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	20								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	20								
4,6-Dinitro-2-methylphenol	U	20								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	20								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	20								
4-Nitrophenol	U	20								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-chloroisopropyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								
Carbazole	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

Chrysene	U	5.0					
Dibenzo(a,h)anthracene	U	5.0					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	20					
Dimethyl phthalate	U	20					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	5.0					
Fluorene	U	5.0					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	20					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	5.0					
Isophorone	U	5.0					
Naphthalene	U	5.0					
Nitrobenzene	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
Pentachlorophenol	U	20					
Phenanthrene	U	5.0					
Phenol	U	5.0					
Pyrene	U	5.0					
Surr: 2,4,6-Tribromophenol	*33.64*	0	*50*	0	*67.3*	*38-115*	0
Surr: 2-Fluorobiphenyl	*39.31*	0	*50*	0	*78.6*	*32-100*	0
Surr: 2-Fluorophenol	*21.96*	0	*50*	0	*43.9*	*22-59*	0
Surr: 4-Terphenyl-d14	*44.25*	0	*50*	0	*88.5*	*23-112*	0
Surr: Nitrobenzene-d5	*34.1*	0	*50*	0	*68.2*	*31-93*	0
Surr: Phenol-d6	*12.72*	0	*50*	0	*25.4*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-67856-67856** Units: **µg/L** Analysis Date: **2/19/2015 06:46 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151986** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	13.18	5.0	20	0	65.9	30-120	0			
2,4,5-Trichlorophenol	16.16	5.0	20	0	80.8	50-110	0			
2,4,6-Trichlorophenol	15.36	5.0	20	0	76.8	50-115	0			
2,4-Dichlorophenol	13.03	10	20	0	65.2	50-105	0			
2,4-Dimethylphenol	11.69	5.0	20	0	58.4	30-110	0			
2,4-Dinitrophenol	10.7	5.0	20	0	53.5	15-140	0			
2,4-Dinitrotoluene	15.05	5.0	20	0	75.2	50-120	0			
2,6-Dinitrotoluene	16.76	5.0	20	0	83.8	50-115	0			
2-Chloronaphthalene	14.11	5.0	20	0	70.6	50-105	0			
2-Chlorophenol	12.84	5.0	20	0	64.2	35-105	0			
2-Methylnaphthalene	12.05	5.0	20	0	60.2	45-105	0			
2-Methylphenol	11.1	5.0	20	0	55.5	40-110	0			
2-Nitroaniline	13.79	20	20	0	69	50-115	0			J
2-Nitrophenol	13.48	5.0	20	0	67.4	40-115	0			
3&4-Methylphenol	10.31	5.0	20	0	51.6	30-110	0			
3-Nitroaniline	13.27	20	20	0	66.4	20-125	0			J
4,6-Dinitro-2-methylphenol	15.84	20	20	0	79.2	40-130	0			J
4-Bromophenyl phenyl ether	17.73	5.0	20	0	88.6	50-115	0			
4-Chloro-3-methylphenol	13.12	5.0	20	0	65.6	45-110	0			
4-Chloroaniline	12.65	20	20	0	63.2	15-110	0			J
4-Chlorophenyl phenyl ether	15.41	5.0	20	0	77	50-110	0			
4-Nitroaniline	13.81	20	20	0	69	35-150	0			J
4-Nitrophenol	5.77	20	20	0	28.8	1-58	0			J
Acenaphthene	14.76	5.0	20	0	73.8	45-110	0			
Acenaphthylene	14.57	5.0	20	0	72.8	50-105	0			
Acetophenone	12.88	1.0	20	0	64.4	30-120	0			
Anthracene	16.58	5.0	20	0	82.9	55-110	0			
Atrazine	16	1.0	20	0	80	30-120	0			
Benzaldehyde	14.28	1.0	20	0	71.4	30-120	0			
Benzo(a)anthracene	16.36	5.0	20	0	81.8	55-110	0			
Benzo(a)pyrene	17.56	5.0	20	0	87.8	55-110	0			
Benzo(b)fluoranthene	18.25	5.0	20	0	91.2	45-120	0			
Benzo(g,h,i)perylene	17.6	5.0	20	0	88	40-125	0			
Benzo(k)fluoranthene	18.21	5.0	20	0	91	45-125	0			
Bis(2-chloroethoxy)methane	13.31	5.0	20	0	66.6	45-105	0			
Bis(2-chloroethyl)ether	12.87	5.0	20	0	64.4	35-110	0			
Bis(2-chloroisopropyl)ether	11.49	5.0	20	0	57.4	25-130	0			
Bis(2-ethylhexyl)phthalate	16.46	5.0	20	0	82.3	40-125	0			
Butyl benzyl phthalate	13.57	5.0	20	0	67.8	45-115	0			
Carbazole	18.23	10	20	0	91.2	50-150	0			
Chrysene	18.59	5.0	20	0	93	55-110	0			
Dibenzo(a,h)anthracene	17.28	5.0	20	0	86.4	40-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

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Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	15.42	5.0	20	0	77.1	55-105	0	
Diethyl phthalate	15.75	20	20	0	78.8	40-120	0	J
Dimethyl phthalate	16.49	20	20	0	82.4	25-125	0	J
Di-n-butyl phthalate	16.34	5.0	20	0	81.7	55-115	0	
Di-n-octyl phthalate	14.07	5.0	20	0	70.4	35-135	0	
Fluoranthene	17.75	5.0	20	0	88.8	55-115	0	
Fluorene	14.69	5.0	20	0	73.4	50-110	0	
Hexachlorobenzene	17.29	5.0	20	0	86.4	50-110	0	
Hexachlorobutadiene	8.49	5.0	20	0	42.4	25-105	0	
Hexachlorocyclopentadiene	8.14	20	20	0	40.7	25-105	0	J
Hexachloroethane	6.9	5.0	20	0	34.5	30-95	0	
Indeno(1,2,3-cd)pyrene	16.91	5.0	20	0	84.6	45-125	0	
Isophorone	12.86	5.0	20	0	64.3	50-110	0	
Naphthalene	10.55	5.0	20	0	52.8	40-100	0	
Nitrobenzene	12.54	5.0	20	0	62.7	45-110	0	
N-Nitrosodi-n-propylamine	12.35	5.0	20	0	61.8	35-130	0	
N-Nitrosodiphenylamine	18.57	5.0	20	0	92.8	50-110	0	
Pentachlorophenol	12.08	20	20	0	60.4	40-115	0	J
Phenanthrene	16.69	5.0	20	0	83.4	50-115	0	
Phenol	5.09	5.0	20	0	25.4	12-43	0	
Pyrene	15.31	5.0	20	0	76.6	50-130	0	
Surr: 2,4,6-Tribromophenol	*39.09*	0	*50*	0	*78.2*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*34.31*	0	*50*	0	*68.6*	*32-100*	0	
Surr: 2-Fluorophenol	*18.28*	0	*50*	0	*36.6*	*22-59*	0	
Surr: 4-Terphenyl-d14	*41.65*	0	*50*	0	*83.3*	*23-112*	0	
Surr: Nitrobenzene-d5	*30.66*	0	*50*	0	*61.3*	*31-93*	0	
Surr: Phenol-d6	*11.11*	0	*50*	0	*22.2*	*13-36*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1502529-01B MS** Units: **µg/L** Analysis Date: **2/19/2015 09:17 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151988** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	126.4	50	200	0	63.2	30-120	0			
2,4,5-Trichlorophenol	149.4	50	200	0	74.7	50-110	0			
2,4,6-Trichlorophenol	145.4	50	200	0	72.7	50-115	0			
2,4-Dichlorophenol	139.2	100	200	0	69.6	50-105	0			
2,4-Dimethylphenol	109	50	200	0	54.5	30-110	0			
2,4-Dinitrophenol	90.8	50	200	0	45.4	15-140	0			
2,4-Dinitrotoluene	136.3	50	200	0	68.2	50-120	0			
2,6-Dinitrotoluene	151.5	50	200	0	75.8	50-115	0			
2-Chloronaphthalene	145.5	50	200	0	72.8	50-105	0			
2-Chlorophenol	135.6	50	200	0	67.8	35-105	0			
2-Methylnaphthalene	125.6	50	200	0	62.8	45-105	0			
2-Methylphenol	116.6	50	200	0	58.3	40-110	0			
2-Nitroaniline	130.4	200	200	0	65.2	50-115	0			J
2-Nitrophenol	143.5	50	200	0	71.8	40-115	0			
3&4-Methylphenol	107.3	50	200	0	53.6	30-110	0			
3-Nitroaniline	133.5	200	200	0	66.8	20-125	0			J
4,6-Dinitro-2-methylphenol	146.6	200	200	0	73.3	40-130	0			J
4-Bromophenyl phenyl ether	162.2	50	200	0	81.1	50-115	0			
4-Chloro-3-methylphenol	124.1	50	200	0	62	45-110	0			
4-Chloroaniline	144.2	200	200	0	72.1	15-110	0			J
4-Chlorophenyl phenyl ether	140.2	50	200	0	70.1	50-110	0			
4-Nitroaniline	128.5	200	200	0	64.2	35-150	0			J
4-Nitrophenol	57.4	200	200	1.71	27.8	1-58	0			J
Acenaphthene	139.1	50	200	0	69.6	45-110	0			
Acenaphthylene	140.1	50	200	0	70	50-105	0			
Acetophenone	137.4	10	200	0	68.7	30-120	0			
Anthracene	154.3	50	200	0	77.2	55-110	0			
Atrazine	135.5	10	200	0	67.8	30-120	0			
Benzaldehyde	158.5	10	200	0	79.2	30-120	0			
Benzo(a)anthracene	151.8	50	200	0	75.9	55-110	0			
Benzo(a)pyrene	159.6	50	200	0	79.8	55-110	0			
Benzo(b)fluoranthene	165.4	50	200	0	82.7	45-120	0			
Benzo(g,h,i)perylene	159.9	50	200	0	80	40-125	0			
Benzo(k)fluoranthene	163.1	50	200	0	81.6	45-125	0			
Bis(2-chloroethoxy)methane	136.3	50	200	0	68.2	45-105	0			
Bis(2-chloroethyl)ether	137.8	50	200	0	68.9	35-110	0			
Bis(2-chloroisopropyl)ether	127.3	50	200	0	63.6	25-130	0			
Bis(2-ethylhexyl)phthalate	155.5	50	200	0	77.8	40-125	0			
Butyl benzyl phthalate	126.7	50	200	0	63.4	45-115	0			
Carbazole	163.8	100	200	0	81.9	50-150	0			
Chrysene	174.4	50	200	0	87.2	55-110	0			
Dibenzo(a,h)anthracene	151.2	50	200	0	75.6	40-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	144.5	50	200	0	72.2	55-105	0	
Diethyl phthalate	137	200	200	0	68.5	40-120	0	J
Dimethyl phthalate	143.6	200	200	0	71.8	25-125	0	J
Di-n-butyl phthalate	145.9	50	200	0	73	55-115	0	
Di-n-octyl phthalate	128.9	50	200	0	64.4	35-135	0	
Fluoranthene	152.8	50	200	0	76.4	55-115	0	
Fluorene	132.5	50	200	0	66.2	50-110	0	
Hexachlorobenzene	158	50	200	0	79	50-110	0	
Hexachlorobutadiene	93.8	50	200	0	46.9	25-105	0	
Hexachlorocyclopentadiene	85.1	200	200	0	42.6	25-105	0	J
Hexachloroethane	84.9	50	200	0	42.4	30-95	0	
Indeno(1,2,3-cd)pyrene	152.3	50	200	0	76.2	45-125	0	
Isophorone	134	50	200	0	67	50-110	0	
Naphthalene	115.9	50	200	0	58	40-100	0	
Nitrobenzene	133	50	200	0	66.5	45-110	0	
N-Nitrosodi-n-propylamine	128.3	50	200	0	64.2	35-130	0	
N-Nitrosodiphenylamine	170.7	50	200	0	85.4	50-110	0	
Pentachlorophenol	110.6	200	200	0	55.3	40-115	0	J
Phenanthrene	152	50	200	0	76	50-115	0	
Phenol	54.6	50	200	0	27.3	12-43	0	
Pyrene	139.5	50	200	0	69.8	50-130	0	
Surr: 2,4,6-Tribromophenol	*370.7*	0	*500*	0	*74.1*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*347.5*	0	*500*	0	*69.5*	*32-100*	0	
Surr: 2-Fluorophenol	*195.3*	0	*500*	0	*39.1*	*22-59*	0	
Surr: 4-Terphenyl-d14	*382.4*	0	*500*	0	*76.5*	*23-112*	0	
Surr: Nitrobenzene-d5	*325.8*	0	*500*	0	*65.2*	*31-93*	0	
Surr: Phenol-d6	*119.8*	0	*500*	0	*24*	*13-36*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1502529-01B MSD** Units: **µg/L** Analysis Date: **2/19/2015 09:37 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151989** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	136.5	50	200	0	68.2	30-120	126.4	7.68	30	
2,4,5-Trichlorophenol	160.9	50	200	0	80.4	50-110	149.4	7.41	30	
2,4,6-Trichlorophenol	155.1	50	200	0	77.6	50-115	145.4	6.46	30	
2,4-Dichlorophenol	139.7	100	200	0	69.8	50-105	139.2	0.359	30	
2,4-Dimethylphenol	119.2	50	200	0	59.6	30-110	109	8.94	30	
2,4-Dinitrophenol	102.5	50	200	0	51.2	15-140	90.8	12.1	30	
2,4-Dinitrotoluene	145.9	50	200	0	73	50-120	136.3	6.8	30	
2,6-Dinitrotoluene	160.6	50	200	0	80.3	50-115	151.5	5.83	30	
2-Chloronaphthalene	156.4	50	200	0	78.2	50-105	145.5	7.22	30	
2-Chlorophenol	137.2	50	200	0	68.6	35-105	135.6	1.17	30	
2-Methylnaphthalene	139.7	50	200	0	69.8	45-105	125.6	10.6	30	
2-Methylphenol	118.7	50	200	0	59.4	40-110	116.6	1.78	30	
2-Nitroaniline	144.6	200	200	0	72.3	50-115	130.4	0	30	J
2-Nitrophenol	145.5	50	200	0	72.8	40-115	143.5	1.38	30	
3&4-Methylphenol	108.7	50	200	0	54.4	30-110	107.3	1.3	30	
3-Nitroaniline	137.5	200	200	0	68.8	20-125	133.5	0	30	J
4,6-Dinitro-2-methylphenol	156.9	200	200	0	78.4	40-130	146.6	0	30	J
4-Bromophenyl phenyl ether	173.5	50	200	0	86.8	50-115	162.2	6.73	30	
4-Chloro-3-methylphenol	134	50	200	0	67	45-110	124.1	7.67	30	
4-Chloroaniline	137.1	200	200	0	68.6	15-110	144.2	0	30	J
4-Chlorophenyl phenyl ether	151.1	50	200	0	75.6	50-110	140.2	7.48	30	
4-Nitroaniline	132.9	200	200	0	66.4	35-150	128.5	0	30	J
4-Nitrophenol	55.8	200	200	1.71	27	1-58	57.4	0	30	J
Acenaphthene	149.6	50	200	0	74.8	45-110	139.1	7.27	30	
Acenaphthylene	150.1	50	200	0	75	50-105	140.1	6.89	30	
Acetophenone	140.6	10	200	0	70.3	30-120	137.4	2.3	30	
Anthracene	162.3	50	200	0	81.2	55-110	154.3	5.05	30	
Atrazine	154.7	10	200	0	77.4	30-120	135.5	13.2	30	
Benzaldehyde	157.6	10	200	0	78.8	30-120	158.5	0.569	30	
Benzo(a)anthracene	162.4	50	200	0	81.2	55-110	151.8	6.75	30	
Benzo(a)pyrene	169.8	50	200	0	84.9	55-110	159.6	6.19	30	
Benzo(b)fluoranthene	177.1	50	200	0	88.6	45-120	165.4	6.83	30	
Benzo(g,h,i)perylene	168.4	50	200	0	84.2	40-125	159.9	5.18	30	
Benzo(k)fluoranthene	173.6	50	200	0	86.8	45-125	163.1	6.24	30	
Bis(2-chloroethoxy)methane	142.9	50	200	0	71.4	45-105	136.3	4.73	30	
Bis(2-chloroethyl)ether	133.8	50	200	0	66.9	35-110	137.8	2.95	30	
Bis(2-chloroisopropyl)ether	132.9	50	200	0	66.4	25-130	127.3	4.3	30	
Bis(2-ethylhexyl)phthalate	168.5	50	200	0	84.2	40-125	155.5	8.02	30	
Butyl benzyl phthalate	138.9	50	200	0	69.4	45-115	126.7	9.19	30	
Carbazole	175.2	100	200	0	87.6	50-150	163.8	6.73	30	
Chrysene	185.5	50	200	0	92.8	55-110	174.4	6.17	30	
Dibenzo(a,h)anthracene	160.7	50	200	0	80.4	40-125	151.2	6.09	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67856** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	156.9	50	200	0	78.4	55-105	144.5	8.23	30	
Diethyl phthalate	151.4	200	200	0	75.7	40-120	137	0	30	J
Dimethyl phthalate	159.4	200	200	0	79.7	25-125	143.6	0	30	J
Di-n-butyl phthalate	157.4	50	200	0	78.7	55-115	145.9	7.58	30	
Di-n-octyl phthalate	136.9	50	200	0	68.4	35-135	128.9	6.02	30	
Fluoranthene	167.7	50	200	0	83.8	55-115	152.8	9.3	30	
Fluorene	143.5	50	200	0	71.8	50-110	132.5	7.97	30	
Hexachlorobenzene	167.4	50	200	0	83.7	50-110	158	5.78	30	
Hexachlorobutadiene	118.6	50	200	0	59.3	25-105	93.8	23.4	30	
Hexachlorocyclopentadiene	109.3	200	200	0	54.6	25-105	85.1	0	30	J
Hexachloroethane	112.6	50	200	0	56.3	30-95	84.9	28.1	30	
Indeno(1,2,3-cd)pyrene	157.4	50	200	0	78.7	45-125	152.3	3.29	30	
Isophorone	141.2	50	200	0	70.6	50-110	134	5.23	30	
Naphthalene	129.6	50	200	0	64.8	40-100	115.9	11.2	30	
Nitrobenzene	136.4	50	200	0	68.2	45-110	133	2.52	30	
N-Nitrosodi-n-propylamine	132.5	50	200	0	66.2	35-130	128.3	3.22	30	
N-Nitrosodiphenylamine	175.2	50	200	0	87.6	50-110	170.7	2.6	30	
Pentachlorophenol	115.3	200	200	0	57.6	40-115	110.6	0	30	J
Phenanthrene	161.4	50	200	0	80.7	50-115	152	6	30	
Phenol	55.4	50	200	0	27.7	12-43	54.6	1.45	30	
Pyrene	147.2	50	200	0	73.6	50-130	139.5	5.37	30	
Surr: 2,4,6-Tribromophenol	*379.3*	0	*500*	0	*75.9*	*38-115*	370.7	*2.29*	*40*	
Surr: 2-Fluorobiphenyl	*369.6*	0	*500*	0	*73.9*	*32-100*	347.5	*6.16*	*40*	
Surr: 2-Fluorophenol	*196.2*	0	*500*	0	*39.2*	*22-59*	195.3	*0.46*	*40*	
Surr: 4-Terphenyl-d14	*399.2*	0	*500*	0	*79.8*	*23-112*	382.4	*4.3*	*40*	
Surr: Nitrobenzene-d5	*329.4*	0	*500*	0	*65.9*	*31-93*	325.8	*1.1*	*40*	
Surr: Phenol-d6	*119.5*	0	*500*	0	*23.9*	*13-36*	119.8	*0.251*	*40*	

The following samples were analyzed in this batch: 1502765-01B 1502765-02B 1502765-03B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKS1-67860-67860** Units: **µg/Kg** Analysis Date: **2/19/2015 07:27 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151960** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	330								
2,4,5-Trichlorophenol	U	160								
2,4,6-Trichlorophenol	U	160								
2,4-Dichlorophenol	U	160								
2,4-Dimethylphenol	U	330								
2,4-Dinitrophenol	U	660								
2,4-Dinitrotoluene	U	160								
2,6-Dinitrotoluene	U	160								
2-Chloronaphthalene	U	6.7								
2-Chlorophenol	U	160								
2-Methylnaphthalene	U	6.7								
2-Methylphenol	U	160								
2-Nitroaniline	U	660								
2-Nitrophenol	U	160								
3&4-Methylphenol	U	160								
3-Nitroaniline	U	660								
4,6-Dinitro-2-methylphenol	U	330								
4-Bromophenyl phenyl ether	U	160								
4-Chloro-3-methylphenol	U	160								
4-Chloroaniline	U	660								
4-Chlorophenyl phenyl ether	U	160								
4-Nitroaniline	U	660								
4-Nitrophenol	U	660								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	330								
Anthracene	U	6.7								
Atrazine	U	330								
Benzaldehyde	U	330								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	160								
Bis(2-chloroethyl)ether	U	160								
Bis(2-chloroisopropyl)ether	U	160								
Bis(2-ethylhexyl)phthalate	U	330								
Butyl benzyl phthalate	U	160								
Caprolactam	U	330								
Carbazole	U	160								
Chrysene	U	6.7								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzo(a,h)anthracene	U	6.7					
Dibenzofuran	U	160					
Diethyl phthalate	U	330					
Dimethyl phthalate	U	330					
Di-n-butyl phthalate	U	330					
Di-n-octyl phthalate	U	160					
Fluoranthene	U	6.7					
Fluorene	U	6.7					
Hexachlorobenzene	U	160					
Hexachlorobutadiene	U	160					
Hexachlorocyclopentadiene	U	330					
Hexachloroethane	U	160					
Indeno(1,2,3-cd)pyrene	U	6.7					
Isophorone	U	160					
Naphthalene	U	6.7					
Nitrobenzene	U	160					
N-Nitrosodi-n-propylamine	U	160					
N-Nitrosodiphenylamine	U	160					
Pentachlorophenol	U	330					
Phenanthrene	U	6.7					
Phenol	U	160					
Pyrene	U	6.7					
Surr: 2,4,6-Tribromophenol	*1167*	0	*1667*	0	*70*	*34-140*	0
Surr: 2-Fluorobiphenyl	*1286*	0	*1667*	0	*77.2*	*12-100*	0
Surr: 2-Fluorophenol	*1294*	0	*1667*	0	*77.6*	*33-117*	0
Surr: 4-Terphenyl-d14	*1823*	0	*1667*	0	*109*	*25-137*	0
Surr: Nitrobenzene-d5	*1178*	0	*1667*	0	*70.7*	*37-107*	0
Surr: Phenol-d6	*1228*	0	*1667*	0	*73.7*	*40-106*	0

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSS1-67860-67860** Units: **µg/Kg** Analysis Date: **2/19/2015 07:47 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151961** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	469.3	330	666.7	0	70.4	30-120	0			
2,4,5-Trichlorophenol	533.3	160	666.7	0	80	50-110	0			
2,4,6-Trichlorophenol	513.3	160	666.7	0	77	45-110	0			
2,4-Dichlorophenol	485	160	666.7	0	72.7	45-110	0			
2,4-Dimethylphenol	443.7	330	666.7	0	66.5	30-105	0			
2,4-Dinitrophenol	362.7	660	666.7	0	54.4	15-130	0			J
2,4-Dinitrotoluene	485.3	160	666.7	0	72.8	50-115	0			
2,6-Dinitrotoluene	532	160	666.7	0	79.8	50-110	0			
2-Chloronaphthalene	519.3	6.7	666.7	0	77.9	45-105	0			
2-Chlorophenol	510.3	160	666.7	0	76.5	45-105	0			
2-Methylnaphthalene	482.3	6.7	666.7	0	72.3	45-105	0			
2-Methylphenol	492	160	666.7	0	73.8	40-105	0			
2-Nitroaniline	459.7	660	666.7	0	68.9	45-120	0			J
2-Nitrophenol	529.7	160	666.7	0	79.4	40-110	0			
3&4-Methylphenol	484	160	666.7	0	72.6	40-105	0			
3-Nitroaniline	304.7	660	666.7	0	45.7	25-150	0			J
4,6-Dinitro-2-methylphenol	515.7	330	666.7	0	77.3	40-130	0			
4-Bromophenyl phenyl ether	584.7	160	666.7	0	87.7	45-115	0			
4-Chloro-3-methylphenol	460.7	160	666.7	0	69.1	45-115	0			
4-Chloroaniline	218	660	666.7	0	32.7	15-110	0			J
4-Chlorophenyl phenyl ether	491	160	666.7	0	73.6	45-110	0			
4-Nitroaniline	304.7	660	666.7	0	45.7	35-150	0			J
4-Nitrophenol	451	660	666.7	0	67.6	15-140	0			J
Acenaphthene	493.7	6.7	666.7	0	74	45-110	0			
Acenaphthylene	493.7	6.7	666.7	0	74	45-105	0			
Acetophenone	474.3	330	666.7	0	71.1	30-120	0			
Anthracene	552.3	6.7	666.7	0	82.8	55-105	0			
Atrazine	507	330	666.7	0	76	30-120	0			
Benzaldehyde	202.3	330	666.7	0	30.3	30-120	0			J
Benzo(a)anthracene	548	6.7	666.7	0	82.2	50-110	0			
Benzo(a)pyrene	573	6.7	666.7	0	85.9	50-110	0			
Benzo(b)fluoranthene	575	6.7	666.7	0	86.2	45-115	0			
Benzo(g,h,i)perylene	651	6.7	666.7	0	97.6	40-125	0			
Benzo(k)fluoranthene	577.3	6.7	666.7	0	86.6	45-115	0			
Bis(2-chloroethoxy)methane	468.3	160	666.7	0	70.2	45-110	0			
Bis(2-chloroethyl)ether	485	160	666.7	0	72.7	40-105	0			
Bis(2-chloroisopropyl)ether	453.3	160	666.7	0	68	20-115	0			
Bis(2-ethylhexyl)phthalate	525.7	330	666.7	0	78.8	45-125	0			
Butyl benzyl phthalate	532	160	666.7	0	79.8	50-125	0			
Caprolactam	414.3	330	666.7	0	62.1	30-120	0			
Carbazole	582.3	160	666.7	0	87.3	50-150	0			
Chrysene	612.3	6.7	666.7	0	91.8	55-110	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzo(a,h)anthracene	669.3	6.7	666.7	0	100	40-125	0
Dibenzofuran	513	160	666.7	0	76.9	50-105	0
Diethyl phthalate	504.7	330	666.7	0	75.7	50-115	0
Dimethyl phthalate	515.3	330	666.7	0	77.3	50-110	0
Di-n-butyl phthalate	523.7	330	666.7	0	78.5	55-110	0
Di-n-octyl phthalate	453	160	666.7	0	67.9	40-130	0
Fluoranthene	533	6.7	666.7	0	79.9	55-115	0
Fluorene	469	6.7	666.7	0	70.3	50-110	0
Hexachlorobenzene	571.3	160	666.7	0	85.7	45-120	0
Hexachlorobutadiene	466.7	160	666.7	0	70	40-115	0
Hexachlorocyclopentadiene	514.7	330	666.7	0	77.2	40-115	0
Hexachloroethane	459.3	160	666.7	0	68.9	35-110	0
Indeno(1,2,3-cd)pyrene	633	6.7	666.7	0	94.9	40-120	0
Isophorone	461.3	160	666.7	0	69.2	45-110	0
Naphthalene	476.7	6.7	666.7	0	71.5	40-105	0
Nitrobenzene	474	160	666.7	0	71.1	40-115	0
N-Nitrosodi-n-propylamine	444.3	160	666.7	0	66.6	40-115	0
N-Nitrosodiphenylamine	617.7	160	666.7	0	92.6	50-115	0
Pentachlorophenol	494.7	330	666.7	0	74.2	25-120	0
Phenanthrene	543.3	6.7	666.7	0	81.5	50-110	0
Phenol	529	160	666.7	0	79.3	40-100	0
Pyrene	640.3	6.7	666.7	0	96	45-125	0
Surr: 2,4,6-Tribromophenol	*1296*	0	*1667*	0	*77.8*	*34-140*	0
Surr: 2-Fluorobiphenyl	*1215*	0	*1667*	0	*72.9*	*12-100*	0
Surr: 2-Fluorophenol	*1203*	0	*1667*	0	*72.2*	*33-117*	0
Surr: 4-Terphenyl-d14	*1677*	0	*1667*	0	*101*	*25-137*	0
Surr: Nitrobenzene-d5	*1155*	0	*1667*	0	*69.3*	*37-107*	0
Surr: Phenol-d6	*1130*	0	*1667*	0	*67.8*	*40-106*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1502641-03B MS** Units: **µg/Kg** Analysis Date: **2/19/2015 10:18 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151967** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	972.1	630	1269	0	76.6	30-120	0			
2,4,5-Trichlorophenol	1125	300	1269	0	88.6	50-110	0			
2,4,6-Trichlorophenol	1104	300	1269	0	87	45-110	0			
2,4-Dichlorophenol	1032	300	1269	0	81.3	45-110	0			
2,4-Dimethylphenol	805.3	630	1269	0	63.4	30-105	0			
2,4-Dinitrophenol	875.1	1,300	1269	0	68.9	15-130	0			J
2,4-Dinitrotoluene	992.4	300	1269	0	78.2	50-115	0			
2,6-Dinitrotoluene	1102	300	1269	0	86.8	50-110	0			
2-Chloronaphthalene	1102	13	1269	0	86.8	45-105	0			
2-Chlorophenol	1043	300	1269	0	82.2	45-105	0			
2-Methylnaphthalene	1013	13	1269	0	79.8	45-105	0			
2-Methylphenol	1004	300	1269	0	79.1	40-105	0			
2-Nitroaniline	1002	1,300	1269	0	78.9	45-120	0			J
2-Nitrophenol	1112	300	1269	0	87.6	40-110	0			
3&4-Methylphenol	987.4	300	1269	0	77.8	40-105	0			
3-Nitroaniline	709.4	1,300	1269	0	55.9	25-150	0			J
4,6-Dinitro-2-methylphenol	1098	630	1269	0	86.5	40-130	0			
4-Bromophenyl phenyl ether	1206	300	1269	0	95	45-115	0			
4-Chloro-3-methylphenol	965.2	300	1269	0	76	45-115	0			
4-Chloroaniline	320.5	1,300	1269	0	25.2	15-110	0			J
4-Chlorophenyl phenyl ether	1016	300	1269	0	80	45-110	0			
4-Nitroaniline	815.4	1,300	1269	0	64.2	35-150	0			J
4-Nitrophenol	903	1,300	1269	0	71.1	15-140	0			J
Acenaphthene	1037	13	1269	0	81.7	45-110	0			
Acenaphthylene	1044	13	1269	0	82.2	45-105	0			
Acetophenone	969.6	630	1269	0	76.4	30-120	0			
Anthracene	1119	13	1269	0	88.2	55-105	0			
Atrazine	1010	630	1269	0	79.6	30-120	0			
Benzaldehyde	759.6	630	1269	0	59.8	30-120	0			
Benzo(a)anthracene	1125	13	1269	24.44	86.7	50-110	0			
Benzo(a)pyrene	1201	13	1269	6.606	94.1	50-110	0			
Benzo(b)fluoranthene	1190	13	1269	11.23	92.9	45-115	0			
Benzo(g,h,i)perylene	1380	13	1269	6.606	108	40-125	0			
Benzo(k)fluoranthene	1163	13	1269	3.964	91.3	45-115	0			
Bis(2-chloroethoxy)methane	991.8	300	1269	0	78.1	45-110	0			
Bis(2-chloroethyl)ether	1008	300	1269	0	79.4	40-105	0			
Bis(2-chloroisopropyl)ether	977.9	300	1269	0	77	20-115	0			
Bis(2-ethylhexyl)phthalate	1145	630	1269	0	90.2	45-125	0			
Butyl benzyl phthalate	1171	300	1269	0	92.2	50-125	0			
Caprolactam	900.4	630	1269	0	70.9	30-120	0			
Carbazole	1165	300	1269	0	91.8	50-150	0			
Chrysene	1220	13	1269	8.257	95.5	55-110	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzo(a,h)anthracene	1319	13	1269	0	104	40-125	0
Dibenzofuran	1052	300	1269	0	82.9	50-105	0
Diethyl phthalate	1006	630	1269	0	79.2	50-115	0
Dimethyl phthalate	1049	630	1269	0	82.6	50-110	0
Di-n-butyl phthalate	1120	630	1269	0	88.2	55-110	0
Di-n-octyl phthalate	1048	300	1269	0	82.5	40-130	0
Fluoranthene	1081	13	1269	21.14	83.5	55-115	0
Fluorene	991.8	13	1269	0	78.1	50-110	0
Hexachlorobenzene	1165	300	1269	0	91.8	45-120	0
Hexachlorobutadiene	976.6	300	1269	0	76.9	40-115	0
Hexachlorocyclopentadiene	1130	630	1269	0	89	40-115	0
Hexachloroethane	956.9	300	1269	0	75.4	35-110	0
Indeno(1,2,3-cd)pyrene	1312	13	1269	6.606	103	40-120	0
Isophorone	985.5	300	1269	0	77.6	45-110	0
Naphthalene	1006	13	1269	0	79.2	40-105	0
Nitrobenzene	1005	300	1269	0	79.2	40-115	0
N-Nitrosodi-n-propylamine	928.4	300	1269	0	73.1	40-115	0
N-Nitrosodiphenylamine	1277	300	1269	0	101	50-115	0
Pentachlorophenol	1073	630	1269	0	84.5	25-120	0
Phenanthrene	1124	13	1269	16.51	87.2	50-110	0
Phenol	1078	300	1269	0	84.9	40-100	0
Pyrene	1277	13	1269	22.46	98.8	45-125	0
Surr: 2,4,6-Tribromophenol	*2767*	0	*3173*	0	*87.2*	*34-140*	0
Surr: 2-Fluorobiphenyl	*2544*	0	*3173*	0	*80.2*	*12-100*	0
Surr: 2-Fluorophenol	*2458*	0	*3173*	0	*77.5*	*33-117*	0
Surr: 4-Terphenyl-d14	*3442*	0	*3173*	0	*108*	*25-137*	0
Surr: Nitrobenzene-d5	*2466*	0	*3173*	0	*77.7*	*37-107*	0
Surr: Phenol-d6	*2349*	0	*3173*	0	*74*	*40-106*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1502641-03B MSD** Units: **µg/Kg** Analysis Date: **2/19/2015 10:38 PM**

Client ID: Run ID: **SVMS8_150219A** SeqNo: **3151968** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	943.7	640	1292	0	73	30-120	972.1	2.97	30	
2,4,5-Trichlorophenol	1112	310	1292	0	86.1	50-110	1125	1.14	30	
2,4,6-Trichlorophenol	1089	310	1292	0	84.3	45-110	1104	1.37	30	
2,4-Dichlorophenol	1004	310	1292	0	77.7	45-110	1032	2.68	30	
2,4-Dimethylphenol	828.1	640	1292	0	64.1	30-105	805.3	2.8	30	
2,4-Dinitrophenol	781	1,300	1292	0	60.4	15-130	875.1	0	30	J
2,4-Dinitrotoluene	987.7	310	1292	0	76.4	50-115	992.4	0.483	30	
2,6-Dinitrotoluene	1093	310	1292	0	84.6	50-110	1102	0.845	30	
2-Chloronaphthalene	1096	13	1292	0	84.8	45-105	1102	0.492	30	
2-Chlorophenol	1052	310	1292	0	81.4	45-105	1043	0.863	30	
2-Methylnaphthalene	984.4	13	1292	0	76.2	45-105	1013	2.84	30	
2-Methylphenol	1001	310	1292	0	77.5	40-105	1004	0.264	30	
2-Nitroaniline	996.1	1,300	1292	0	77.1	45-120	1002	0	30	J
2-Nitrophenol	1053	310	1292	0	81.5	40-110	1112	5.49	30	
3&4-Methylphenol	987.7	310	1292	0	76.4	40-105	987.4	0.0294	30	
3-Nitroaniline	760.9	1,300	1292	0	58.9	25-110	709.4	0	30	J
4,6-Dinitro-2-methylphenol	1066	640	1292	0	82.5	40-130	1098	2.95	30	
4-Bromophenyl phenyl ether	1180	310	1292	0	91.3	45-115	1206	2.19	30	
4-Chloro-3-methylphenol	921.1	310	1292	0	71.3	45-115	965.2	4.67	30	
4-Chloroaniline	373.4	1,300	1292	0	28.9	15-110	320.5	0	30	J
4-Chlorophenyl phenyl ether	1005	310	1292	0	77.8	45-110	1016	1.07	30	
4-Nitroaniline	784.8	1,300	1292	0	60.7	35-150	815.4	0	30	J
4-Nitrophenol	954.7	1,300	1292	0	73.9	15-140	903	0	30	J
Acenaphthene	1021	13	1292	0	79	45-110	1037	1.52	30	
Acenaphthylene	1037	13	1292	0	80.3	45-105	1044	0.62	30	
Acetophenone	974.7	640	1292	0	75.4	30-120	969.6	0.529	30	
Anthracene	1099	13	1292	0	85	55-105	1119	1.86	30	
Atrazine	965.1	640	1292	0	74.7	30-120	1010	4.57	30	
Benzaldehyde	709.3	640	1292	0	54.9	30-120	759.6	6.85	30	
Benzo(a)anthracene	1099	13	1292	24.44	83.2	50-110	1125	2.31	30	
Benzo(a)pyrene	1139	13	1292	6.606	87.7	50-110	1201	5.28	30	
Benzo(b)fluoranthene	1126	13	1292	11.23	86.3	45-115	1190	5.52	30	
Benzo(g,h,i)perylene	1298	13	1292	6.606	100	40-125	1380	6.06	30	
Benzo(k)fluoranthene	1074	13	1292	3.964	82.8	45-115	1163	7.95	30	
Bis(2-chloroethoxy)methane	984.4	310	1292	0	76.2	45-110	991.8	0.747	30	
Bis(2-chloroethyl)ether	1015	310	1292	0	78.5	40-105	1008	0.704	30	
Bis(2-chloroisopropyl)ether	958.6	310	1292	0	74.2	20-115	977.9	1.99	30	
Bis(2-ethylhexyl)phthalate	1101	640	1292	0	85.2	45-125	1145	3.92	30	
Butyl benzyl phthalate	1143	310	1292	0	88.5	50-125	1171	2.37	30	
Caprolactam	887.5	640	1292	0	68.7	30-120	900.4	1.44	30	
Carbazole	1156	310	1292	0	89.4	50-150	1165	0.813	30	
Chrysene	1176	13	1292	8.257	90.4	55-110	1220	3.72	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67860** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzo(a,h)anthracene	1223	13	1292	0	94.6	40-125	1319	7.54	30
Dibenzofuran	1033	310	1292	0	79.9	50-105	1052	1.84	30
Diethyl phthalate	981.2	640	1292	0	75.9	50-115	1006	2.47	30
Dimethyl phthalate	1041	640	1292	0	80.6	50-110	1049	0.732	30
Di-n-butyl phthalate	1088	640	1292	0	84.2	55-110	1120	2.86	30
Di-n-octyl phthalate	1015	310	1292	0	78.6	40-130	1048	3.12	30
Fluoranthene	1072	13	1292	21.14	81.3	55-115	1081	0.838	30
Fluorene	964.4	13	1292	0	74.6	50-110	991.8	2.8	30
Hexachlorobenzene	1144	310	1292	0	88.5	45-120	1165	1.82	30
Hexachlorobutadiene	965.7	310	1292	0	74.7	40-115	976.6	1.12	30
Hexachlorocyclopentadiene	1127	640	1292	0	87.2	40-115	1130	0.262	30
Hexachloroethane	962.5	310	1292	0	74.5	35-110	956.9	0.579	30
Indeno(1,2,3-cd)pyrene	1230	13	1292	6.606	94.7	40-120	1312	6.48	30
Isophorone	972.8	310	1292	0	75.3	45-110	985.5	1.29	30
Naphthalene	965.7	13	1292	0	74.7	40-105	1006	4.07	30
Nitrobenzene	980.6	310	1292	0	75.9	40-115	1005	2.48	30
N-Nitrosodi-n-propylamine	943.1	310	1292	0	73	40-115	928.4	1.57	30
N-Nitrosodiphenylamine	1241	310	1292	0	96	50-115	1277	2.85	30
Pentachlorophenol	1021	640	1292	0	79	25-120	1073	5.01	30
Phenanthrene	1079	13	1292	16.51	82.2	50-110	1124	4.09	30
Phenol	1011	310	1292	0	78.2	40-100	1078	6.43	30
Pyrene	1218	13	1292	22.46	92.5	45-125	1277	4.74	30
Surr: 2,4,6-Tribromophenol	*2656*	0	*3230*	0	*82.2*	*34-140*	2767	*4.08*	*40*
Surr: 2-Fluorobiphenyl	*2526*	0	*3230*	0	*78.2*	*12-100*	2544	*0.695*	*40*
Surr: 2-Fluorophenol	*2413*	0	*3230*	0	*74.7*	*33-117*	2458	*1.82*	*40*
Surr: 4-Terphenyl-d14	*3205*	0	*3230*	0	*99.2*	*25-137*	3442	*7.16*	*40*
Surr: Nitrobenzene-d5	*2386*	0	*3230*	0	*73.9*	*37-107*	2466	*3.29*	*40*
Surr: Phenol-d6	*2331*	0	*3230*	0	*72.2*	*40-106*	2349	*0.792*	*40*

The following samples were analyzed in this batch: 1502765-04C 1502765-05C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-67992-67992** Units: **µg/L** Analysis Date: **2/24/2015 09:31 AM**

Client ID: Run ID: **SVMS8_150224A** SeqNo: **3156352** Prep Date: **2/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	10								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	20								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	20								
4,6-Dinitro-2-methylphenol	U	20								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	20								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	20								
4-Nitrophenol	U	20								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-chloroisopropyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								
Carbazole	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

Chrysene	U	5.0					
Dibenzo(a,h)anthracene	U	5.0					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	20					
Dimethyl phthalate	U	20					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	5.0					
Fluorene	U	5.0					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	20					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	5.0					
Isophorone	U	5.0					
Naphthalene	U	5.0					
Nitrobenzene	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
Pentachlorophenol	U	20					
Phenanthrene	U	5.0					
Phenol	U	5.0					
Pyrene	U	5.0					
Surr: 2,4,6-Tribromophenol	*31.16*	0	*50*	0	*62.3*	*38-115*	0
Surr: 2-Fluorobiphenyl	*26.88*	0	*50*	0	*53.8*	*32-100*	0
Surr: 2-Fluorophenol	*15.75*	0	*50*	0	*31.5*	*22-59*	0
Surr: 4-Terphenyl-d14	*41.72*	0	*50*	0	*83.4*	*23-112*	0
Surr: Nitrobenzene-d5	*26.26*	0	*50*	0	*52.5*	*31-93*	0
Surr: Phenol-d6	*9.86*	0	*50*	0	*19.7*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-67992-67992** Units: **µg/L** Analysis Date: **2/24/2015 09:51 AM**

Client ID: Run ID: **SVMS8_150224A** SeqNo: **3156353** Prep Date: **2/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	13.25	5.0	20	0	66.2	30-120	0			
2,4,5-Trichlorophenol	14.38	5.0	20	0	71.9	50-110	0			
2,4,6-Trichlorophenol	13.16	5.0	20	0	65.8	50-115	0			
2,4-Dichlorophenol	12.75	10	20	0	63.8	50-105	0			
2,4-Dimethylphenol	9.9	5.0	20	0	49.5	30-110	0			
2,4-Dinitrophenol	8.68	5.0	20	0	43.4	15-140	0			
2,4-Dinitrotoluene	16.68	5.0	20	0	83.4	50-120	0			
2,6-Dinitrotoluene	15.47	5.0	20	0	77.4	50-115	0			
2-Chloronaphthalene	11.02	5.0	20	0	55.1	50-105	0			
2-Chlorophenol	12.89	5.0	20	0	64.4	35-105	0			
2-Methylnaphthalene	11.24	5.0	20	0	56.2	45-105	0			
2-Methylphenol	11.6	5.0	20	0	58	40-110	0			
2-Nitroaniline	13.37	20	20	0	66.8	50-115	0			J
2-Nitrophenol	12.68	5.0	20	0	63.4	40-115	0			
3&4-Methylphenol	11.04	5.0	20	0	55.2	30-110	0			
3-Nitroaniline	16.81	20	20	0	84	20-125	0			J
4,6-Dinitro-2-methylphenol	12.82	20	20	0	64.1	40-130	0			J
4-Bromophenyl phenyl ether	13.58	5.0	20	0	67.9	50-115	0			
4-Chloro-3-methylphenol	14.45	5.0	20	0	72.2	45-110	0			
4-Chloroaniline	15.65	20	20	0	78.2	15-110	0			J
4-Chlorophenyl phenyl ether	14.53	5.0	20	0	72.6	50-110	0			
4-Nitroaniline	17.15	20	20	0	85.8	35-150	0			J
4-Nitrophenol	7.24	20	20	0	36.2	1-58	0			J
Acenaphthene	12.61	5.0	20	0	63	45-110	0			
Acenaphthylene	12.84	5.0	20	0	64.2	50-105	0			
Acetophenone	13.84	1.0	20	0	69.2	30-120	0			
Anthracene	15.22	5.0	20	0	76.1	55-110	0			
Atrazine	19.86	1.0	20	0	99.3	30-120	0			
Benzaldehyde	14.84	1.0	20	0	74.2	30-120	0			
Benzo(a)anthracene	15.93	5.0	20	0	79.6	55-110	0			
Benzo(a)pyrene	16.81	5.0	20	0	84	55-110	0			
Benzo(b)fluoranthene	17.19	5.0	20	0	86	45-120	0			
Benzo(g,h,i)perylene	13.22	5.0	20	0	66.1	40-125	0			
Benzo(k)fluoranthene	16.35	5.0	20	0	81.8	45-125	0			
Bis(2-chloroethoxy)methane	12.18	5.0	20	0	60.9	45-105	0			
Bis(2-chloroethyl)ether	13.05	5.0	20	0	65.2	35-110	0			
Bis(2-chloroisopropyl)ether	11.86	5.0	20	0	59.3	25-130	0			
Bis(2-ethylhexyl)phthalate	17.85	5.0	20	0	89.2	40-125	0			
Butyl benzyl phthalate	17.2	5.0	20	0	86	45-115	0			
Carbazole	17.71	10	20	0	88.6	50-150	0			
Chrysene	16.68	5.0	20	0	83.4	55-110	0			
Dibenzo(a,h)anthracene	13.12	5.0	20	0	65.6	40-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	13.98	5.0	20	0	69.9	55-105	0	
Diethyl phthalate	16.54	20	20	0	82.7	40-120	0	J
Dimethyl phthalate	15.4	20	20	0	77	25-125	0	J
Di-n-butyl phthalate	18.33	5.0	20	0	91.6	55-115	0	
Di-n-octyl phthalate	17.52	5.0	20	0	87.6	35-135	0	
Fluoranthene	17.89	5.0	20	0	89.4	55-115	0	
Fluorene	14.12	5.0	20	0	70.6	50-110	0	
Hexachlorobenzene	14.07	5.0	20	0	70.4	50-110	0	
Hexachlorobutadiene	6.07	5.0	20	0	30.4	25-105	0	
Hexachlorocyclopentadiene	5.06	20	20	0	25.3	25-105	0	J
Hexachloroethane	6.13	5.0	20	0	30.6	30-95	0	
Indeno(1,2,3-cd)pyrene	13.17	5.0	20	0	65.8	45-125	0	
Isophorone	12.93	5.0	20	0	64.6	50-110	0	
Naphthalene	9.33	5.0	20	0	46.6	40-100	0	
Nitrobenzene	10.46	5.0	20	0	52.3	45-110	0	
N-Nitrosodi-n-propylamine	14.19	5.0	20	0	71	35-130	0	
N-Nitrosodiphenylamine	14.68	5.0	20	0	73.4	50-110	0	
Pentachlorophenol	11.7	20	20	0	58.5	40-115	0	J
Phenanthrene	14.68	5.0	20	0	73.4	50-115	0	
Phenol	5.21	5.0	20	0	26	12-43	0	
Pyrene	15.14	5.0	20	0	75.7	50-130	0	
Surr: 2,4,6-Tribromophenol	*32.9*	0	*50*	0	*65.8*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*26.48*	0	*50*	0	*53*	*32-100*	0	
Surr: 2-Fluorophenol	*16.79*	0	*50*	0	*33.6*	*22-59*	0	
Surr: 4-Terphenyl-d14	*41.75*	0	*50*	0	*83.5*	*23-112*	0	
Surr: Nitrobenzene-d5	*26.25*	0	*50*	0	*52.5*	*31-93*	0	
Surr: Phenol-d6	*11.21*	0	*50*	0	*22.4*	*13-36*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1502749-08A MS** Units: **µg/L** Analysis Date: **2/24/2015 12:06 PM**

Client ID: Run ID: **SVMS8_150224A** SeqNo: **3156354** Prep Date: **2/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	263.4	100	400	0	65.8	30-120	0			
2,4,5-Trichlorophenol	306.8	100	400	0	76.7	50-110	0			
2,4,6-Trichlorophenol	278.8	100	400	0	69.7	50-115	0			
2,4-Dichlorophenol	254	200	400	0	63.5	50-105	0			
2,4-Dimethylphenol	U	100	400	0	0	30-110	0			S
2,4-Dinitrophenol	237.6	100	400	0	59.4	15-140	0			
2,4-Dinitrotoluene	309.8	100	400	0	77.4	50-120	0			
2,6-Dinitrotoluene	320.4	100	400	0	80.1	50-115	0			
2-Chloronaphthalene	246	100	400	0	61.5	50-105	0			
2-Chlorophenol	250	100	400	0	62.5	35-105	0			
2-Methylnaphthalene	243.2	100	400	0	60.8	45-105	0			
2-Methylphenol	175	100	400	0	43.8	40-110	0			
2-Nitroaniline	282.6	400	400	0	70.6	50-115	0			J
2-Nitrophenol	252.4	100	400	0	63.1	40-115	0			
3&4-Methylphenol	178.4	100	400	0	44.6	30-110	0			
3-Nitroaniline	241	400	400	0	60.2	20-125	0			J
4,6-Dinitro-2-methylphenol	268.6	400	400	0	67.2	40-130	0			J
4-Bromophenyl phenyl ether	287.8	100	400	0	72	50-115	0			
4-Chloro-3-methylphenol	277.4	100	400	0	69.4	45-110	0			
4-Chloroaniline	227.6	400	400	0	56.9	15-110	0			J
4-Chlorophenyl phenyl ether	288	100	400	0	72	50-110	0			
4-Nitroaniline	212.8	400	400	0	53.2	35-150	0			J
4-Nitrophenol	138.6	400	400	0	34.6	1-58	0			J
Acenaphthene	266.4	100	400	0	66.6	45-110	0			
Acenaphthylene	262	100	400	0	65.5	50-105	0			
Acetophenone	276	20	400	0	69	30-120	0			
Anthracene	284.8	100	400	0	71.2	55-110	0			
Atrazine	353.8	20	400	0	88.4	30-120	0			
Benzaldehyde	294.6	20	400	0	73.6	30-120	0			
Benzo(a)anthracene	301.2	100	400	0	75.3	55-110	0			
Benzo(a)pyrene	311.4	100	400	0	77.8	55-110	0			
Benzo(b)fluoranthene	354.4	100	400	0	88.6	45-120	0			
Benzo(g,h,i)perylene	253.8	100	400	0	63.4	40-125	0			
Benzo(k)fluoranthene	334.6	100	400	0	83.6	45-125	0			
Bis(2-chloroethoxy)methane	234.4	100	400	0	58.6	45-105	0			
Bis(2-chloroethyl)ether	252.4	100	400	0	63.1	35-110	0			
Bis(2-chloroisopropyl)ether	254.2	100	400	0	63.6	25-130	0			
Bis(2-ethylhexyl)phthalate	325.8	100	400	0	81.4	40-125	0			
Butyl benzyl phthalate	332.2	100	400	0	83	45-115	0			
Carbazole	325.2	200	400	0	81.3	50-150	0			
Chrysene	320.8	100	400	0	80.2	55-110	0			
Dibenzo(a,h)anthracene	254	100	400	0	63.5	40-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	283.6	100	400	0	70.9	55-105	0	
Diethyl phthalate	317.2	400	400	0	79.3	40-120	0	J
Dimethyl phthalate	298.2	400	400	0	74.6	25-125	0	J
Di-n-butyl phthalate	340.4	100	400	0	85.1	55-115	0	
Di-n-octyl phthalate	369.8	100	400	0	92.4	35-135	0	
Fluoranthene	328	100	400	0	82	55-115	0	
Fluorene	281	100	400	0	70.2	50-110	0	
Hexachlorobenzene	285	100	400	0	71.2	50-110	0	
Hexachlorobutadiene	160.2	100	400	0	40	25-105	0	
Hexachlorocyclopentadiene	141.4	400	400	0	35.4	25-105	0	J
Hexachloroethane	163.6	100	400	0	40.9	30-95	0	
Indeno(1,2,3-cd)pyrene	254.8	100	400	0	63.7	45-125	0	
Isophorone	243.2	100	400	0	60.8	50-110	0	
Naphthalene	204.2	100	400	0	51	40-100	0	
Nitrobenzene	208.6	100	400	0	52.2	45-110	0	
N-Nitrosodi-n-propylamine	267.2	100	400	0	66.8	35-130	0	
N-Nitrosodiphenylamine	293.2	100	400	0	73.3	50-110	0	
Pentachlorophenol	270.8	400	400	0	67.7	40-115	0	J
Phenanthrene	287.6	100	400	0	71.9	50-115	0	
Phenol	124.6	100	400	0	31.2	12-43	0	
Pyrene	316.8	100	400	0	79.2	50-130	0	
Surr: 2,4,6-Tribromophenol	*636.2*	0	*1000*	0	*63.6*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*567.2*	0	*1000*	0	*56.7*	*32-100*	0	
Surr: 2-Fluorophenol	*319.8*	0	*1000*	0	*32*	*22-59*	0	
Surr: 4-Terphenyl-d14	*854.8*	0	*1000*	0	*85.5*	*23-112*	0	
Surr: Nitrobenzene-d5	*509*	0	*1000*	0	*50.9*	*31-93*	0	
Surr: Phenol-d6	*216.2*	0	*1000*	0	*21.6*	*13-36*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1502749-08A MSD** Units: **µg/L** Analysis Date: **2/24/2015 12:26 PM**

Client ID: Run ID: **SVMS8_150224A** SeqNo: **3156355** Prep Date: **2/24/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	272.6	100	400	0	68.2	30-120	263.4	3.43	30	
2,4,5-Trichlorophenol	307.6	100	400	0	76.9	50-110	306.8	0.26	30	
2,4,6-Trichlorophenol	283	100	400	0	70.8	50-115	278.8	1.5	30	
2,4-Dichlorophenol	258.6	200	400	0	64.6	50-105	254	1.79	30	
2,4-Dimethylphenol	U	100	400	0	0	30-110	28.8	0	30	S
2,4-Dinitrophenol	254.6	100	400	0	63.6	15-140	237.6	6.91	30	
2,4-Dinitrotoluene	326	100	400	0	81.5	50-120	309.8	5.1	30	
2,6-Dinitrotoluene	321	100	400	0	80.2	50-115	320.4	0.187	30	
2-Chloronaphthalene	250.8	100	400	0	62.7	50-105	246	1.93	30	
2-Chlorophenol	247	100	400	0	61.8	35-105	250	1.21	30	
2-Methylnaphthalene	247.6	100	400	0	61.9	45-105	243.2	1.79	30	
2-Methylphenol	180.8	100	400	0	45.2	40-110	175	3.26	30	
2-Nitroaniline	290.8	400	400	0	72.7	50-115	282.6	0	30	J
2-Nitrophenol	250.4	100	400	0	62.6	40-115	252.4	0.796	30	
3&4-Methylphenol	177.6	100	400	0	44.4	30-110	178.4	0.449	30	
3-Nitroaniline	239	400	400	0	59.8	20-125	241	0	30	J
4,6-Dinitro-2-methylphenol	278.4	400	400	0	69.6	40-130	268.6	0	30	J
4-Bromophenyl phenyl ether	283.4	100	400	0	70.8	50-115	287.8	1.54	30	
4-Chloro-3-methylphenol	283.6	100	400	0	70.9	45-110	277.4	2.21	30	
4-Chloroaniline	215	400	400	0	53.8	15-110	227.6	0	30	J
4-Chlorophenyl phenyl ether	292.2	100	400	0	73	50-110	288	1.45	30	
4-Nitroaniline	233.2	400	400	0	58.3	35-150	212.8	0	30	J
4-Nitrophenol	147.8	400	400	0	37	1-58	138.6	0	30	J
Acenaphthene	270.4	100	400	0	67.6	45-110	266.4	1.49	30	
Acenaphthylene	264.2	100	400	0	66	50-105	262	0.836	30	
Acetophenone	279.2	20	400	0	69.8	30-120	276	1.15	30	
Anthracene	280.2	100	400	0	70	55-110	284.8	1.63	30	
Atrazine	383.2	20	400	0	95.8	30-120	353.8	7.98	30	
Benzaldehyde	305.6	20	400	0	76.4	30-120	294.6	3.67	30	
Benzo(a)anthracene	304	100	400	0	76	55-110	301.2	0.925	30	
Benzo(a)pyrene	309.6	100	400	0	77.4	55-110	311.4	0.58	30	
Benzo(b)fluoranthene	345.4	100	400	0	86.4	45-120	354.4	2.57	30	
Benzo(g,h,i)perylene	250.2	100	400	0	62.6	40-125	253.8	1.43	30	
Benzo(k)fluoranthene	332.6	100	400	0	83.2	45-125	334.6	0.6	30	
Bis(2-chloroethoxy)methane	236.2	100	400	0	59	45-105	234.4	0.765	30	
Bis(2-chloroethyl)ether	256	100	400	0	64	35-110	252.4	1.42	30	
Bis(2-chloroisopropyl)ether	252.4	100	400	0	63.1	25-130	254.2	0.711	30	
Bis(2-ethylhexyl)phthalate	338	100	400	0	84.5	40-125	325.8	3.68	30	
Butyl benzyl phthalate	336	100	400	0	84	45-115	332.2	1.14	30	
Carbazole	337	200	400	0	84.2	50-150	325.2	3.56	30	
Chrysene	317.2	100	400	0	79.3	55-110	320.8	1.13	30	
Dibenzo(a,h)anthracene	251.2	100	400	0	62.8	40-125	254	1.11	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67992** Instrument ID **SVMS8** Method: **SW846 8270D**

Dibenzofuran	283.8	100	400	0	71	55-105	283.6	0.0705	30	
Diethyl phthalate	321.4	400	400	0	80.4	40-120	317.2	0	30	J
Dimethyl phthalate	299.8	400	400	0	75	25-125	298.2	0	30	J
Di-n-butyl phthalate	339.6	100	400	0	84.9	55-115	340.4	0.235	30	
Di-n-octyl phthalate	370	100	400	0	92.5	35-135	369.8	0.0541	30	
Fluoranthene	336.6	100	400	0	84.2	55-115	328	2.59	30	
Fluorene	283.2	100	400	0	70.8	50-110	281	0.78	30	
Hexachlorobenzene	270.8	100	400	0	67.7	50-110	285	5.11	30	
Hexachlorobutadiene	165	100	400	0	41.2	25-105	160.2	2.95	30	
Hexachlorocyclopentadiene	150.8	400	400	0	37.7	25-105	141.4	0	30	J
Hexachloroethane	168.2	100	400	0	42	30-95	163.6	2.77	30	
Indeno(1,2,3-cd)pyrene	251.2	100	400	0	62.8	45-125	254.8	1.42	30	
Isophorone	246.6	100	400	0	61.6	50-110	243.2	1.39	30	
Naphthalene	209.8	100	400	0	52.4	40-100	204.2	2.71	30	
Nitrobenzene	212.2	100	400	0	53	45-110	208.6	1.71	30	
N-Nitrosodi-n-propylamine	277.8	100	400	0	69.4	35-130	267.2	3.89	30	
N-Nitrosodiphenylamine	289	100	400	0	72.2	50-110	293.2	1.44	30	
Pentachlorophenol	280.6	400	400	0	70.2	40-115	270.8	0	30	J
Phenanthrene	282.6	100	400	0	70.6	50-115	287.6	1.75	30	
Phenol	123	100	400	0	30.8	12-43	124.6	1.29	30	
Pyrene	306.2	100	400	0	76.6	50-130	316.8	3.4	30	
Surr: 2,4,6-Tribromophenol	*630.6*	0	*1000*	0	*63.1*	*38-115*	636.2	*0.884*	*40*	
Surr: 2-Fluorobiphenyl	*568.6*	0	*1000*	0	*56.9*	*32-100*	567.2	*0.247*	*40*	
Surr: 2-Fluorophenol	*313*	0	*1000*	0	*31.3*	*22-59*	319.8	*2.15*	*40*	
Surr: 4-Terphenyl-d14	*832.6*	0	*1000*	0	*83.3*	*23-112*	854.8	*2.63*	*40*	
Surr: Nitrobenzene-d5	*517*	0	*1000*	0	*51.7*	*31-93*	509	*1.56*	*40*	
Surr: Phenol-d6	*212.6*	0	*1000*	0	*21.3*	*13-36*	216.2	*1.68*	*40*	

The following samples were analyzed in this batch: 1502765-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

MBLK Sample ID: **MBLK-67885-67885** Units: **µg/Kg** Analysis Date: **2/19/2015 01:38 PM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151662** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
m,p-Xylene	U	60								
Methyl acetate	61.5	200								J
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
o-Xylene	U	30								
Styrene	U	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Tetrachloroethene	U	30					
Toluene	U	30					
trans-1,2-Dichloroethene	U	30					
trans-1,3-Dichloropropene	U	30					
Trichloroethene	U	30					
Trichlorofluoromethane	U	30					
Vinyl chloride	U	30					
Xylenes, Total	U	90					
Surr: 1,2-Dichloroethane-d4	*988*	0	*1000*	0	*98.8*	*70-130*	0
Surr: 4-Bromofluorobenzene	*965*	0	*1000*	0	*96.5*	*70-130*	0
Surr: Dibromofluoromethane	*942*	0	*1000*	0	*94.2*	*70-130*	0
Surr: Toluene-d8	*929.5*	0	*1000*	0	*93*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

MBLK Sample ID: **MBLK-67885-67885** Units: **µg/Kg** Analysis Date: **2/20/2015 12:45 PM**

Client ID: Run ID: **VMS7_150220A** SeqNo: **3152288** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30								
1,1,2,2-Tetrachloroethane	U	30								
1,1,2-Trichloroethane	U	30								
1,1,2-Trichlorotrifluoroethane	U	30								
1,1-Dichloroethane	U	30								
1,1-Dichloroethene	U	30								
1,2,4-Trichlorobenzene	U	30								
1,2-Dibromo-3-chloropropane	U	30								
1,2-Dibromoethane	U	30								
1,2-Dichlorobenzene	U	30								
1,2-Dichloroethane	U	30								
1,2-Dichloropropane	U	30								
1,3-Dichlorobenzene	U	30								
1,4-Dichlorobenzene	U	30								
2-Butanone	U	200								
2-Hexanone	U	30								
4-Methyl-2-pentanone	U	30								
Acetone	U	100								
Benzene	U	30								
Bromodichloromethane	U	30								
Bromoform	U	30								
Bromomethane	U	75								
Carbon disulfide	U	30								
Carbon tetrachloride	U	30								
Chlorobenzene	U	30								
Chloroethane	U	100								
Chloroform	U	30								
Chloromethane	U	100								
cis-1,2-Dichloroethene	U	30								
cis-1,3-Dichloropropene	U	30								
Cyclohexane	U	30								
Dibromochloromethane	U	30								
Dichlorodifluoromethane	U	30								
Ethylbenzene	U	30								
Isopropylbenzene	U	30								
m,p-Xylene	U	60								
Methyl acetate	U	200								
Methyl tert-butyl ether	U	30								
Methylcyclohexane	U	30								
Methylene chloride	U	30								
o-Xylene	U	30								
Styrene	U	30								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Tetrachloroethene	U	30					
Toluene	U	30					
trans-1,2-Dichloroethene	U	30					
trans-1,3-Dichloropropene	U	30					
Trichloroethene	U	30					
Trichlorofluoromethane	U	30					
Vinyl chloride	U	30					
Xylenes, Total	U	90					
Surr: 1,2-Dichloroethane-d4	*978.5*	0	*1000*	0	*97.8*	*70-130*	0
Surr: 4-Bromofluorobenzene	*979.5*	0	*1000*	0	*98*	*70-130*	0
Surr: Dibromofluoromethane	*938*	0	*1000*	0	*93.8*	*70-130*	0
Surr: Toluene-d8	*933.5*	0	*1000*	0	*93.4*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

LCS Sample ID: **LCS-67885-67885** Units: **µg/Kg** Analysis Date: **2/19/2015 11:54 AM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151658** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1036	30	1000	0	104	70-135	0			
1,1,2,2-Tetrachloroethane	979.5	30	1000	0	98	55-130	0			
1,1,2-Trichloroethane	1000	30	1000	0	100	60-125	0			
1,1-Dichloroethane	947.5	30	1000	0	94.8	75-125	0			
1,1-Dichloroethene	1048	30	1000	0	105	65-135	0			
1,2,4-Trichlorobenzene	1108	30	1000	0	111	65-130	0			
1,2-Dibromo-3-chloropropane	964	30	1000	0	96.4	40-135	0			
1,2-Dibromoethane	1101	30	1000	0	110	75-125	0			
1,2-Dichlorobenzene	991	30	1000	0	99.1	75-120	0			
1,2-Dichloroethane	1028	30	1000	0	103	70-135	0			
1,2-Dichloropropane	1004	30	1000	0	100	70-120	0			
1,3-Dichlorobenzene	976.5	30	1000	0	97.6	70-125	0			
1,4-Dichlorobenzene	981.5	30	1000	0	98.2	70-125	0			
2-Butanone	878.5	200	1000	0	87.8	30-160	0			
2-Hexanone	862	30	1000	0	86.2	45-145	0			
4-Methyl-2-pentanone	1094	30	1000	0	109	96-168	0			
Acetone	846	100	1000	0	84.6	20-160	0			
Benzene	1026	30	1000	0	103	75-125	0			
Bromodichloromethane	1056	30	1000	0	106	70-130	0			
Bromoform	841	30	1000	0	84.1	55-135	0			
Bromomethane	1232	75	1000	0	123	30-160	0			
Carbon disulfide	977	30	1000	0	97.7	45-160	0			
Carbon tetrachloride	1044	30	1000	0	104	65-135	0			
Chlorobenzene	972	30	1000	0	97.2	75-125	0			
Chloroethane	897.5	100	1000	0	89.8	40-155	0			
Chloroform	931.5	30	1000	0	93.2	70-125	0			
Chloromethane	694	100	1000	0	69.4	50-130	0			
cis-1,2-Dichloroethene	1038	30	1000	0	104	65-125	0			
cis-1,3-Dichloropropene	1024	30	1000	0	102	70-125	0			
Dibromochloromethane	838	30	1000	0	83.8	65-135	0			
Dichlorodifluoromethane	579.5	30	1000	0	58	35-135	0			
Ethylbenzene	991	30	1000	0	99.1	75-125	0			
Isopropylbenzene	999	30	1000	0	99.9	75-130	0			
m,p-Xylene	1922	60	2000	0	96.1	80-125	0			
Methyl tert-butyl ether	937.5	30	1000	0	93.8	75-125	0			
Methylene chloride	1082	30	1000	0	108	55-145	0			
o-Xylene	977	30	1000	0	97.7	75-125	0			
Styrene	1066	30	1000	0	107	75-125	0			
Tetrachloroethene	1006	30	1000	0	101	64-140	0			
Toluene	968.5	30	1000	0	96.8	70-125	0			
trans-1,2-Dichloroethene	1042	30	1000	0	104	65-135	0			
trans-1,3-Dichloropropene	1050	30	1000	0	105	65-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Trichloroethene	983.5	30	1000	0	98.4	75-125	0
Trichlorofluoromethane	948	30	1000	0	94.8	25-185	0
Vinyl chloride	1012	30	1000	0	101	60-125	0
Xylenes, Total	2898	90	3000	0	96.6	75-125	0
Surr: 1,2-Dichloroethane-d4	*935.5*	0	*1000*	0	*93.6*	*70-130*	0
Surr: 4-Bromofluorobenzene	*963.5*	0	*1000*	0	*96.4*	*70-130*	0
Surr: Dibromofluoromethane	*997*	0	*1000*	0	*99.7*	*70-130*	0
Surr: Toluene-d8	*968*	0	*1000*	0	*96.8*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

LCS Sample ID: **LCS-67885-67885** Units: **µg/Kg** Analysis Date: **2/20/2015 11:06 AM**

Client ID: Run ID: **VMS7_150220A** SeqNo: **3152287** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1114	30	1000	0	111	70-135	0			
1,1,2,2-Tetrachloroethane	1054	30	1000	0	105	55-130	0			
1,1,2-Trichloroethane	1053	30	1000	0	105	60-125	0			
1,1-Dichloroethane	1022	30	1000	0	102	75-125	0			
1,1-Dichloroethene	1134	30	1000	0	113	65-135	0			
1,2,4-Trichlorobenzene	1227	30	1000	0	123	65-130	0			
1,2-Dibromo-3-chloropropane	1012	30	1000	0	101	40-135	0			
1,2-Dibromoethane	1182	30	1000	0	118	75-125	0			
1,2-Dichlorobenzene	1052	30	1000	0	105	75-120	0			
1,2-Dichloroethane	1120	30	1000	0	112	70-135	0			
1,2-Dichloropropane	1088	30	1000	0	109	70-120	0			
1,3-Dichlorobenzene	1036	30	1000	0	104	70-125	0			
1,4-Dichlorobenzene	1060	30	1000	0	106	70-125	0			
2-Butanone	931	200	1000	0	93.1	30-160	0			
2-Hexanone	927	30	1000	0	92.7	45-145	0			
4-Methyl-2-pentanone	1163	30	1000	0	116	96-168	0			
Acetone	920	100	1000	0	92	20-160	0			
Benzene	1100	30	1000	0	110	75-125	0			
Bromodichloromethane	1124	30	1000	0	112	70-130	0			
Bromoform	923.5	30	1000	0	92.4	55-135	0			
Bromomethane	1288	75	1000	0	129	30-160	0			
Carbon disulfide	1057	30	1000	0	106	45-160	0			
Carbon tetrachloride	1066	30	1000	0	107	65-135	0			
Chlorobenzene	1035	30	1000	0	104	75-125	0			
Chloroethane	971.5	100	1000	0	97.2	40-155	0			
Chloroform	996	30	1000	0	99.6	70-125	0			
Chloromethane	731.5	100	1000	0	73.2	50-130	0			
cis-1,2-Dichloroethene	1128	30	1000	0	113	65-125	0			
cis-1,3-Dichloropropene	1129	30	1000	0	113	70-125	0			
Dibromochloromethane	898.5	30	1000	0	89.8	65-135	0			
Dichlorodifluoromethane	648	30	1000	0	64.8	35-135	0			
Ethylbenzene	1057	30	1000	0	106	75-125	0			
Isopropylbenzene	1090	30	1000	0	109	75-130	0			
m,p-Xylene	2072	60	2000	0	104	80-125	0			
Methyl tert-butyl ether	1009	30	1000	0	101	75-125	0			
Methylene chloride	1162	30	1000	0	116	55-145	0			
o-Xylene	1037	30	1000	0	104	75-125	0			
Styrene	1164	30	1000	0	116	75-125	0			
Tetrachloroethene	1080	30	1000	0	108	64-140	0			
Toluene	1028	30	1000	0	103	70-125	0			
trans-1,2-Dichloroethene	1112	30	1000	0	111	65-135	0			
trans-1,3-Dichloropropene	1146	30	1000	0	115	65-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Trichloroethene	1052	30	1000	0	105	75-125	0
Trichlorofluoromethane	1007	30	1000	0	101	25-185	0
Vinyl chloride	1065	30	1000	0	106	60-125	0
Xylenes, Total	3108	90	3000	0	104	75-125	0
Surr: 1,2-Dichloroethane-d4	*970.5*	0	*1000*	0	*97*	*70-130*	0
Surr: 4-Bromofluorobenzene	*969*	0	*1000*	0	*96.9*	*70-130*	0
Surr: Dibromofluoromethane	*1000*	0	*1000*	0	*100*	*70-130*	0
Surr: Toluene-d8	*967*	0	*1000*	0	*96.7*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

MS Sample ID: **1502746-01A MS** Units: **µg/Kg** Analysis Date: **2/20/2015 12:01 PM**

Client ID: Run ID: **VMS9_150219A** SeqNo: **3151707** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1467	41	1364	0	108	70-135	0			
1,1,2,2-Tetrachloroethane	1430	41	1364	0	105	55-130	0			
1,1,2-Trichloroethane	1327	41	1364	0	97.3	60-125	0			
1,1-Dichloroethane	1430	41	1364	0	105	75-125	0			
1,1-Dichloroethene	1533	41	1364	0	112	65-135	0			
1,2,4-Trichlorobenzene	1394	41	1364	0	102	65-130	0			
1,2-Dibromo-3-chloropropane	906.5	41	1364	0	66.4	40-135	0			
1,2-Dibromoethane	1448	41	1364	0	106	75-125	0			
1,2-Dichlorobenzene	1408	41	1364	0	103	75-120	0			
1,2-Dichloroethane	1402	41	1364	0	103	70-135	0			
1,2-Dichloropropane	1404	41	1364	0	103	70-120	0			
1,3-Dichlorobenzene	1441	41	1364	0	106	70-125	0			
1,4-Dichlorobenzene	1424	41	1364	0	104	70-125	0			
2-Butanone	911.3	270	1364	0	66.8	30-160	0			
2-Hexanone	1219	41	1364	0	89.4	45-145	0			
4-Methyl-2-pentanone	1391	41	1364	0	102	89-161	0			
Acetone	1378	140	1364	0	101	20-160	0			
Benzene	1472	41	1364	0	108	75-125	0			
Bromodichloromethane	1204	41	1364	0	88.2	70-130	0			
Bromoform	1022	41	1364	0	74.9	55-135	0			
Bromomethane	915.4	100	1364	0	67.1	30-160	0			
Carbon disulfide	1300	41	1364	0	95.3	45-160	0			
Carbon tetrachloride	1211	41	1364	0	88.8	65-135	0			
Chlorobenzene	1437	41	1364	0	105	75-125	0			
Chloroethane	1271	140	1364	0	93.2	40-155	0			
Chloroform	1443	41	1364	0	106	70-125	0			
Chloromethane	1278	140	1364	0	93.7	50-130	0			
cis-1,2-Dichloroethene	1518	41	1364	0	111	65-125	0			
cis-1,3-Dichloropropene	1308	41	1364	0	95.8	70-125	0			
Dibromochloromethane	985.7	41	1364	0	72.2	65-135	0			
Dichlorodifluoromethane	1246	41	1364	0	91.4	35-135	0			
Ethylbenzene	1527	41	1364	0	112	75-125	0			
Isopropylbenzene	1595	41	1364	0	117	75-130	0			
m,p-Xylene	3108	82	2729	0	114	80-125	0			
Methyl tert-butyl ether	1282	41	1364	0	94	75-125	0			
Methylene chloride	1488	41	1364	0	109	55-145	0			
o-Xylene	1516	41	1364	0	111	75-125	0			
Styrene	1495	41	1364	0	110	75-125	0			
Tetrachloroethene	1796	41	1364	0	132	64-140	0			
Toluene	1502	41	1364	0	110	70-125	0			
trans-1,2-Dichloroethene	1501	41	1364	0	110	65-135	0			
trans-1,3-Dichloropropene	1050	41	1364	0	77	65-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Trichloroethene	1490	41	1364	0	109	75-125	0
Trichlorofluoromethane	1431	41	1364	0	105	25-185	0
Vinyl chloride	1626	41	1364	0	119	60-125	0
Xylenes, Total	4624	120	4093	0	113	75-125	0
Surr: 1,2-Dichloroethane-d4	*1325*	0	*1364*	0	*97.1*	*70-130*	0
Surr: 4-Bromofluorobenzene	*1394*	0	*1364*	0	*102*	*70-130*	0
Surr: Dibromofluoromethane	*1339*	0	*1364*	0	*98.2*	*70-130*	0
Surr: Toluene-d8	*1369*	0	*1364*	0	*100*	*70-130*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

MSD Sample ID: **1502746-01A MSD** Units: **µg/Kg** Analysis Date: **2/20/2015 12:27 PM**

Client ID: Run ID: **VMS9_150219A** SeqNo: **3151708** Prep Date: **2/19/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1423	41	1364	0	104	70-135	1467	3.07	30	
1,1,2,2-Tetrachloroethane	1444	41	1364	0	106	55-130	1430	0.949	30	
1,1,2-Trichloroethane	1349	41	1364	0	98.8	60-125	1327	1.58	30	
1,1-Dichloroethane	1392	41	1364	0	102	75-125	1430	2.71	30	
1,1-Dichloroethene	1490	41	1364	0	109	65-135	1533	2.84	30	
1,2,4-Trichlorobenzene	1366	41	1364	0	100	65-130	1394	2.03	30	
1,2-Dibromo-3-chloropropane	919.5	41	1364	0	67.4	40-135	906.5	1.42	30	
1,2-Dibromoethane	1449	41	1364	0	106	75-125	1448	0.0471	30	
1,2-Dichlorobenzene	1384	41	1364	0	101	75-120	1408	1.71	30	
1,2-Dichloroethane	1392	41	1364	0	102	70-135	1402	0.684	30	
1,2-Dichloropropane	1365	41	1364	0	100	70-120	1404	2.81	30	
1,3-Dichlorobenzene	1413	41	1364	0	104	70-125	1441	1.91	30	
1,4-Dichlorobenzene	1423	41	1364	0	104	70-125	1424	0.0958	30	
2-Butanone	1368	270	1364	0	100	30-160	911.3	40.1	30	R
2-Hexanone	1212	41	1364	0	88.8	45-145	1219	0.561	30	
4-Methyl-2-pentanone	1433	41	1364	0	105	89-161	1391	3	30	
Acetone	1289	140	1364	0	94.5	20-160	1378	6.65	30	
Benzene	1432	41	1364	0	105	75-125	1472	2.77	30	
Bromodichloromethane	1183	41	1364	0	86.8	70-130	1204	1.71	30	
Bromoform	1040	41	1364	0	76.2	55-135	1022	1.79	30	
Bromomethane	871.1	100	1364	0	63.8	30-160	915.4	4.96	30	
Carbon disulfide	1267	41	1364	0	92.8	45-160	1300	2.6	30	
Carbon tetrachloride	1195	41	1364	0	87.6	65-135	1211	1.36	30	
Chlorobenzene	1396	41	1364	0	102	75-125	1437	2.89	30	
Chloroethane	1076	140	1364	0	78.9	40-155	1271	16.6	30	
Chloroform	1407	41	1364	0	103	70-125	1443	2.58	30	
Chloromethane	1234	140	1364	0	90.4	50-130	1278	3.53	30	
cis-1,2-Dichloroethene	1483	41	1364	0	109	65-125	1518	2.36	30	
cis-1,3-Dichloropropene	1306	41	1364	0	95.7	70-125	1308	0.157	30	
Dibromochloromethane	1002	41	1364	0	73.4	65-135	985.7	1.65	30	
Dichlorodifluoromethane	1224	41	1364	0	89.7	35-135	1246	1.82	30	
Ethylbenzene	1500	41	1364	0	110	75-125	1527	1.8	30	
Isopropylbenzene	1565	41	1364	0	115	75-130	1595	1.9	30	
m,p-Xylene	3037	82	2729	0	111	80-125	3108	2.33	30	
Methyl tert-butyl ether	1277	41	1364	0	93.6	75-125	1282	0.426	30	
Methylene chloride	1465	41	1364	0	107	55-145	1488	1.57	30	
o-Xylene	1486	41	1364	0	109	75-125	1516	2	30	
Styrene	1462	41	1364	0	107	75-125	1495	2.26	30	
Tetrachloroethene	1780	41	1364	0	130	64-140	1796	0.916	30	
Toluene	1453	41	1364	0	106	70-125	1502	3.32	30	
trans-1,2-Dichloroethene	1460	41	1364	0	107	65-135	1501	2.72	30	
trans-1,3-Dichloropropene	1042	41	1364	0	76.4	65-125	1050	0.848	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **67885** Instrument ID **VMS7** Method: **SW8260B**

Trichloroethene	1453	41	1364	0	106	75-125	1490	2.5	30
Trichlorofluoromethane	1385	41	1364	0	102	25-185	1431	3.25	30
Vinyl chloride	1534	41	1364	0	112	60-125	1626	5.83	30
Xylenes, Total	4523	120	4093	0	110	75-125	4624	2.22	30
Surr: 1,2-Dichloroethane-d4	*1339*	0	*1364*	0	*98.2*	*70-130*	1325	*1.08*	*30*
Surr: 4-Bromofluorobenzene	*1417*	0	*1364*	0	*104*	*70-130*	1394	*1.65*	*30*
Surr: Dibromofluoromethane	*1327*	0	*1364*	0	*97.3*	*70-130*	1339	*0.87*	*30*
Surr: Toluene-d8	*1368*	0	*1364*	0	*100*	*70-130*	1369	*0.0997*	*30*

The following samples were analyzed in this batch: 1502765-04A 1502765-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

MBLK Sample ID: **VBLKW1-140219-R157796** Units: **µg/L** Analysis Date: **2/19/2015 01:13 PM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151607** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	1.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylcyclohexane	U	1.0								
Methylene chloride	U	5.0								
o-Xylene	U	1.0								
Styrene	U	1.0								
Tetrachloroethene	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl chloride	U	1.0					
Xylenes, Total	U	3.0					
Surr: 1,2-Dichloroethane-d4	*19.38*	0	*20*	0	*96.9*	*75-120*	0
Surr: 4-Bromofluorobenzene	*19.04*	0	*20*	0	*95.2*	*80-110*	0
Surr: Dibromofluoromethane	*19.54*	0	*20*	0	*97.7*	*85-115*	0
Surr: Toluene-d8	*19.66*	0	*20*	0	*98.3*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

LCS Sample ID: **VLCSW1-150219-R157796** Units: **µg/L** Analysis Date: **2/19/2015 11:29 AM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151606** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.83	1.0	20	0	109	75-130	0			
1,1,2,2-Tetrachloroethane	20.38	1.0	20	0	102	75-130	0			
1,1,2-Trichloroethane	20.56	1.0	20	0	103	75-125	0			
1,1-Dichloroethane	22.04	1.0	20	0	110	75-133	0			
1,1-Dichloroethene	22.6	1.0	20	0	113	70-145	0			
1,2,4-Trichlorobenzene	26.24	1.0	20	0	131	70-135	0			
1,2-Dibromo-3-chloropropane	19.59	1.0	20	0	98	60-130	0			
1,2-Dibromoethane	23.26	1.0	20	0	116	80-150	0			
1,2-Dichlorobenzene	21.71	1.0	20	0	109	70-130	0			
1,2-Dichloroethane	22.09	1.0	20	0	110	78-125	0			
1,2-Dichloropropane	21.74	1.0	20	0	109	75-125	0			
1,3-Dichlorobenzene	21.61	1.0	20	0	108	75-130	0			
1,4-Dichlorobenzene	21.75	1.0	20	0	109	75-130	0			
2-Butanone	17.87	5.0	20	0	89.4	55-150	0			
2-Hexanone	16.68	5.0	20	0	83.4	60-135	0			
4-Methyl-2-pentanone	21.22	1.0	20	0	106	77-178	0			
Acetone	17.27	10	20	0	86.4	60-160	0			
Benzene	21.54	1.0	20	0	108	85-125	0			
Bromodichloromethane	22.68	1.0	20	0	113	75-125	0			
Bromoform	17.73	1.0	20	0	88.6	60-125	0			
Bromomethane	25.58	1.0	20	0	128	30-185	0			
Carbon disulfide	21.19	1.0	20	0	106	60-165	0			
Carbon tetrachloride	22.64	1.0	20	0	113	65-140	0			
Chlorobenzene	20.89	1.0	20	0	104	80-120	0			
Chloroethane	19.06	1.0	20	0	95.3	50-140	0			
Chloroform	20.07	1.0	20	0	100	80-130	0			
Chloromethane	14.49	1.0	20	0	72.4	50-130	0			
cis-1,2-Dichloroethene	22.66	1.0	20	0	113	75-134	0			
cis-1,3-Dichloropropene	21.79	1.0	20	0	109	70-130	0			
Dibromochloromethane	18.11	1.0	20	0	90.6	60-115	0			
Dichlorodifluoromethane	12.26	1.0	20	0	61.3	20-120	0			
Ethylbenzene	21.19	1.0	20	0	106	85-125	0			
Isopropylbenzene	22.23	1.0	20	0	111	80-127	0			
Methyl tert-butyl ether	19.52	1.0	20	0	97.6	80-130	0			
Methylene chloride	23.62	5.0	20	0	118	75-140	0			
o-Xylene	21.06	1.0	20	0	105	80-125	0			
Styrene	23.36	1.0	20	0	117	85-125	0			
Tetrachloroethene	21.87	1.0	20	0	109	77-138	0			
Toluene	20.59	1.0	20	0	103	85-125	0			
trans-1,2-Dichloroethene	22.29	1.0	20	0	111	80-140	0			
trans-1,3-Dichloropropene	22.74	1.0	20	0	114	81-123	0			
Trichloroethene	21	1.0	20	0	105	84-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

Trichlorofluoromethane	20.39	1.0	20	0	102	60-140	0
Vinyl chloride	21.68	1.0	20	0	108	50-136	0
Xylenes, Total	62.36	3.0	60	0	104	80-126	0
Surr: 1,2-Dichloroethane-d4	*19.34*	0	*20*	0	*96.7*	*75-120*	0
Surr: 4-Bromofluorobenzene	*19.27*	0	*20*	0	*96.4*	*80-110*	0
Surr: Dibromofluoromethane	*19.61*	0	*20*	0	*98*	*85-115*	0
Surr: Toluene-d8	*19.34*	0	*20*	0	*96.7*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

MS Sample ID: **1502748-05A MS** Units: **µg/L** Analysis Date: **2/19/2015 09:41 PM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151632** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	23.07	1.0	20	0	115	75-130	0			
1,1,2,2-Tetrachloroethane	19.81	1.0	20	0	99	75-130	0			
1,1,2-Trichloroethane	20.3	1.0	20	0	102	75-125	0			
1,1-Dichloroethane	20.38	1.0	20	0	102	75-133	0			
1,1-Dichloroethene	23.21	1.0	20	0	116	70-145	0			
1,2,4-Trichlorobenzene	20.88	1.0	20	0	104	70-135	0			
1,2-Dibromo-3-chloropropane	18.56	1.0	20	0	92.8	60-130	0			
1,2-Dibromoethane	22.57	1.0	20	0	113	80-150	0			
1,2-Dichlorobenzene	19.61	1.0	20	0	98	70-130	0			
1,2-Dichloroethane	21.39	1.0	20	0	107	78-125	0			
1,2-Dichloropropane	21.63	1.0	20	0	108	75-125	0			
1,3-Dichlorobenzene	20.13	1.0	20	0	101	75-130	0			
1,4-Dichlorobenzene	20.07	1.0	20	0	100	75-130	0			
2-Butanone	16.77	5.0	20	0	83.8	55-150	0			
2-Hexanone	16.52	5.0	20	0	82.6	60-135	0			
4-Methyl-2-pentanone	22.57	1.0	20	0	113	77-178	0			
Acetone	17.58	10	20	0	87.9	60-160	0			
Benzene	22.07	1.0	20	0	110	85-125	0			
Bromodichloromethane	21.95	1.0	20	0	110	75-125	0			
Bromoform	17.24	1.0	20	0	86.2	60-125	0			
Bromomethane	24.05	1.0	20	0	120	30-185	0			
Carbon disulfide	21.51	1.0	20	0	108	60-165	0			
Carbon tetrachloride	23.48	1.0	20	0	117	65-140	0			
Chlorobenzene	20.2	1.0	20	0	101	80-120	0			
Chloroethane	20.01	1.0	20	0	100	50-140	0			
Chloroform	20.13	1.0	20	0	101	80-130	0			
Chloromethane	15.31	1.0	20	0	76.6	50-130	0			
cis-1,2-Dichloroethene	21.93	1.0	20	0	110	75-134	0			
cis-1,3-Dichloropropene	21.19	1.0	20	0	106	70-130	0			
Dibromochloromethane	17.53	1.0	20	0	87.6	60-115	0			
Dichlorodifluoromethane	14.44	1.0	20	0	72.2	20-120	0			
Ethylbenzene	21.38	1.0	20	0	107	85-125	0			
Isopropylbenzene	21.31	1.0	20	0	107	80-127	0			
Methyl tert-butyl ether	19.04	1.0	20	0	95.2	80-130	0			
Methylene chloride	23.16	5.0	20	0	116	75-140	0			
o-Xylene	20.55	1.0	20	0	103	80-125	0			
Styrene	21	1.0	20	0	105	85-125	0			
Tetrachloroethene	31.46	1.0	20	0	157	77-138	0			S
Toluene	20.52	1.0	20	0	103	85-125	0			
trans-1,2-Dichloroethene	22.72	1.0	20	0	114	80-140	0			
trans-1,3-Dichloropropene	21.45	1.0	20	0	107	81-123	0			
Trichloroethene	21.16	1.0	20	0	106	84-130	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

Trichlorofluoromethane	21.53	1.0	20	0	108	60-140	0
Vinyl chloride	22.76	1.0	20	0	114	50-136	0
Xylenes, Total	61.08	3.0	60	0	102	80-126	0
Surr: 1,2-Dichloroethane-d4	*19.08*	0	*20*	0	*95.4*	*75-120*	0
Surr: 4-Bromofluorobenzene	*19.09*	0	*20*	0	*95.4*	*80-110*	0
Surr: Dibromofluoromethane	*19.41*	0	*20*	0	*97*	*85-115*	0
Surr: Toluene-d8	*19.16*	0	*20*	0	*95.8*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

MSD Sample ID: **1502748-05A MSD** Units: **µg/L** Analysis Date: **2/19/2015 10:05 PM**

Client ID: Run ID: **VMS7_150219B** SeqNo: **3151633** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	23.89	1.0	20	0	119	75-130	23.07	3.49	30	
1,1,2,2-Tetrachloroethane	20.62	1.0	20	0	103	75-130	19.81	4.01	30	
1,1,2-Trichloroethane	21.55	1.0	20	0	108	75-125	20.3	5.97	30	
1,1-Dichloroethane	21.6	1.0	20	0	108	75-133	20.38	5.81	30	
1,1-Dichloroethene	24.79	1.0	20	0	124	70-145	23.21	6.58	30	
1,2,4-Trichlorobenzene	23.27	1.0	20	0	116	70-135	20.88	10.8	30	
1,2-Dibromo-3-chloropropane	18.96	1.0	20	0	94.8	60-130	18.56	2.13	30	
1,2-Dibromoethane	23.83	1.0	20	0	119	80-150	22.57	5.43	30	
1,2-Dichlorobenzene	21.06	1.0	20	0	105	70-130	19.61	7.13	30	
1,2-Dichloroethane	22.8	1.0	20	0	114	78-125	21.39	6.38	30	
1,2-Dichloropropane	22.44	1.0	20	0	112	75-125	21.63	3.68	30	
1,3-Dichlorobenzene	20.8	1.0	20	0	104	75-130	20.13	3.27	30	
1,4-Dichlorobenzene	21.09	1.0	20	0	105	75-130	20.07	4.96	30	
2-Butanone	17.95	5.0	20	0	89.8	55-150	16.77	6.8	30	
2-Hexanone	17.85	5.0	20	0	89.2	60-135	16.52	7.74	30	
4-Methyl-2-pentanone	23.73	1.0	20	0	119	77-178	22.57	5.01	30	
Acetone	19.21	10	20	0	96	60-160	17.58	8.86	30	
Benzene	23.17	1.0	20	0	116	85-125	22.07	4.86	30	
Bromodichloromethane	23.11	1.0	20	0	116	75-125	21.95	5.15	30	
Bromoform	18.13	1.0	20	0	90.6	60-125	17.24	5.03	30	
Bromomethane	26.05	1.0	20	0	130	30-185	24.05	7.98	30	
Carbon disulfide	22.77	1.0	20	0	114	60-165	21.51	5.69	30	
Carbon tetrachloride	24.66	1.0	20	0	123	65-140	23.48	4.9	30	
Chlorobenzene	21.74	1.0	20	0	109	80-120	20.2	7.34	30	
Chloroethane	20.93	1.0	20	0	105	50-140	20.01	4.49	30	
Chloroform	20.88	1.0	20	0	104	80-130	20.13	3.66	30	
Chloromethane	15.89	1.0	20	0	79.4	50-130	15.31	3.72	30	
cis-1,2-Dichloroethene	22.92	1.0	20	0	115	75-134	21.93	4.41	30	
cis-1,3-Dichloropropene	22.4	1.0	20	0	112	70-130	21.19	5.55	30	
Dibromochloromethane	18.93	1.0	20	0	94.6	60-115	17.53	7.68	30	
Dichlorodifluoromethane	14.89	1.0	20	0	74.4	20-120	14.44	3.07	30	
Ethylbenzene	22.45	1.0	20	0	112	85-125	21.38	4.88	30	
Isopropylbenzene	22.82	1.0	20	0	114	80-127	21.31	6.84	30	
Methyl tert-butyl ether	20.08	1.0	20	0	100	80-130	19.04	5.32	30	
Methylene chloride	24.33	5.0	20	0	122	75-140	23.16	4.93	30	
o-Xylene	22.11	1.0	20	0	111	80-125	20.55	7.31	30	
Styrene	23.7	1.0	20	0	118	85-125	21	12.1	30	
Tetrachloroethene	26.52	1.0	20	0	133	77-138	31.46	17	30	
Toluene	21.75	1.0	20	0	109	85-125	20.52	5.82	30	
trans-1,2-Dichloroethene	23.74	1.0	20	0	119	80-140	22.72	4.39	30	
trans-1,3-Dichloropropene	23	1.0	20	0	115	81-123	21.45	6.97	30	
Trichloroethene	22.3	1.0	20	0	112	84-130	21.16	5.25	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157796** Instrument ID **VMS7** Method: **SW8260**

Trichlorofluoromethane	22.15	1.0	20	0	111	60-140	21.53	2.84	30
Vinyl chloride	23.68	1.0	20	0	118	50-136	22.76	3.96	30
Xylenes, Total	65.31	3.0	60	0	109	80-126	61.08	6.69	30
Surr: 1,2-Dichloroethane-d4	*18.75*	0	*20*	0	*93.8*	*75-120*	19.08	*1.74*	*30*
Surr: 4-Bromofluorobenzene	*19.74*	0	*20*	0	*98.7*	*80-110*	19.09	*3.35*	*30*
Surr: Dibromofluoromethane	*19.86*	0	*20*	0	*99.3*	*85-115*	19.41	*2.29*	*30*
Surr: Toluene-d8	*19.44*	0	*20*	0	*97.2*	*85-110*	19.16	*1.45*	*30*

The following samples were analyzed in this batch: 1502765-01A 1502765-02A 1502765-03A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

MBLK Sample ID: **VBLKS1-150219-R157808** Units: **µg/Kg** Analysis Date: **2/19/2015 11:52 AM**

Client ID: Run ID: **VMS8_150218A** SeqNo: **3149876** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	5.0								
1,1,2,2-Tetrachloroethane	U	5.0								
1,1,2-Trichloroethane	U	5.0								
1,1,2-Trichlorotrifluoroethane	U	5.0								
1,1-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dibromo-3-chloropropane	U	5.0								
1,2-Dibromoethane	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	U	5.0								
1,3-Dichlorobenzene	U	5.0								
2-Butanone	U	10								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	10								
Benzene	U	5.0								
Bromodichloromethane	U	5.0								
Bromoform	U	5.0								
Bromomethane	U	10								
Carbon disulfide	U	5.0								
Carbon tetrachloride	U	5.0								
Chlorobenzene	U	5.0								
Chloroform	0.6	5.0								J
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	5.0								
Dichlorodifluoromethane	U	10								
Ethylbenzene	U	5.0								
Isopropylbenzene	U	5.0								
m,p-Xylene	U	2.5								
Methyl acetate	U	10								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	10								
Methylene chloride	U	5.0								
o-Xylene	U	2.5								
Styrene	U	5.0								
Tetrachloroethene	U	5.0								
Toluene	U	5.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

trans-1,2-Dichloroethene	U	5.0					
trans-1,3-Dichloropropene	U	10					
Trichloroethene	U	5.0					
Trichlorofluoromethane	U	5.0					
Vinyl chloride	U	5.0					
Xylenes, Total	U	5.0					
Surr: 1,2-Dichloroethane-d4	*19.07*	0	*20*	0	*95.4*	*70-120*	0
Surr: 4-Bromofluorobenzene	*19.1*	0	*20*	0	*95.5*	*75-120*	0
Surr: Dibromofluoromethane	*18.91*	0	*20*	0	*94.6*	*85-115*	0
Surr: Toluene-d8	*19.59*	0	*20*	0	*98*	*85-120*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

LCS Sample ID: **VLCSS1-150219-R157808** Units: **µg/Kg** Analysis Date: **2/19/2015 10:47 AM**

Client ID: Run ID: **VMS8_150218A** SeqNo: **3149875** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	23.01	5.0	20	0	115	70-135	0			
1,1,2,2-Tetrachloroethane	21.35	5.0	20	0	107	55-130	0			
1,1,2-Trichloroethane	20.82	5.0	20	0	104	60-125	0			
1,1-Dichloroethane	21.2	5.0	20	0	106	75-125	0			
1,1-Dichloroethene	23.92	5.0	20	0	120	65-135	0			
1,2,4-Trichlorobenzene	23.46	5.0	20	0	117	65-130	0			
1,2-Dibromo-3-chloropropane	22.25	5.0	20	0	111	40-135	0			
1,2-Dibromoethane	22.47	5.0	20	0	112	70-125	0			
1,2-Dichlorobenzene	21.87	5.0	20	0	109	75-120	0			
1,2-Dichloroethane	20.8	5.0	20	0	104	70-135	0			
1,2-Dichloropropane	20.87	5.0	20	0	104	70-120	0			
1,3-Dichlorobenzene	21.21	5.0	20	0	106	70-125	0			
2-Butanone	18.91	10	20	0	94.6	30-160	0			
2-Hexanone	17.64	5.0	20	0	88.2	45-145	0			
4-Methyl-2-pentanone	21.46	5.0	20	0	107	74-173	0			
Acetone	22.35	10	20	0	112	20-160	0			
Benzene	21.33	5.0	20	0	107	75-125	0			
Bromodichloromethane	23.19	5.0	20	0	116	70-130	0			
Bromoform	18.84	5.0	20	0	94.2	55-135	0			
Bromomethane	22.16	10	20	0	111	30-160	0			
Carbon disulfide	25.07	5.0	20	0	125	45-160	0			
Carbon tetrachloride	23.63	5.0	20	0	118	65-135	0			
Chlorobenzene	21.21	5.0	20	0	106	75-125	0			
Chloroform	22.13	5.0	20	0	111	70-125	0			
Chloromethane	19.03	10	20	0	95.2	50-130	0			
cis-1,2-Dichloroethene	22.11	5.0	20	0	111	65-125	0			
cis-1,3-Dichloropropene	23.25	5.0	20	0	116	70-125	0			
Dibromochloromethane	18.68	5.0	20	0	93.4	65-135	0			
Dichlorodifluoromethane	17.07	10	20	0	85.4	35-135	0			
Ethylbenzene	21.87	5.0	20	0	109	75-125	0			
Isopropylbenzene	22.56	5.0	20	0	113	75-130	0			
m,p-Xylene	43.79	2.5	40	0	109	80-125	0			
Methyl tert-butyl ether	19.23	5.0	20	0	96.2	75-125	0			
Methylene chloride	24.32	5.0	20	0	122	55-140	0			
o-Xylene	21.66	2.5	20	0	108	75-125	0			
Styrene	21.56	5.0	20	0	108	75-125	0			
Tetrachloroethene	24.46	5.0	20	0	122	65-140	0			
Toluene	21.45	5.0	20	0	107	70-125	0			
trans-1,2-Dichloroethene	23.34	5.0	20	0	117	65-135	0			
trans-1,3-Dichloropropene	21.05	10	20	0	105	65-125	0			
Trichloroethene	20.86	5.0	20	0	104	75-125	0			
Trichlorofluoromethane	22.96	5.0	20	0	115	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

Vinyl chloride	22.52	5.0	20	0	113	60-125	0
Xylenes, Total	65.45	5.0	60	0	109	75-125	0
Surr: 1,2-Dichloroethane-d4	*20.13*	0	*20*	0	*101*	*70-120*	0
Surr: 4-Bromofluorobenzene	*20.07*	0	*20*	0	*100*	*75-120*	0
Surr: Dibromofluoromethane	*20.54*	0	*20*	0	*103*	*85-115*	0
Surr: Toluene-d8	*20.12*	0	*20*	0	*101*	*85-120*	0

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

MS Sample ID: **1502592-09A MS** Units: **µg/Kg** Analysis Date: **2/19/2015 04:51 PM**

Client ID: Run ID: **VMS8_150218A** SeqNo: **3151604** Prep Date: DF: **0.971**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	15.96	4.9	19.42	0	82.2	70-135	0			
1,1,2,2-Tetrachloroethane	13.99	4.9	19.42	0	72	55-130	0			
1,1,2-Trichloroethane	13.96	4.9	19.42	0	71.9	60-125	0			
1,1-Dichloroethane	14.91	4.9	19.42	0	76.8	75-125	0			
1,1-Dichloroethene	17.44	4.9	19.42	0	89.8	65-135	0			
1,2,4-Trichlorobenzene	8.059	4.9	19.42	0	41.5	65-130	0			S
1,2-Dibromo-3-chloropropane	U	4.9	19.42	0	0	40-135	0			S
1,2-Dibromoethane	14.06	4.9	19.42	0	72.4	44-112	0			
1,2-Dichlorobenzene	11.55	4.9	19.42	0	59.4	75-120	0			S
1,2-Dichloroethane	14.34	4.9	19.42	0	73.8	70-135	0			
1,2-Dichloropropane	13.54	4.9	19.42	0	69.7	70-120	0			S
1,3-Dichlorobenzene	11.76	4.9	19.42	0	60.6	70-125	0			S
2-Butanone	24.33	9.7	19.42	0	125	30-160	0			
2-Hexanone	13.9	4.9	19.42	0	71.6	45-145	0			
4-Methyl-2-pentanone	13.98	4.9	19.42	0	72	74-173	0			S
Acetone	51.87	9.7	19.42	17.33	178	20-160	0			S
Benzene	14.54	4.9	19.42	0	74.8	75-125	0			S
Bromodichloromethane	13.99	4.9	19.42	0	72	70-130	0			
Bromoform	11.54	4.9	19.42	0	59.4	55-135	0			
Bromomethane	13.17	9.7	19.42	0	67.8	30-160	0			
Carbon disulfide	17.24	4.9	19.42	0	88.8	45-160	0			
Carbon tetrachloride	15.91	4.9	19.42	0	82	65-135	0			
Chlorobenzene	13.56	4.9	19.42	0	69.8	75-125	0			S
Chloroform	14.93	4.9	19.42	0.5164	74.2	70-125	0			
Chloromethane	14.43	9.7	19.42	0	74.3	50-130	0			
cis-1,2-Dichloroethene	15.08	4.9	19.42	0	77.6	65-125	0			
cis-1,3-Dichloropropene	12.51	4.9	19.42	0	64.4	70-125	0			S
Dibromochloromethane	11.08	4.9	19.42	0	57	65-135	0			S
Dichlorodifluoromethane	14.3	9.7	19.42	0	73.6	35-135	0			
Ethylbenzene	13.97	4.9	19.42	0.2718	70.6	75-125	0			S
Isopropylbenzene	13.96	4.9	19.42	0	71.9	75-130	0			S
m,p-Xylene	27.28	2.4	38.84	0	70.2	80-125	0			S
Methyl tert-butyl ether	14.09	4.9	19.42	0	72.6	75-125	0			S
Methylene chloride	20.15	4.9	19.42	1.903	94	55-140	0			
o-Xylene	13.38	2.4	19.42	0	68.9	75-125	0			S
Styrene	12.24	4.9	19.42	0	63	75-125	0			S
Tetrachloroethene	21.86	4.9	19.42	0	113	65-140	0			
Toluene	14.56	4.9	19.42	0.3533	73.2	70-125	0			
trans-1,2-Dichloroethene	15.94	4.9	19.42	0	82.1	65-135	0			
trans-1,3-Dichloropropene	11.22	9.7	19.42	0	57.8	65-125	0			S
Trichloroethene	14.98	4.9	19.42	0	77.2	75-125	0			
Trichlorofluoromethane	17.13	4.9	19.42	0	88.2	25-185	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

Vinyl chloride	17.12	4.9	19.42	0	88.2	60-125	0	
Xylenes, Total	40.66	4.9	58.26	0	69.8	75-125	0	S
Surr: 1,2-Dichloroethane-d4	*20.36*	0	*19.42*	0	*105*	*70-120*	0	
Surr: 4-Bromofluorobenzene	*19.57*	0	*19.42*	0	*101*	*75-120*	0	
Surr: Dibromofluoromethane	*19.78*	0	*19.42*	0	*102*	*85-115*	0	
Surr: Toluene-d8	*19.25*	0	*19.42*	0	*99.1*	*85-120*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

MSD Sample ID: **1502592-09A MSD** Units: **µg/Kg** Analysis Date: **2/19/2015 05:16 PM**

Client ID: Run ID: **VMS8_150218A** SeqNo: **3151605** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	16.6	5.0	20	0	83	70-135	15.96	3.91	30	
1,1,2,2-Tetrachloroethane	14.13	5.0	20	0	70.6	55-130	13.99	0.981	30	
1,1,2-Trichloroethane	14.82	5.0	20	0	74.1	60-125	13.96	5.96	30	
1,1-Dichloroethane	15.21	5.0	20	0	76	75-125	14.91	1.96	30	
1,1-Dichloroethene	18.26	5.0	20	0	91.3	65-135	17.44	4.6	30	
1,2,4-Trichlorobenzene	8.5	5.0	20	0	42.5	65-130	8.059	5.32	30	S
1,2-Dibromo-3-chloropropane	13.65	5.0	20	0	68.2	40-135	0	200	30	R
1,2-Dibromoethane	15.25	5.0	20	0	76.2	44-112	14.06	8.12	30	
1,2-Dichlorobenzene	11.92	5.0	20	0	59.6	75-120	11.55	3.19	30	S
1,2-Dichloroethane	14.66	5.0	20	0	73.3	70-135	14.34	2.2	30	
1,2-Dichloropropane	14.53	5.0	20	0	72.6	70-120	13.54	7.09	30	
1,3-Dichlorobenzene	11.76	5.0	20	0	58.8	70-125	11.76	0.0101	30	S
2-Butanone	20.98	10	20	0	105	30-160	24.33	14.8	30	
2-Hexanone	12.53	5.0	20	0	62.6	45-145	13.9	10.3	30	
4-Methyl-2-pentanone	11.69	5.0	20	0	58.4	74-173	13.98	17.9	30	S
Acetone	42.3	10	20	17.33	125	20-160	51.87	20.3	30	
Benzene	14.86	5.0	20	0	74.3	75-125	14.54	2.21	30	S
Bromodichloromethane	15.8	5.0	20	0	79	70-130	13.99	12.1	30	
Bromoform	11.5	5.0	20	0	57.5	55-135	11.54	0.308	30	
Bromomethane	13.14	10	20	0	65.7	30-160	13.17	0.203	30	
Carbon disulfide	17.77	5.0	20	0	88.8	45-160	17.24	3	30	
Carbon tetrachloride	16.45	5.0	20	0	82.2	65-135	15.91	3.31	30	
Chlorobenzene	14.56	5.0	20	0	72.8	75-125	13.56	7.08	30	S
Chloroform	15.81	5.0	20	0.5164	76.5	70-125	14.93	5.7	30	
Chloromethane	14.34	10	20	0	71.7	50-130	14.43	0.619	30	
cis-1,2-Dichloroethene	15.96	5.0	20	0	79.8	65-125	15.08	5.67	30	
cis-1,3-Dichloropropene	13.56	5.0	20	0	67.8	70-125	12.51	8.08	30	S
Dibromochloromethane	11.93	5.0	20	0	59.6	65-135	11.08	7.4	30	S
Dichlorodifluoromethane	15.7	10	20	0	78.5	35-135	14.3	9.31	30	
Ethylbenzene	14.95	5.0	20	0.2718	73.4	75-125	13.97	6.76	30	S
Isopropylbenzene	15.13	5.0	20	0	75.6	75-130	13.96	8.02	30	
m,p-Xylene	29.45	2.5	40	0	73.6	80-125	27.28	7.67	30	S
Methyl tert-butyl ether	14.37	5.0	20	0	71.8	75-125	14.09	1.97	30	S
Methylene chloride	20.78	5.0	20	1.903	94.4	55-140	20.15	3.09	30	
o-Xylene	14.52	2.5	20	0	72.6	75-125	13.38	8.17	30	S
Styrene	13.66	5.0	20	0	68.3	75-125	12.24	10.9	30	S
Tetrachloroethene	22.26	5.0	20	0	111	65-140	21.86	1.83	30	
Toluene	15.5	5.0	20	0.3533	75.7	70-125	14.56	6.22	30	
trans-1,2-Dichloroethene	17.11	5.0	20	0	85.6	65-135	15.94	7.06	30	
trans-1,3-Dichloropropene	12.95	10	20	0	64.8	65-125	11.22	14.3	30	S
Trichloroethene	15.57	5.0	20	0	77.8	75-125	14.98	3.85	30	
Trichlorofluoromethane	18.6	5.0	20	0	93	25-185	17.13	8.24	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157808** Instrument ID **VMS8** Method: **SW8260**

Vinyl chloride	18.41	5.0	20	0	92	60-125	17.12	7.27	30	
Xylenes, Total	43.97	5.0	60	0	73.3	75-125	40.66	7.83	30	S
Surr: 1,2-Dichloroethane-d4	*19.97*	0	*20*	0	*99.8*	*70-120*	20.36	*1.94*	*30*	
Surr: 4-Bromofluorobenzene	*20.05*	0	*20*	0	*100*	*75-120*	19.57	*2.45*	*30*	
Surr: Dibromofluoromethane	*19.86*	0	*20*	0	*99.3*	*85-115*	19.78	*0.407*	*30*	
Surr: Toluene-d8	*19.96*	0	*20*	0	*99.8*	*85-120*	19.25	*3.65*	*30*	

The following samples were analyzed in this batch: 1502765-05A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Client: Tetra Tech EM Inc.
Work Order: 1502765
Project: Olympic Antifreeze Feb. 2015

QC BATCH REPORT

Batch ID: **R157867** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R157867** Units: **% of sample** Analysis Date: **2/19/2015 02:30 PM**
Client ID: Run ID: **MOIST_150219A** SeqNo: **3151688** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R157867** Units: **% of sample** Analysis Date: **2/19/2015 02:30 PM**
Client ID: Run ID: **MOIST_150219A** SeqNo: **3151687** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	99.99	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1502662-10B DUP** Units: **% of sample** Analysis Date: **2/19/2015 02:30 PM**
Client ID: Run ID: **MOIST_150219A** SeqNo: **3151674** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	26.75	0.050	0	0	0		25.98	2.92	20	

DUP Sample ID: **1502662-14B DUP** Units: **% of sample** Analysis Date: **2/19/2015 02:30 PM**
Client ID: Run ID: **MOIST_150219A** SeqNo: **3151679** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.48	0.050	0	0	0		16.63	0.906	20	

The following samples were analyzed in this batch: 1502765-04B 1502765-05B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Revision: 1

Chain of Custody Form

ALS Environmental

Page ____ of ____

COC ID: 123456

- ☐ Cincinnati, OH +1 513 733 5336
- ☒ Holland, MI +1 616 399 6070
- ☐ Salt Lake City, UT +1 801 266 7700
- ☐ Everett, WA +1 425 356 2600
- ☐ Houston, TX +1 281 530 5656
- ☐ Spring City, PA +1 610 948 4903
- ☐ Fort Collins, CO +1 970 490 1511
- ☐ Middletown, PA +1 717 944 5541
- ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1502765

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic OH Antifreeze	A	VOC's 8260B
Work Order		Project Number	103X4026000150514[redacted]04004	B	SVOC's 8270C
Company Name	Tetra Tech Inc.	Bill To Company	Tetra Tech	C	Ethylene Glycol 8015B
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	TPH (DRO, GRO, ERO)
Address	15. Wacker Dr	Address	15. Wacker Dr	E	
				F	
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	G	
Phone	708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-SW-0211-01	02-11-15	1130	Water	HCL	6	X	X	X								
2	OA-SW-0213-01	02-13-15	1130	↓	↓	4	X	X	X								
3	OA-SW-0213-02	02-13-15	1310	↓	↓	5	X	X	X								
4	OA-SS-0212-01	02-12-15	1515	Soil		5	X	X	X	X							
5	OA-SS-0212-02	02-12-15	1547	Soil		5	X	X	X	X							
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Cordell Regan

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☒ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour ☐ Other ____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
	02/16	0900	Fed Ex	
Relinquished by: Fed Ex	Date: 2/19/15	Time: 1245	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date: 2/19/15	Time: 1245	Checked by (Laboratory):	1.8c

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: ____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **19-Feb-15 12:45**

Work Order: **1502765** Received by: **JR**

Checklist completed by Joseph Ribar (eSignature) 19-Feb-15 (Date) Reviewed by: Ann Preston (eSignature) 19-Feb-15 (Date)

Matrices: water/soil

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	1.8c		
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	2/19/2015 1:01:11 PM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

02-Mar-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X90260001S051502007** Work Order: **15021247**

Dear Matt,

ALS Environmental received 20 samples on 27-Feb-2015 12:45 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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ALS Group USA, Corp

Date: 02-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: **15021247**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
15021247-01	OA-SW-02-0225	Water		2/25/2015 14:00	2/27/2015 12:45	☐
15021247-02	KP8-0004-0225 (KP8A)	Soil		2/25/2015 11:35	2/27/2015 12:45	☐
15021247-03	KP8-0408-0225 (KP8B)	Soil		2/25/2015 11:40	2/27/2015 12:45	☐
15021247-04	KP8-0812-0225 (KP8C)	Soil		2/25/2015 11:45	2/27/2015 12:45	☐
15021247-05	KP9-0004-0225 (KP9A)	Soil		2/25/2015 09:30	2/27/2015 12:45	☐
15021247-06	KP9-0408-0225 (KP9B)	Soil		2/25/2015 09:35	2/27/2015 12:45	☐
15021247-07	KP9-0812-0225 (KP9C)	Soil		2/25/2015 09:40	2/27/2015 12:45	☐
15021247-08	KP6-0004-0225 (KP6A)	Soil		2/25/2015 15:25	2/27/2015 12:45	☐
15021247-09	KP6-0408-0225 (KP6B)	Soil		2/25/2015 15:30	2/27/2015 12:45	☐
15021247-10	OA-SS-04-0225	Soil		2/25/2015 11:50	2/27/2015 12:45	☐
15021247-11	KP5-0004-0225 (KP5A)	Soil		2/25/2015 14:00	2/27/2015 12:45	☐
15021247-12	KP5-0408-0225 (KP5B)	Soil		2/25/2015 14:05	2/27/2015 12:45	☐
15021247-13	KP5-0812-0225 (KP5C)	Soil		2/25/2015 14:10	2/27/2015 12:45	☐
15021247-14	KP11-0004-0225 (KP11A)	Soil		2/25/2015 12:35	2/27/2015 12:45	☐
15021247-15	KP11-0408-0225 (KP11B)	Soil		2/25/2015 12:40	2/27/2015 12:45	☐
15021247-16	KP11-0812-0225 (KP11C)	Soil		2/25/2015 12:45	2/27/2015 12:45	☐
15021247-17	KP9-GW-0225	Water		2/25/2015 15:00	2/27/2015 12:45	☐
15021247-18	OA-SW-01-0225	Water		2/25/2015 13:55	2/27/2015 12:45	☐
15021247-19	MW-10-0225	Water		2/25/2015 12:02	2/27/2015 12:45	☐
15021247-20	KP5-GW-0226	Water		2/26/2015 09:50	2/27/2015 12:45	☐

ALS Group USA, Corp

Date: 02-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: 15021247

Case Narrative

Samples for the above noted Work Order were received on 02/27/2015. The attached ""Sample Receipt Checklist"" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the ""Work Order Acknowledgement"". Methodologies are also documented in the ""Analytical Result"" section for each sample. Quality control results are listed in the ""QC Report"" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The ""Qualifiers"" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

GC-FID:
No other deviations or anomalies were noted.

Wet Chemistry:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-02-0225
Collection Date: 2/25/2015 02:00 PM

Work Order: 15021247
Lab ID: 15021247-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	U		0.67	5.0	mg/L	1	2/27/2015 22:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP8-0004-0225 (KP8A)
Collection Date: 2/25/2015 11:35 AM

Work Order: 15021247
Lab ID: 15021247-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**1,600**		**18**	**24**	**mg/Kg-dry**	5	3/2/2015 13:32
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**13**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP8-0408-0225 (KP8B)
Collection Date: 2/25/2015 11:40 AM

Work Order: 15021247
Lab ID: 15021247-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.2	5.7	mg/Kg-dry	1	2/28/2015 02:22
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**18**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP8-0812-0225 (KP8C)
Collection Date: 2/25/2015 11:45 AM

Work Order: 15021247
Lab ID: 15021247-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.1	5.5	mg/Kg-dry	1	2/28/2015 02:34
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP9-0004-0225 (KP9A)
Collection Date: 2/25/2015 09:30 AM

Work Order: 15021247
Lab ID: 15021247-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**760**		**4.4**	**5.9**	**mg/Kg-dry**	1	2/28/2015 02:47
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP9-0408-0225 (KP9B)
Collection Date: 2/25/2015 09:35 AM

Work Order: 15021247
Lab ID: 15021247-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**4,600**		**39**	**52**	**mg/Kg-dry**	10	3/2/2015 13:45
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**15**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP9-0812-0225 (KP9C)
Collection Date: 2/25/2015 09:40 AM

Work Order: 15021247
Lab ID: 15021247-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.0	5.4	mg/Kg-dry	1	3/2/2015 11:23
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP6-0004-0225 (KP6A)
Collection Date: 2/25/2015 03:25 PM

Work Order: 15021247
Lab ID: 15021247-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**320**		**4.4**	**5.9**	**mg/Kg-dry**	1	2/28/2015 03:26
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP6-0408-0225 (KP6B)
Collection Date: 2/25/2015 03:30 PM

Work Order: 15021247
Lab ID: 15021247-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**66**		**4.4**	**5.9**	**mg/Kg-dry**	1	2/28/2015 03:39
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**18**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SS-04-0225
Collection Date: 2/25/2015 11:50 AM

Work Order: 15021247
Lab ID: 15021247-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**49,000**		**380**	**510**	**mg/Kg-dry**	100	3/2/2015 13:58
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**11**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP5-0004-0225 (KP5A)
Collection Date: 2/25/2015 02:00 PM

Work Order: 15021247
Lab ID: 15021247-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**32**		**4.0**	**5.3**	**mg/Kg-dry**	1	3/2/2015 11:36
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP5-0408-0225 (KP5B)
Collection Date: 2/25/2015 02:05 PM

Work Order: 15021247
Lab ID: 15021247-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**22**		**4.0**	**5.3**	**mg/Kg-dry**	1	3/2/2015 12:40
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP5-0812-0225 (KP5C)
Collection Date: 2/25/2015 02:10 PM

Work Order: 15021247
Lab ID: 15021247-13
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**9.9**		**4.1**	**5.4**	**mg/Kg-dry**	1	3/2/2015 12:53
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP11-0004-0225 (KP11A)
Collection Date: 2/25/2015 12:35 PM

Work Order: 15021247
Lab ID: 15021247-14
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**300**		**3.9**	**5.2**	**mg/Kg-dry**	1	2/28/2015 05:35
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP11-0408-0225 (KP11B)
Collection Date: 2/25/2015 12:40 PM

Work Order: 15021247
Lab ID: 15021247-15
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.3	5.8	mg/Kg-dry	1	3/2/2015 13:06
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP11-0812-0225 (KP11C)
Collection Date: 2/25/2015 12:45 PM

Work Order: 15021247
Lab ID: 15021247-16
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.4	5.9	mg/Kg-dry	1	3/2/2015 13:19
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	2/27/2015 15:33

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP9-GW-0225
Collection Date: 2/25/2015 03:00 PM

Work Order: 15021247
Lab ID: 15021247-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**180**		**0.67**	**5.0**	**mg/L**	1	2/27/2015 22:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-01-0225
Collection Date: 2/25/2015 01:55 PM

Work Order: 15021247
Lab ID: 15021247-18
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	U		0.67	5.0	mg/L	1	3/2/2015 11:10

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: MW-10-0225
Collection Date: 2/25/2015 12:02 PM

Work Order: 15021247
Lab ID: 15021247-19
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**5,600**		**34**	**250**	**mg/L**	50	2/27/2015 23:21

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *02-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP5-GW-0226
Collection Date: 2/26/2015 09:50 AM

Work Order: 15021247
Lab ID: 15021247-20
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**200**		**0.67**	**5.0**	**mg/L**	1	2/27/2015 23:34

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 02-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
WorkOrder: **15021247**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 02-Mar-15

Client: Tetra Tech EM Inc.
Work Order: 15021247
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158377** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R158377-R158377** Units: **mg/Kg** Analysis Date: **2/28/2015 01:04 AM**
Client ID: Run ID: **GC11_150227A** SeqNo: **3161075** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

MBLK Sample ID: **MB-R158377-R158377** Units: **mg/L** Analysis Date: **2/27/2015 10:17 PM**
Client ID: Run ID: **GC11_150227A** SeqNo: **3161098** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R158377-R158377** Units: **mg/Kg** Analysis Date: **2/27/2015 11:47 PM**
Client ID: Run ID: **GC11_150227A** SeqNo: **3161076** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	514.8	5.0	500	0	103	50-150	0			

LCS Sample ID: **LCS-R158377-R158377** Units: **mg/L** Analysis Date: **2/27/2015 08:59 PM**
Client ID: Run ID: **GC11_150227A** SeqNo: **3161099** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	500.8	5.0	500	0	100	50-150	0			

MS Sample ID: **15021247-01A MS** Units: **mg/L** Analysis Date: **2/27/2015 09:12 PM**
Client ID: **OA-SW-02-0225** Run ID: **GC11_150227A** SeqNo: **3161106** Prep Date: **2/27/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	998.5	10	1000	0	99.8	50-150	0			

MSD Sample ID: **15021247-01A MSD** Units: **mg/L** Analysis Date: **2/27/2015 09:25 PM**
Client ID: **OA-SW-02-0225** Run ID: **GC11_150227A** SeqNo: **3161109** Prep Date: **2/27/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	981.8	10	1000	0	98.2	50-150	998.5	1.69	30	

The following samples were analyzed in this batch:

15021247-01A	15021247-03A	15021247-04A
15021247-05A	15021247-08A	15021247-09A
15021247-14A	15021247-17A	15021247-19A
15021247-20A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 15021247
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158394** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R158394-R158394** Units: **mg/Kg** Analysis Date: **3/2/2015 10:57 AM**
Client ID: Run ID: **GC11_150302A** SeqNo: **3161663** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R158394-R158394** Units: **mg/Kg** Analysis Date: **3/2/2015 09:40 AM**
Client ID: Run ID: **GC11_150302A** SeqNo: **3161664** Prep Date: **2/27/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	491.5	5.0	500	0	98.3	50-150	0			

MS Sample ID: **15021247-02A MS** Units: **mg/Kg** Analysis Date: **3/2/2015 09:53 AM**
Client ID: **KP8-0004-0225 (KP8A)** Run ID: **GC11_150302A** SeqNo: **3161674** Prep Date: **2/27/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	5876	42	5000	1368	90.2	50-150	0			

MSD Sample ID: **15021247-02A MSD** Units: **mg/Kg** Analysis Date: **3/2/2015 10:06 AM**
Client ID: **KP8-0004-0225 (KP8A)** Run ID: **GC11_150302A** SeqNo: **3161675** Prep Date: **2/27/2015** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	5668	42	5000	1368	86	50-150	5876	3.6	30	

The following samples were analyzed in this batch:

15021247-02A	15021247-06A	15021247-07A
15021247-10A	15021247-11A	15021247-12A
15021247-13A	15021247-15A	15021247-16A
15021247-18A		

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 15021247
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158378** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R158378** Units: **% of sample** Analysis Date: **2/27/2015 03:33 PM**

Client ID: Run ID: **MOIST_150227B** SeqNo: **3161177** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R158378** Units: **% of sample** Analysis Date: **2/27/2015 03:33 PM**

Client ID: Run ID: **MOIST_150227B** SeqNo: **3161176** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **15021247-02A DUP** Units: **% of sample** Analysis Date: **2/27/2015 03:33 PM**

Client ID: **KP8-0004-0225 (KP8A)** Run ID: **MOIST_150227B** SeqNo: **3161139** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.18	0.050	0	0	0		12.96	1.68	20	

DUP Sample ID: **15021247-12A DUP** Units: **% of sample** Analysis Date: **2/27/2015 03:33 PM**

Client ID: **KP5-0408-0225 (KP5B)** Run ID: **MOIST_150227B** SeqNo: **3161165** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	17.82	0.050	0	0	0		17.24	3.31	20	

The following samples were analyzed in this batch:

15021247-02A	15021247-03A	15021247-04A
15021247-05A	15021247-06A	15021247-07A
15021247-08A	15021247-09A	15021247-10A
15021247-11A	15021247-12A	15021247-13A
15021247-14A	15021247-15A	15021247-16A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Chain of Custody Form

Page 1 of 2

COC ID: 123456

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ALS Project Manager: | Work Order #: 1502247

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	Method 8015
Work Order		Project Number	103X9028000150502007	B	
Company Name	Tetra Tech	Bill To Company	Tetra Tech Inc.	C	
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	
Address	1 S. Wacker Dr	Address	1 S. Wacker Dr	E	
				F	
City/State/Zip	Chicago/IL/60606	City/State/Zip	Chicago/IL/60606	G	
Phone	708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-SW-02-0225	02-25-15	1400	Water	8	1	X										
2	KP8-0004-0225 (KP8A)	02-25-15	1135	Soil	8	1	X										
3	KP8-0408-0225 (KP8B)	↓	1140	↓	8	1	X										
4	KP8-0812-0225 (KP8C)		1145		8	1	X										
5	KP9-0004-0225 (KP9A)		0930	Soil	↓	↓	X										
6	KP9-0408-0225 (KP9B)		0935	↓			X										
7	KP9-0812-0225 (KP9C)		0940				X										
8	KP6-0004-0225 (KP6A)		1525	Soil	8	1	X										
9	KP6-0408-0225 (KP6B)		1530	↓	8	1	X										
10	OA-SS-04-0225		1150	Soil	8	1	X										

Sampler(s): Please Print & Sign: Cordell Renner

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	02-26	1100	
Relinquished by:	02-27-15	1245	Received by (Laboratory):
Logged by (Laboratory): KLO	2/27/15	1350	Checked by (Laboratory):

Notes: Please CC. Cordell.Renner@tetratech.com on reports

Cooler Temp. 4.8°C

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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Chain of Custody Form

Page 2 of 2

COC ID: 123456

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ALS Project Manager: | Work Order #: 1502125 7

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	Method 8015
Work Order		Project Number	103X902v0001505502007	B	
Company Name	Tetra Tech	Bill To Company	Tetra Tech Inc	C	
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	
Address	15 Wacker Dr	Address	15 Wacker Dr	E	
				F	
City/State/Zip	Chicago/IL/60606	City/State/Zip	Chicago/IL/60606	G	
Phone	708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
11	KP5-0004-0225 (KP5A)	2-25-15	1400	Soil	8	1	X										
12	KP5-0408-0225 (KP5B)	↓	1405	↓	↓	↓	X										
13	KP5-0812-0225 (KP5C)		1410				X										
14	KP11-0004-0225 (KP11A)		1235				X										
15	KP11-0408-0225 (KP11B)		1240				X										
16	KP11-0812-0225 (KP11C)		1245	↓			X										
17	KP9-GW-0225	↓	1500	Water			X										
18	OA-SW-01-0225	2-25-15	1355	↓	↓	↓	X										
19	MW-10-0225	2-25-15	1202	↓	↓	↓	X										
20	KP5-GW-0226	2-26-15	0950	Water	8	1	X										

Sampler(s): Please Print & Sign: Cordell Renner

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☒ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	2-26-15	1100	
Relinquished by:	Date: 2-27-15	Time: 1245	Received by (Laboratory):
Logged by (Laboratory): Ke	Date: 2/27/15	Time: 1350	Checked by (Laboratory):

Notes: Please CC. Cordell.Renner@tetratech.com on reports

Cooler Temp. 4.8°C

QC Package: (Check Box Below)
- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **27-Feb-15 12:45**

Work Order: **15021247** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 27-Feb-15 (Date) Reviewed by: Joseph Ribar (eSignature) 27-Feb-15 (Date)

Matrices: Soil & Water

Carrier name: ALSHN

	Yes	No	Not Present
Shipping container/cooler in good condition?	☑	☐	☐
Custody seals intact on shipping container/cooler?	☐	☐	☑
Custody seals intact on sample bottles?	☐	☐	☑
Chain of custody present?	☑	☐	
Chain of custody signed when relinquished and received?	☑	☐	
Chain of custody agrees with sample labels?	☑	☐	
Samples in proper container/bottle?	☑	☐	
Sample containers intact?	☑	☐	
Sufficient sample volume for indicated test?	☑	☐	
All samples received within holding time?	☑	☐	
Container/Temp Blank temperature in compliance?	☑	☐	
Sample(s) received on ice?	☑	☐	

Temperature(s)/Thermometer(s): 4.8 C SR2

Cooler(s)/Kit(s):

Date/Time sample(s) sent to storage: 2/27/2015 2:11:20 PM

	Yes	No		
Water - VOA vials have zero headspace?	☐	☐	No VOA vials submitted	☑
Water - pH acceptable upon receipt?	☑	☐	N/A	☐
pH adjusted?	☐	☑	N/A	☐

pH adjusted by: -

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

09-Mar-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X90260001S051502007** Work Order: **1503378**

Dear Matt,

ALS Environmental received 17 samples on 07-Mar-2015 01:00 PM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 25.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 09-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: **1503378**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1503378-01	KP-1A-001-0306-Split	Soil		3/6/2015 11:00	3/7/2015 13:00	☐
1503378-02	KP-2A-0004-0306-Split	Soil		3/6/2015 11:10	3/7/2015 13:00	☐
1503378-03	KP-2B-0607-0306-Split	Soil		3/6/2015 11:30	3/7/2015 13:00	☐
1503378-04	KP-3A-0001-0306-Split	Soil		3/6/2015 11:50	3/7/2015 13:00	☐
1503378-05	KP-4A-0001-0306-Split	Soil		3/6/2015 12:01	3/7/2015 13:00	☐
1503378-06	KP-12A-0001-0306-Split	Soil		3/6/2015 09:22	3/7/2015 13:00	☐
1503378-07	KP-12B-0607-0306-Split	Soil		3/6/2015 09:25	3/7/2015 13:00	☐
1503378-08	KP-12C-1415-0306-Split	Soil		3/6/2015 09:31	3/7/2015 13:00	☐
1503378-09	KP-13A-0001-0306-Split	Soil		3/6/2015 09:42	3/7/2015 13:00	☐
1503378-10	KP-13B-0809-0306-Split	Soil		3/6/2015 09:46	3/7/2015 13:00	☐
1503378-11	KP-13C-1415-0306-Split	Soil		3/6/2015 09:55	3/7/2015 13:00	☐
1503378-12	KP-7A-0001-0306-Split	Soil		3/6/2015 08:31	3/7/2015 13:00	☐
1503378-13	KP-7B-0607-0306-Split	Soil		3/6/2015 08:33	3/7/2015 13:00	☐
1503378-14	KP-7C-1415-0306-Split	Soil		3/6/2015 08:41	3/7/2015 13:00	☐
1503378-15	KP-10A-0001-0306-Split	Soil		3/6/2015 09:00	3/7/2015 13:00	☐
1503378-16	KP-10B-0607-0306-Split	Soil		3/6/2015 09:02	3/7/2015 13:00	☐
1503378-17	KP-10C-1415-0306-Split	Soil		3/6/2015 09:10	3/7/2015 13:00	☐

ALS Group USA, Corp

Date: 09-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: 1503378

Case Narrative

Samples for the above noted Work Order were received on 03/07/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, sample condition, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously documented in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Detail as to the associated samples can be found at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, acronyms, and units utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Organics
No deviations or anomalies noted.

Wet Chemistry
No deviations or anomalies noted.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-1A-001-0306-Split
Collection Date: 3/6/2015 11:00 AM

Work Order: 1503378
Lab ID: 1503378-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**7,300**		**220**	**300**	**mg/Kg-dry**	50	3/9/2015 13:56
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-2A-0004-0306-Split
Collection Date: 3/6/2015 11:10 AM

Work Order: 1503378
Lab ID: 1503378-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**22,000**		**450**	**600**	**mg/Kg-dry**	100	3/9/2015 14:14
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-2B-0607-0306-Split
Collection Date: 3/6/2015 11:30 AM

Work Order: 1503378
Lab ID: 1503378-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.1	5.5	mg/Kg-dry	1	3/9/2015 11:57
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-3A-0001-0306-Split
Collection Date: 3/6/2015 11:50 AM

Work Order: 1503378
Lab ID: 1503378-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.6	6.2	mg/Kg-dry	1	3/9/2015 12:06
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-4A-0001-0306-Split
Collection Date: 3/6/2015 12:01 PM

Work Order: 1503378
Lab ID: 1503378-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.3	5.8	mg/Kg-dry	1	3/9/2015 12:15
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**22**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-12A-0001-0306-Split
Collection Date: 3/6/2015 09:22 AM

Work Order: 1503378
Lab ID: 1503378-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**3,200**		**81**	**110**	**mg/Kg-dry**	20	3/9/2015 14:50
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**21**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-12B-0607-0306-Split
Collection Date: 3/6/2015 09:25 AM

Work Order: 1503378
Lab ID: 1503378-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**12**		**4.5**	**6.0**	**mg/Kg-dry**	1	3/9/2015 12:24
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-12C-1415-0306-Split
Collection Date: 3/6/2015 09:31 AM

Work Order: 1503378
Lab ID: 1503378-08
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		3.9	5.2	mg/Kg-dry	1	3/9/2015 12:33
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**17**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-13A-0001-0306-Split
Collection Date: 3/6/2015 09:42 AM

Work Order: 1503378
Lab ID: 1503378-09
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**14,000**		**380**	**510**	**mg/Kg-dry**	100	3/9/2015 14:59
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-13B-0809-0306-Split
Collection Date: 3/6/2015 09:46 AM

Work Order: 1503378
Lab ID: 1503378-10
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.3	5.7	mg/Kg-dry	1	3/9/2015 13:10
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**18**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-13C-1415-0306-Split
Collection Date: 3/6/2015 09:55 AM

Work Order: 1503378
Lab ID: 1503378-11
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.2	5.6	mg/Kg-dry	1	3/9/2015 13:19
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-7A-0001-0306-Split
Collection Date: 3/6/2015 08:31 AM

Work Order: 1503378
Lab ID: 1503378-12
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**3,000**		**40**	**54**	**mg/Kg-dry**	10	3/9/2015 15:08
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**12**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-7B-0607-0306-Split
Collection Date: 3/6/2015 08:33 AM

Work Order: 1503378
Lab ID: 1503378-13
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**72**		**3.8**	**5.1**	**mg/Kg-dry**	1	3/9/2015 13:28
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**18**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-7C-1415-0306-Split
Collection Date: 3/6/2015 08:41 AM

Work Order: 1503378
Lab ID: 1503378-14
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.1	5.5	mg/Kg-dry	1	3/9/2015 13:38
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-10A-0001-0306-Split
Collection Date: 3/6/2015 09:00 AM

Work Order: 1503378
Lab ID: 1503378-15
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**3,200**		**44**	**59**	**mg/Kg-dry**	10	3/9/2015 15:17
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**18**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-10B-0607-0306-Split
Collection Date: 3/6/2015 09:02 AM

Work Order: 1503378
Lab ID: 1503378-16
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	**340**		**4.4**	**5.9**	**mg/Kg-dry**	1	3/9/2015 14:05
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**19**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *09-Mar-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: KP-10C-1415-0306-Split
Collection Date: 3/6/2015 09:10 AM

Work Order: 1503378
Lab ID: 1503378-17
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method:	**SW8015M**				Analyst: **KYM**
Ethylene glycol	U		4.2	5.6	mg/Kg-dry	1	3/9/2015 13:46
MOISTURE		Method:	**E160.3M**				Analyst: **EVB**
Moisture	**16**		**0.025**	**0.050**	**% of sample**	1	3/9/2015 10:30

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 09-Mar-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
WorkOrder: **1503378**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
% of sample	Percent of Sample
mg/Kg-dry	Milligrams per Kilogram Dry Weight

ALS Group USA, Corp

Date: 09-Mar-15

Client: Tetra Tech EM Inc.
Work Order: 1503378
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158767** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R158767-R158767** Units: **mg/Kg** Analysis Date: **3/9/2015 11:48 AM**
Client ID: Run ID: **GC11_150309A** SeqNo: **3169565** Prep Date: **3/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R158767-R158767** Units: **mg/Kg** Analysis Date: **3/9/2015 11:12 AM**
Client ID: Run ID: **GC11_150309A** SeqNo: **3169566** Prep Date: **3/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	425.5	5.0	500	0	85.1	50-150		0		

MS Sample ID: **1503378-03A MS** Units: **mg/Kg** Analysis Date: **3/9/2015 11:21 AM**
Client ID: **KP-2B-0607-0306-Split** Run ID: **GC11_150309A** SeqNo: **3169585** Prep Date: **3/8/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	723.4	9.0	1000	0	72.3	50-150		0		

MSD Sample ID: **1503378-03A MSD** Units: **mg/Kg** Analysis Date: **3/9/2015 11:30 AM**
Client ID: **KP-2B-0607-0306-Split** Run ID: **GC11_150309A** SeqNo: **3169586** Prep Date: **3/8/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	712.6	9.0	1000	0	71.3	50-150	723.4	1.5	30	

The following samples were analyzed in this batch:

1503378-01A	1503378-02A	1503378-03A
1503378-04A	1503378-05A	1503378-06A
1503378-07A	1503378-08A	1503378-09A
1503378-10A	1503378-11A	1503378-12A
1503378-13A	1503378-14A	1503378-15A
1503378-16A	1503378-17A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1503378
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R158797** Instrument ID **MOIST** Method: **E160.3M**

MBLK Sample ID: **WBLKS-R158797** Units: **% of sample** Analysis Date: **3/9/2015 10:30 AM**
Client ID: Run ID: **MOIST_150309A** SeqNo: **3170064** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	U	0.050								

LCS Sample ID: **LCS-R158797** Units: **% of sample** Analysis Date: **3/9/2015 10:30 AM**
Client ID: Run ID: **MOIST_150309A** SeqNo: **3170063** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	100	0.050	100	0	100	99.5-100.5	0			

DUP Sample ID: **1503378-01A DUP** Units: **% of sample** Analysis Date: **3/9/2015 10:30 AM**
Client ID: **KP-1A-001-0306-Split** Run ID: **MOIST_150309A** SeqNo: **3170045** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	16.51	0.050	0	0	0		17.07	3.34	20	

DUP Sample ID: **1503378-11A DUP** Units: **% of sample** Analysis Date: **3/9/2015 10:30 AM**
Client ID: **KP-13C-1415-0306-Split** Run ID: **MOIST_150309A** SeqNo: **3170056** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	13.86	0.050	0	0	0		12.09	13.6	20	

The following samples were analyzed in this batch:

1503378-01A	1503378-02A	1503378-03A
1503378-04A	1503378-05A	1503378-06A
1503378-07A	1503378-08A	1503378-09A
1503378-10A	1503378-11A	1503378-12A
1503378-13A	1503378-14A	1503378-15A
1503378-16A	1503378-17A	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

1503378

STAT ~~Analysis Corporation~~ ALS
2242 W. Harrison Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATInfo@STATAnalysis.com AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

№: 860663 Page: 1 of 1

Company: Tetra Tech
Project Number: 103X902600015050 2007 Client Tracking No.:
Project Name: Olympic Antifreeze
Project Location: Cicero, IL
Sampler(s):
Report To: Cordell Renner Phone: 312 756 6001
matt villicana Fax: matt.villicana@tetratech.com
QC Level: 1 2 3 4 X e-mail: cordell.renner@tetratech.com

P.O. No.:
Quote No.:
Turn Around:
Results Needed: / / am/pm

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Method 405	Remarks	Lab No.:
KP-1A-0001-0306-Split	3-6-15	1100	SL		X	A.	1	X		
KP-2A-0004-0306-Split		1110		X				X		
KP-2B-0607-0306-Split		1130			X			X		
KP-3A-0001-0306-Split		1150						X		
KP-4A-0001-0306-Split		1201						X		
KP-12A-0001-0306-Split		0922						X		
KP-12B-0607-0306-Split		0925						X		
KP-12C-1415-0306-Split		0931						X		
KP-13A-0001-0306-Split		0942						X		
KP-13B-0809-0306-Split		0946						X		
KP-13C-1415-0306-Split		0955						X		
KP-7A-0001-0306-Split		0831						X		
KP-7B-0607-0306-Split		0833						X		
KP-7C-1415-0306-Split		0841						X		
KP-10A-0001-0306-Split		0900						X		
KP-10B-0607-0306-Split		0902						X		
KP-10C-1415-0306-Split		0910						X		

Relinquished by: (Signature)	Lance Summers	Date/Time: 3-6-15 1300
Received by: (Signature)	ALS	Date/Time: 3/7/15 1300
Relinquished by: (Signature)		Date/Time:
Received by: (Signature)		Date/Time:
Relinquished by: (Signature)		Date/Time:
Received by: (Signature)		Date/Time:

Comments: 2.4°C

Preservation Code: A = None B = HNO_3 C = NaOH D = H_2SO_4 E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.:

Received on Ice: Yes ☐ No ☐

Temperature: °C

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **07-Mar-15 13:00**

Work Order: **1503378** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 07-Mar-15 (Date) Reviewed by: Joseph Ribar (eSignature) 09-Mar-15 (Date)

Matrices: Soil
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.4 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	3/7/2015 1:16:52 PM		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

10-Apr-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X90260001S051502007** Work Order: **1504323**

Dear Matt,

ALS Environmental received 1 sample on 07-Apr-2015 09:45 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 20.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: MN 532786

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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ALS Group USA, Corp

Date: 10-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: **1504323**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1504323-01	OA-SW-04032015	Water		4/3/2015 10:00	4/7/2015 09:45	☐

ALS Group USA, Corp

Date: 10-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: 1504323

Case Narrative

Samples for the above noted Work Order were received on 04/07/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Extractable Organics :
Batch 69561, Method 8270, Sample 1504323-01C: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

Batch 69561, Method 8270, Sample SLCSW1-69561: The LCS recovery was above the upper control limit. All sample results in the batch were non-detect. No qualification is necessary for this analyte: Benzaldehyde

GC Organics:
No other deviations or anomalies were noted.

ALS Group USA, Corp

Date: *10-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04032015
Collection Date: 4/3/2015 10:00 AM

Work Order: 1504323
Lab ID: 1504323-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**14,000**		**13**	**100**	**mg/L**	20	4/7/2015 19:36
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 4/8/15		Analyst: **RM**
1,1`-Biphenyl	U		8.8	200	µg/L	40	4/9/2015 15:08
1,2,4,5-Tetrachlorobenzene	U		100	400	µg/L	40	4/9/2015 15:08
2,3,4,6-Tetrachlorophenol	U		9.6	200	µg/L	40	4/9/2015 15:08
2,4,5-Trichlorophenol	U		12	200	µg/L	40	4/9/2015 15:08
2,4,6-Trichlorophenol	U		10	200	µg/L	40	4/9/2015 15:08
2,4-Dichlorophenol	U		6.8	200	µg/L	40	4/9/2015 15:08
2,4-Dimethylphenol	**480**		**7.2**	**200**	**µg/L**	40	4/9/2015 15:08
2,4-Dinitrophenol	U		59	200	µg/L	40	4/9/2015 15:08
2,4-Dinitrotoluene	U		5.6	200	µg/L	40	4/9/2015 15:08
2,6-Dinitrotoluene	U		8.0	200	µg/L	40	4/9/2015 15:08
2-Chloronaphthalene	U		1.2	200	µg/L	40	4/9/2015 15:08
2-Chlorophenol	U		12	200	µg/L	40	4/9/2015 15:08
2-Methylnaphthalene	**18**	J	**4.0**	**200**	**µg/L**	40	4/9/2015 15:08
2-Methylphenol	U		5.6	200	µg/L	40	4/9/2015 15:08
2-Nitroaniline	U		9.6	200	µg/L	40	4/9/2015 15:08
2-Nitrophenol	U		11	200	µg/L	40	4/9/2015 15:08
3&4-Methylphenol	**47**	J	**9.6**	**200**	**µg/L**	40	4/9/2015 15:08
3,3´-Dichlorobenzidine	U		28	200	µg/L	40	4/9/2015 15:08
3-Nitroaniline	U		9.6	200	µg/L	40	4/9/2015 15:08
4,6-Dinitro-2-methylphenol	U		4.8	200	µg/L	40	4/9/2015 15:08
4-Bromophenyl phenyl ether	U		12	200	µg/L	40	4/9/2015 15:08
4-Chloro-3-methylphenol	U		6.4	200	µg/L	40	4/9/2015 15:08
4-Chloroaniline	U		8.8	200	µg/L	40	4/9/2015 15:08
4-Chlorophenyl phenyl ether	U		8.0	200	µg/L	40	4/9/2015 15:08
4-Nitroaniline	U		5.2	200	µg/L	40	4/9/2015 15:08
4-Nitrophenol	U		25	200	µg/L	40	4/9/2015 15:08
Acenaphthene	U		1.6	200	µg/L	40	4/9/2015 15:08
Acenaphthylene	U		1.6	200	µg/L	40	4/9/2015 15:08
Acetophenone	U		15	40	µg/L	40	4/9/2015 15:08
Anthracene	U		1.1	200	µg/L	40	4/9/2015 15:08
Atrazine	U		6.4	40	µg/L	40	4/9/2015 15:08
Benzaldehyde	U		10	40	µg/L	40	4/9/2015 15:08
Benzo(a)anthracene	U		2.9	200	µg/L	40	4/9/2015 15:08
Benzo(a)pyrene	U		1.4	200	µg/L	40	4/9/2015 15:08
Benzo(b)fluoranthene	U		1.7	200	µg/L	40	4/9/2015 15:08
Benzo(g,h,i)perylene	U		2.8	200	µg/L	40	4/9/2015 15:08

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *10-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04032015
Collection Date: 4/3/2015 10:00 AM

Work Order: 1504323
Lab ID: 1504323-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzo(k)fluoranthene	U		2.5	200	µg/L	40	4/9/2015 15:08
Bis(2-chloroethoxy)methane	U		9.2	200	µg/L	40	4/9/2015 15:08
Bis(2-chloroethyl)ether	**76**	J	**6.4**	**200**	**µg/L**	40	4/9/2015 15:08
Bis(2-ethylhexyl)phthalate	U		7.2	200	µg/L	40	4/9/2015 15:08
Butyl benzyl phthalate	U		4.8	200	µg/L	40	4/9/2015 15:08
Caprolactam	U		38	400	µg/L	40	4/9/2015 15:08
Carbazole	U		4.8	200	µg/L	40	4/9/2015 15:08
Chrysene	U		1.7	200	µg/L	40	4/9/2015 15:08
Dibenzo(a,h)anthracene	U		3.0	200	µg/L	40	4/9/2015 15:08
Dibenzofuran	U		9.2	200	µg/L	40	4/9/2015 15:08
Diethyl phthalate	U		6.8	200	µg/L	40	4/9/2015 15:08
Dimethyl phthalate	U		6.0	200	µg/L	40	4/9/2015 15:08
Di-n-butyl phthalate	U		6.0	200	µg/L	40	4/9/2015 15:08
Di-n-octyl phthalate	U		6.0	200	µg/L	40	4/9/2015 15:08
Fluoranthene	U		1.9	200	µg/L	40	4/9/2015 15:08
Fluorene	U		1.4	200	µg/L	40	4/9/2015 15:08
Hexachlorobenzene	U		9.2	200	µg/L	40	4/9/2015 15:08
Hexachlorobutadiene	U		15	200	µg/L	40	4/9/2015 15:08
Hexachlorocyclopentadiene	U		7.2	200	µg/L	40	4/9/2015 15:08
Hexachloroethane	U		19	200	µg/L	40	4/9/2015 15:08
Indeno(1,2,3-cd)pyrene	U		2.6	200	µg/L	40	4/9/2015 15:08
Isophorone	U		10	200	µg/L	40	4/9/2015 15:08
Naphthalene	**60**	J	**2.0**	**200**	**µg/L**	40	4/9/2015 15:08
Nitrobenzene	U		9.2	200	µg/L	40	4/9/2015 15:08
N-Nitrosodi-n-propylamine	U		9.6	200	µg/L	40	4/9/2015 15:08
N-Nitrosodiphenylamine	U		9.6	200	µg/L	40	4/9/2015 15:08
Pentachlorophenol	U		21	200	µg/L	40	4/9/2015 15:08
Phenanthrene	U		2.2	200	µg/L	40	4/9/2015 15:08
Phenol	U		5.2	200	µg/L	40	4/9/2015 15:08
Pyrene	U		2.8	200	µg/L	40	4/9/2015 15:08
Surr: 2,4,6-Tribromophenol	*75.2*			*38-115*	*%REC*	40	4/9/2015 15:08
Surr: 2-Fluorobiphenyl	*68.8*			*32-100*	*%REC*	40	4/9/2015 15:08
Surr: 2-Fluorophenol	*40.0*			*22-59*	*%REC*	40	4/9/2015 15:08
Surr: 4-Terphenyl-d14	*89.6*			*23-112*	*%REC*	40	4/9/2015 15:08
Surr: Nitrobenzene-d5	*76.8*			*31-93*	*%REC*	40	4/9/2015 15:08
Surr: Phenol-d6	*28.8*			*13-36*	*%REC*	40	4/9/2015 15:08
VOLATILE ORGANIC COMPOUNDS		Method:	**SW8260**				Analyst: **LSY**
1,1,1-Trichloroethane	**88**		**0.19**	**1.0**	**µg/L**	1	4/9/2015 12:19
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	4/9/2015 12:19

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *10-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04032015
Collection Date: 4/3/2015 10:00 AM

Work Order: 1504323
Lab ID: 1504323-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	4/9/2015 12:19
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	4/9/2015 12:19
1,1-Dichloroethane	**100**		**4.3**	**20**	**µg/L**	20	4/9/2015 13:57
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	4/9/2015 12:19
1,2,3-Trichlorobenzene	U		0.30	1.0	µg/L	1	4/9/2015 12:19
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	4/9/2015 12:19
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	4/9/2015 12:19
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	4/9/2015 12:19
1,2-Dichlorobenzene	**6.2**		**0.22**	**1.0**	**µg/L**	1	4/9/2015 12:19
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	4/9/2015 12:19
1,2-Dichloropropane	**23**		**0.26**	**1.0**	**µg/L**	1	4/9/2015 12:19
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	4/9/2015 12:19
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	4/9/2015 12:19
1,4-Dioxane	U		36	100	µg/L	1	4/9/2015 12:19
2-Butanone	**69**		**0.87**	**5.0**	**µg/L**	1	4/9/2015 12:19
2-Hexanone	**3.9**	J	**0.15**	**5.0**	**µg/L**	1	4/9/2015 12:19
4-Methyl-2-pentanone	**32**		**0.15**	**1.0**	**µg/L**	1	4/9/2015 12:19
Acetone	**760**		**62**	**200**	**µg/L**	20	4/9/2015 13:57
Benzene	**6.9**		**0.25**	**1.0**	**µg/L**	1	4/9/2015 12:19
Bromochloromethane	U		0.24	1.0	µg/L	1	4/9/2015 12:19
Bromodichloromethane	U		0.16	1.0	µg/L	1	4/9/2015 12:19
Bromoform	U		0.099	1.0	µg/L	1	4/9/2015 12:19
Bromomethane	U		1.0	1.0	µg/L	1	4/9/2015 12:19
Carbon disulfide	**1.2**		**0.26**	**1.0**	**µg/L**	1	4/9/2015 12:19
Carbon tetrachloride	U		0.14	1.0	µg/L	1	4/9/2015 12:19
Chlorobenzene	**11**		**0.19**	**1.0**	**µg/L**	1	4/9/2015 12:19
Chloroethane	**60**		**0.21**	**1.0**	**µg/L**	1	4/9/2015 12:19
Chloroform	U		0.25	1.0	µg/L	1	4/9/2015 12:19
Chloromethane	U		0.25	1.0	µg/L	1	4/9/2015 12:19
cis-1,2-Dichloroethene	**27**		**0.25**	**1.0**	**µg/L**	1	4/9/2015 12:19
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	4/9/2015 12:19
Cyclohexane	U		0.31	1.0	µg/L	1	4/9/2015 12:19
Dibromochloromethane	U		0.17	1.0	µg/L	1	4/9/2015 12:19
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	4/9/2015 12:19
Ethylbenzene	**22**		**0.22**	**1.0**	**µg/L**	1	4/9/2015 12:19
Isopropylbenzene	**3.4**		**0.25**	**1.0**	**µg/L**	1	4/9/2015 12:19
m,p-Xylene	**100**		**0.40**	**2.0**	**µg/L**	1	4/9/2015 12:19
Methyl acetate	U		0.62	2.0	µg/L	1	4/9/2015 12:19
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	4/9/2015 12:19
Methylcyclohexane	U		0.32	1.0	µg/L	1	4/9/2015 12:19

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *10-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04032015
Collection Date: 4/3/2015 10:00 AM

Work Order: 1504323
Lab ID: 1504323-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylene chloride	**140**		**13**	**100**	**µg/L**	20	4/9/2015 13:57
o-Xylene	**36**		**0.21**	**1.0**	**µg/L**	1	4/9/2015 12:19
Styrene	U		0.18	1.0	µg/L	1	4/9/2015 12:19
Tetrachloroethene	**2.1**		**0.25**	**1.0**	**µg/L**	1	4/9/2015 12:19
Toluene	**81**		**0.20**	**1.0**	**µg/L**	1	4/9/2015 12:19
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	4/9/2015 12:19
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	4/9/2015 12:19
Trichloroethene	**4.4**		**0.34**	**1.0**	**µg/L**	1	4/9/2015 12:19
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	4/9/2015 12:19
Vinyl chloride	**3.9**		**0.19**	**1.0**	**µg/L**	1	4/9/2015 12:19
Surr: 1,2-Dichloroethane-d4	*98.2*			*75-120*	*%REC*	1	4/9/2015 12:19
Surr: 1,2-Dichloroethane-d4	*103*			*75-120*	*%REC*	20	4/9/2015 13:57
Surr: 4-Bromofluorobenzene	*101*			*80-110*	*%REC*	1	4/9/2015 12:19
Surr: 4-Bromofluorobenzene	*103*			*80-110*	*%REC*	20	4/9/2015 13:57
Surr: Dibromofluoromethane	*95.8*			*85-115*	*%REC*	1	4/9/2015 12:19
Surr: Dibromofluoromethane	*92.8*			*85-115*	*%REC*	20	4/9/2015 13:57
Surr: Toluene-d8	*97.4*			*85-110*	*%REC*	1	4/9/2015 12:19
Surr: Toluene-d8	*99.6*			*85-110*	*%REC*	20	4/9/2015 13:57

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 10-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
WorkOrder: **1504323**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 10-Apr-15

Client: Tetra Tech EM Inc.

Work Order: 1504323

Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R160883** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R160883-R160883** Units: **mg/L** Analysis Date: **4/7/2015 07:18 PM**

Client ID: Run ID: **GC11_150407A** SeqNo: **3217529** Prep Date: **4/7/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R160883-R160883** Units: **mg/L** Analysis Date: **4/7/2015 04:34 PM**

Client ID: Run ID: **GC11_150407A** SeqNo: **3217530** Prep Date: **4/7/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	484.5	5.0	500	0	96.9	50-150	0			

MS Sample ID: **1504323-01B MS** Units: **mg/L** Analysis Date: **4/7/2015 05:30 PM**

Client ID: **OA-SW-04032015** Run ID: **GC11_150407A** SeqNo: **3217545** Prep Date: **4/7/2015** DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	35110	200	20000	13780	107	50-150	0			

MSD Sample ID: **1504323-01B MSD** Units: **mg/L** Analysis Date: **4/7/2015 05:39 PM**

Client ID: **OA-SW-04032015** Run ID: **GC11_150407A** SeqNo: **3217552** Prep Date: **4/7/2015** DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	34940	200	20000	13780	106	50-150	35110	0.499	30	

The following samples were analyzed in this batch: 1504323-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69561** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK	Sample ID: **SBLKW1-69561-69561**	Units: **µg/L**	Analysis Date: **4/9/2015 12:26 PM**
Client ID:	Run ID: **SVMS8_150409A**	SeqNo: **3218495** Prep Date: **4/8/2015**	DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	5.0								
1,2,4,5-Tetrachlorobenzene	U	10								
2,3,4,6-Tetrachlorophenol	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	5.0								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	5.0								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	5.0								
4,6-Dinitro-2-methylphenol	U	5.0								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	5.0								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	5.0								
4-Nitrophenol	U	5.0								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **69561** Instrument ID **SVMS8** Method: **SW846 8270D**

Carbazole	U	5.0					
Chrysene	U	5.0					
Dibenzo(a,h)anthracene	U	5.0					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	5.0					
Dimethyl phthalate	U	5.0					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	5.0					
Fluorene	U	5.0					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	5.0					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	5.0					
Isophorone	U	5.0					
Naphthalene	U	5.0					
Nitrobenzene	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
Pentachlorophenol	U	5.0					
Phenanthrene	U	5.0					
Phenol	U	5.0					
Pyrene	U	5.0					
Surr: 2,4,6-Tribromophenol	*36.5*	0	*50*	0	*73*	*38-115*	0
Surr: 2-Fluorobiphenyl	*33.8*	0	*50*	0	*67.6*	*32-100*	0
Surr: 2-Fluorophenol	*22.52*	0	*50*	0	*45*	*22-59*	0
Surr: 4-Terphenyl-d14	*55.65*	0	*50*	0	*111*	*23-112*	0
Surr: Nitrobenzene-d5	*37.28*	0	*50*	0	*74.6*	*31-93*	0
Surr: Phenol-d6	*15.27*	0	*50*	0	*30.5*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69561** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-69561-69561** Units: **µg/L** Analysis Date: **4/9/2015 12:46 PM**

Client ID: Run ID: **SVMS8_150409A** SeqNo: **3218496** Prep Date: **4/8/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	16.25	5.0	20	0	81.2	50-110	0			
2,4,6-Trichlorophenol	16.17	5.0	20	0	80.8	50-115	0			
2,4-Dichlorophenol	15.19	5.0	20	0	76	50-105	0			
2,4-Dimethylphenol	13.61	5.0	20	0	68	30-110	0			
2,4-Dinitrophenol	16.86	5.0	20	0	84.3	15-140	0			
2,4-Dinitrotoluene	16.35	5.0	20	0	81.8	50-120	0			
2,6-Dinitrotoluene	16.22	5.0	20	0	81.1	50-115	0			
2-Chloronaphthalene	12.95	5.0	20	0	64.8	50-105	0			
2-Chlorophenol	14.56	5.0	20	0	72.8	35-105	0			
2-Methylnaphthalene	13.12	5.0	20	0	65.6	45-105	0			
2-Methylphenol	14.01	5.0	20	0	70	40-110	0			
2-Nitroaniline	16.28	5.0	20	0	81.4	50-115	0			
2-Nitrophenol	14.97	5.0	20	0	74.8	40-115	0			
3&4-Methylphenol	13.02	5.0	20	0	65.1	30-110	0			
3-Nitroaniline	18.13	5.0	20	0	90.6	20-125	0			
4,6-Dinitro-2-methylphenol	19.31	5.0	20	0	96.6	40-130	0			
4-Bromophenyl phenyl ether	15.78	5.0	20	0	78.9	50-115	0			
4-Chloro-3-methylphenol	16.67	5.0	20	0	83.4	45-110	0			
4-Chloroaniline	16.94	5.0	20	0	84.7	15-110	0			
4-Chlorophenyl phenyl ether	14.73	5.0	20	0	73.6	50-110	0			
4-Nitroaniline	15.87	5.0	20	0	79.4	35-150	0			
4-Nitrophenol	6.73	5.0	20	0	33.6	1-58	0			
Acenaphthene	13.67	5.0	20	0	68.4	45-110	0			
Acenaphthylene	13.62	5.0	20	0	68.1	50-105	0			
Acetophenone	14.95	1.0	20	0	74.8	30-120	0			
Anthracene	15.57	5.0	20	0	77.8	55-110	0			
Atrazine	17.13	1.0	20	0	85.6	30-120	0			
Benzaldehyde	30.2	1.0	20	0	151	30-120	0			S
Benzo(a)anthracene	15.63	5.0	20	0	78.2	55-110	0			
Benzo(a)pyrene	16.4	5.0	20	0	82	55-110	0			
Benzo(b)fluoranthene	16.46	5.0	20	0	82.3	45-120	0			
Benzo(g,h,i)perylene	16.42	5.0	20	0	82.1	40-125	0			
Benzo(k)fluoranthene	16.85	5.0	20	0	84.2	45-125	0			
Bis(2-chloroethoxy)methane	14.39	5.0	20	0	72	45-105	0			
Bis(2-chloroethyl)ether	13.91	5.0	20	0	69.6	35-110	0			
Bis(2-ethylhexyl)phthalate	14.59	5.0	20	0	73	40-125	0			
Butyl benzyl phthalate	15.36	5.0	20	0	76.8	45-115	0			
Carbazole	17.01	5.0	20	0	85	50-150	0			
Chrysene	15.9	5.0	20	0	79.5	55-110	0			
Dibenzo(a,h)anthracene	16.42	5.0	20	0	82.1	40-125	0			
Dibenzofuran	14.94	5.0	20	0	74.7	55-105	0			
Diethyl phthalate	15.38	5.0	20	0	76.9	40-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69561** Instrument ID **SVMS8** Method: **SW846 8270D**

Dimethyl phthalate	15.06	5.0	20	0	75.3	25-125	0
Di-n-butyl phthalate	14.81	5.0	20	0	74	55-115	0
Di-n-octyl phthalate	15.22	5.0	20	0	76.1	35-135	0
Fluoranthene	15.49	5.0	20	0	77.4	55-115	0
Fluorene	14.66	5.0	20	0	73.3	50-110	0
Hexachlorobenzene	15.45	5.0	20	0	77.2	50-110	0
Hexachlorobutadiene	9.59	5.0	20	0	48	25-105	0
Hexachlorocyclopentadiene	8.3	5.0	20	0	41.5	25-105	0
Hexachloroethane	8.79	5.0	20	0	44	30-95	0
Indeno(1,2,3-cd)pyrene	16.18	5.0	20	0	80.9	45-125	0
Isophorone	15.09	5.0	20	0	75.4	50-110	0
Naphthalene	11.01	5.0	20	0	55	40-100	0
Nitrobenzene	14.38	5.0	20	0	71.9	45-110	0
N-Nitrosodi-n-propylamine	16.08	5.0	20	0	80.4	35-130	0
N-Nitrosodiphenylamine	16.53	5.0	20	0	82.6	50-110	0
Pentachlorophenol	13.36	5.0	20	0	66.8	40-115	0
Phenanthrene	15.91	5.0	20	0	79.6	50-115	0
Phenol	6.8	5.0	20	0	34	12-43	0
Pyrene	18.6	5.0	20	0	93	50-130	0
Surr: 2,4,6-Tribromophenol	*42.89*	0	*50*	0	*85.8*	*38-115*	0
Surr: 2-Fluorobiphenyl	*34.16*	0	*50*	0	*68.3*	*32-100*	0
Surr: 2-Fluorophenol	*21.95*	0	*50*	0	*43.9*	*22-59*	0
Surr: 4-Terphenyl-d14	*55.61*	0	*50*	0	*111*	*23-112*	0
Surr: Nitrobenzene-d5	*37.66*	0	*50*	0	*75.3*	*31-93*	0
Surr: Phenol-d6	*14.74*	0	*50*	0	*29.5*	*13-36*	0

The following samples were analyzed in this batch: 1504323-01C

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R160897A** Instrument ID **VMS8** Method: **SW8260**

MBLK Sample ID: **VBLKW1-150409-R160897A** Units: **µg/L** Analysis Date: **4/9/2015 11:55 AM**

Client ID: Run ID: **VMS8_150409A** SeqNo: **3218322** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,3-Trichlorobenzene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
1,4-Dioxane	U	120								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromochloromethane	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	1.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylcyclohexane	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R160897A** Instrument ID **VMS8** Method: **SW8260**

Methylene chloride	U	5.0					
o-Xylene	U	1.0					
Styrene	U	1.0					
Tetrachloroethene	U	1.0					
Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl chloride	U	1.0					
Surr: 1,2-Dichloroethane-d4	*20.89*	0	*20*	0	*104*	*75-120*	0
Surr: 4-Bromofluorobenzene	*19.35*	0	*20*	0	*96.8*	*80-110*	0
Surr: Dibromofluoromethane	*20.4*	0	*20*	0	*102*	*85-115*	0
Surr: Toluene-d8	*19.58*	0	*20*	0	*97.9*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R160897A** Instrument ID **VMS8** Method: **SW8260**

LCS Sample ID: **VLCSW1-150409-R160897A** Units: **µg/L** Analysis Date: **4/9/2015 09:53 AM**

Client ID: Run ID: **VMS8_150409A** SeqNo: **3218321** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.13	1.0	20	0	106	75-130	0			
1,1,2,2-Tetrachloroethane	25.6	1.0	20	0	128	75-130	0			
1,1,2-Trichloroethane	22.77	1.0	20	0	114	75-125	0			
1,1-Dichloroethane	22.87	1.0	20	0	114	75-133	0			
1,1-Dichloroethene	21.69	1.0	20	0	108	70-145	0			
1,2,3-Trichlorobenzene	27.77	1.0	20	0	139	70-140	0			
1,2,4-Trichlorobenzene	24.65	1.0	20	0	123	70-135	0			
1,2-Dibromo-3-chloropropane	22.38	1.0	20	0	112	60-130	0			
1,2-Dibromoethane	26.4	1.0	20	0	132	80-150	0			
1,2-Dichlorobenzene	22.18	1.0	20	0	111	70-130	0			
1,2-Dichloroethane	22.26	1.0	20	0	111	78-125	0			
1,2-Dichloropropane	22.45	1.0	20	0	112	75-125	0			
1,3-Dichlorobenzene	21.83	1.0	20	0	109	75-130	0			
1,4-Dichlorobenzene	22.8	1.0	20	0	114	75-130	0			
2-Butanone	22.62	5.0	20	0	113	55-150	0			
2-Hexanone	23.47	5.0	20	0	117	60-135	0			
4-Methyl-2-pentanone	27.69	1.0	20	0	138	77-178	0			
Acetone	20.97	10	20	0	105	60-160	0			
Benzene	21.28	1.0	20	0	106	85-125	0			
Bromochloromethane	24.99	1.0	20	0	125	75-130	0			
Bromodichloromethane	21.92	1.0	20	0	110	75-125	0			
Bromoform	19	1.0	20	0	95	60-125	0			
Bromomethane	19.89	1.0	20	0	99.4	30-185	0			
Carbon disulfide	22.48	1.0	20	0	112	60-165	0			
Carbon tetrachloride	18.12	1.0	20	0	90.6	65-140	0			
Chlorobenzene	21.48	1.0	20	0	107	80-120	0			
Chloroethane	19.67	1.0	20	0	98.4	50-140	0			
Chloroform	22.99	1.0	20	0	115	80-130	0			
Chloromethane	16.52	1.0	20	0	82.6	50-130	0			
cis-1,2-Dichloroethene	23.6	1.0	20	0	118	75-134	0			
cis-1,3-Dichloropropene	22.73	1.0	20	0	114	70-130	0			
Dibromochloromethane	18.46	1.0	20	0	92.3	60-115	0			
Dichlorodifluoromethane	12.99	1.0	20	0	65	20-120	0			
Ethylbenzene	21.09	1.0	20	0	105	85-125	0			
Isopropylbenzene	20.86	1.0	20	0	104	80-127	0			
m,p-Xylene	41.38	2.0	40	0	103	75-130	0			
Methyl tert-butyl ether	22.69	1.0	20	0	113	80-130	0			
Methylene chloride	24.29	5.0	20	0	121	75-140	0			
o-Xylene	20.67	1.0	20	0	103	80-125	0			
Styrene	20.55	1.0	20	0	103	85-125	0			
Tetrachloroethene	22.73	1.0	20	0	114	77-138	0			
Toluene	22.09	1.0	20	0	110	85-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504323
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R160897A** Instrument ID **VMS8** Method: **SW8260**

trans-1,2-Dichloroethene	22.81	1.0	20	0	114	80-140	0
trans-1,3-Dichloropropene	21.43	1.0	20	0	107	81-123	0
Trichloroethene	20.59	1.0	20	0	103	84-130	0
Trichlorofluoromethane	19.06	1.0	20	0	95.3	60-140	0
Vinyl chloride	19.58	1.0	20	0	97.9	50-136	0
Surr: 1,2-Dichloroethane-d4	*19.88*	0	*20*	0	*99.4*	*75-120*	0
Surr: 4-Bromofluorobenzene	*20.44*	0	*20*	0	*102*	*80-110*	0
Surr: Dibromofluoromethane	*20.24*	0	*20*	0	*101*	*85-115*	0
Surr: Toluene-d8	*20.07*	0	*20*	0	*100*	*85-110*	0

The following samples were analyzed in this batch: 1504323-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Chain of Custody Form

ALS Environmental

Page 1 of 1

COC ID: 123456

- ☐ Cincinnati, OH +1 513 733 5336
- ☒ Holland, MI +1 616 399 6070
- ☐ Salt Lake City, UT +1 801 266 7700
- ☐ Everett, WA +1 425 356 2600
- ☐ Houston, TX +1 281 530 5656
- ☐ Spring City, PA +1 610 948 4903
- ☐ Fort Collins, CO +1 970 490 1511
- ☐ Middletown, PA +1 717 944 5541
- ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1504323

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	VOC's 8260B
Work Order		Project Number	103X9026000150515020007	B	SVOC's 8270C
Company Name	Tetra Tech Inc.	Bill To Company	Tetra Tech	C	Ethylene Glycol 8015B
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	~~TPH (DRO, GRO, ERO)~~
Address	15 Wacker Dr	Address	15 Wacker Dr	E	
				F	
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL, 60606	G	
Phone	708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-SW-04032015	4-3-2015	1000	Water	HCL	5	X	X	X								
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Cordell Renner

Shipment Method: Fed Ex

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☒ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date: 4-6-2015	Time: 1000	Received by:	Notes:
Relinquished by:	Date: 04/07/15	Time: 0945	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date: 4/7/15	Time: 1045	Checked by (Laboratory):	3°C

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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ORIGIN ID:CHIA (312) 201-7700
MAILROOM
TETRA TECH INC - EMI DIVISION
1 S. WACKER DR
37TH FLOOR
CHICAGO, IL 60606
UNITED STATES US

TO SAMPLES RECEIVING
ALS ENVIRONMENTAL
3352 128TH AVE

HOLLAND MI 49424
(616) 399-6070
REF: 103X9026000 1S051502007

FedEx Express

TUE - 07 APR 10:30A

FedEx
TRK# 0201 5987 5142 7294

TUE - 07 APR 10:30A
PRIORITY OVERNIGHT

NA HLMA

49424
MI-US
GRR

FID 960252 06APR15 CHIA 522C2/8FC5/65DD

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **07-Apr-15 09:45**

Work Order: **1504323** Received by: **TBB**

Checklist completed by Joseph Ribar (eSignature) 07-Apr-15 (Date) Reviewed by: (eSignature) (Date)

Matrices: water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	3.4C	sr2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	4/7/2015 10:53:00 AM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

13-Apr-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X90260001S051502007** Work Order: **1504464**

Dear Matt,

ALS Environmental received 2 samples on 08-Apr-2015 10:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 32.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: IL: 003530

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
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RIGHT SOLUTIONS RIGHT PARTNER

ALS Group USA, Corp

Date: 13-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: **1504464**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1504464-01	OA-SW-04072015	Water		4/7/2015 14:45	4/8/2015 10:00	☐
1504464-02	OA-RW01-04072015	Water		4/7/2015 15:00	4/8/2015 10:00	☐

ALS Group USA, Corp

Date: 13-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Work Order: 1504464

Case Narrative

Samples for the above noted Work Order were received on 04/08/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Batch R161141, Method 8260, Sample 1504464-01B: Dilution was taken from vial with headspace due to insufficient sample volume. Results for this sample should be considered estimated.

Extractable Organics :

Batch 69614, Method 8270, Sample 1504464-01A: The reporting limit is elevated due to dilution for high concentrations of non-target analytes.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04072015
Collection Date: 4/7/2015 02:45 PM

Work Order: 1504464
Lab ID: 1504464-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**5,200**		**13**	**100**	**mg/L**	20	4/10/2015 11:20
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 4/9/15		Analyst: **RS**
1,1`-Biphenyl	U		5.2	120	µg/L	10	4/10/2015 04:36
1,2,4,5-Tetrachlorobenzene	U		59	240	µg/L	10	4/10/2015 04:36
2,3,4,6-Tetrachlorophenol	U		5.6	120	µg/L	10	4/10/2015 04:36
2,4,5-Trichlorophenol	U		6.8	120	µg/L	10	4/10/2015 04:36
2,4,6-Trichlorophenol	U		5.9	120	µg/L	10	4/10/2015 04:36
2,4-Dichlorophenol	U		4.0	120	µg/L	10	4/10/2015 04:36
2,4-Dimethylphenol	U		4.2	120	µg/L	10	4/10/2015 04:36
2,4-Dinitrophenol	U		35	120	µg/L	10	4/10/2015 04:36
2,4-Dinitrotoluene	U		3.3	120	µg/L	10	4/10/2015 04:36
2,6-Dinitrotoluene	U		4.7	120	µg/L	10	4/10/2015 04:36
2-Chloronaphthalene	U		0.71	120	µg/L	10	4/10/2015 04:36
2-Chlorophenol	U		6.8	120	µg/L	10	4/10/2015 04:36
2-Methylnaphthalene	U		2.3	120	µg/L	10	4/10/2015 04:36
2-Methylphenol	U		3.3	120	µg/L	10	4/10/2015 04:36
2-Nitroaniline	U		5.6	120	µg/L	10	4/10/2015 04:36
2-Nitrophenol	U		6.4	120	µg/L	10	4/10/2015 04:36
3&4-Methylphenol	U		5.6	120	µg/L	10	4/10/2015 04:36
3,3´-Dichlorobenzidine	U		16	120	µg/L	10	4/10/2015 04:36
3-Nitroaniline	U		5.6	120	µg/L	10	4/10/2015 04:36
4,6-Dinitro-2-methylphenol	U		2.8	120	µg/L	10	4/10/2015 04:36
4-Bromophenyl phenyl ether	U		6.8	120	µg/L	10	4/10/2015 04:36
4-Chloro-3-methylphenol	U		3.8	120	µg/L	10	4/10/2015 04:36
4-Chloroaniline	U		5.2	120	µg/L	10	4/10/2015 04:36
4-Chlorophenyl phenyl ether	U		4.7	120	µg/L	10	4/10/2015 04:36
4-Nitroaniline	U		3.1	120	µg/L	10	4/10/2015 04:36
4-Nitrophenol	U		15	120	µg/L	10	4/10/2015 04:36
Acenaphthene	U		0.96	120	µg/L	10	4/10/2015 04:36
Acenaphthylene	U		0.92	120	µg/L	10	4/10/2015 04:36
Acetophenone	U		8.7	24	µg/L	10	4/10/2015 04:36
Anthracene	U		0.66	120	µg/L	10	4/10/2015 04:36
Atrazine	U		3.8	24	µg/L	10	4/10/2015 04:36
Benzaldehyde	U		5.9	24	µg/L	10	4/10/2015 04:36
Benzo(a)anthracene	U		1.7	120	µg/L	10	4/10/2015 04:36
Benzo(a)pyrene	U		0.85	120	µg/L	10	4/10/2015 04:36
Benzo(b)fluoranthene	U		1.0	120	µg/L	10	4/10/2015 04:36
Benzo(g,h,i)perylene	U		1.6	120	µg/L	10	4/10/2015 04:36

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04072015
Collection Date: 4/7/2015 02:45 PM

Work Order: 1504464
Lab ID: 1504464-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzo(k)fluoranthene	U		1.5	120	µg/L	10	4/10/2015 04:36
Bis(2-chloroethoxy)methane	U		5.4	120	µg/L	10	4/10/2015 04:36
Bis(2-chloroethyl)ether	U		3.8	120	µg/L	10	4/10/2015 04:36
Bis(2-ethylhexyl)phthalate	**49**	J	**4.2**	**120**	**µg/L**	10	4/10/2015 04:36
Butyl benzyl phthalate	U		2.8	120	µg/L	10	4/10/2015 04:36
Caprolactam	U		23	240	µg/L	10	4/10/2015 04:36
Carbazole	U		2.8	120	µg/L	10	4/10/2015 04:36
Chrysene	U		0.99	120	µg/L	10	4/10/2015 04:36
Dibenzo(a,h)anthracene	U		1.7	120	µg/L	10	4/10/2015 04:36
Dibenzofuran	U		5.4	120	µg/L	10	4/10/2015 04:36
Diethyl phthalate	U		4.0	120	µg/L	10	4/10/2015 04:36
Dimethyl phthalate	U		3.5	120	µg/L	10	4/10/2015 04:36
Di-n-butyl phthalate	U		3.5	120	µg/L	10	4/10/2015 04:36
Di-n-octyl phthalate	U		3.5	120	µg/L	10	4/10/2015 04:36
Fluoranthene	U		1.1	120	µg/L	10	4/10/2015 04:36
Fluorene	U		0.85	120	µg/L	10	4/10/2015 04:36
Hexachlorobenzene	U		5.4	120	µg/L	10	4/10/2015 04:36
Hexachlorobutadiene	U		8.7	120	µg/L	10	4/10/2015 04:36
Hexachlorocyclopentadiene	U		4.2	120	µg/L	10	4/10/2015 04:36
Hexachloroethane	U		11	120	µg/L	10	4/10/2015 04:36
Indeno(1,2,3-cd)pyrene	U		1.5	120	µg/L	10	4/10/2015 04:36
Isophorone	U		5.9	120	µg/L	10	4/10/2015 04:36
Naphthalene	U		1.2	120	µg/L	10	4/10/2015 04:36
Nitrobenzene	U		5.4	120	µg/L	10	4/10/2015 04:36
N-Nitrosodi-n-propylamine	U		5.6	120	µg/L	10	4/10/2015 04:36
N-Nitrosodiphenylamine	U		5.6	120	µg/L	10	4/10/2015 04:36
Pentachlorophenol	U		12	120	µg/L	10	4/10/2015 04:36
Phenanthrene	U		1.3	120	µg/L	10	4/10/2015 04:36
Phenol	U		3.1	120	µg/L	10	4/10/2015 04:36
Pyrene	U		1.6	120	µg/L	10	4/10/2015 04:36
Surr: 2,4,6-Tribromophenol	*96.0*			*38-115*	*%REC*	10	4/10/2015 04:36
Surr: 2-Fluorobiphenyl	*73.2*			*32-100*	*%REC*	10	4/10/2015 04:36
Surr: 2-Fluorophenol	*25.6*			*22-59*	*%REC*	10	4/10/2015 04:36
Surr: 4-Terphenyl-d14	*82.8*			*23-112*	*%REC*	10	4/10/2015 04:36
Surr: Nitrobenzene-d5	*47.6*			*31-93*	*%REC*	10	4/10/2015 04:36
Surr: Phenol-d6	*18.4*			*13-36*	*%REC*	10	4/10/2015 04:36
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260**					Analyst: **RS**
1,1,1-Trichloroethane	U		1.9	10	µg/L	10	4/10/2015 14:53
1,1,2,2-Tetrachloroethane	U		3.4	10	µg/L	10	4/10/2015 14:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04072015
Collection Date: 4/7/2015 02:45 PM

Work Order: 1504464
Lab ID: 1504464-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	U		2.5	10	µg/L	10	4/10/2015 14:53
1,1,2-Trichlorotrifluoroethane	U		4.7	10	µg/L	10	4/10/2015 14:53
1,1-Dichloroethane	U		2.1	10	µg/L	10	4/10/2015 14:53
1,1-Dichloroethene	U		2.4	10	µg/L	10	4/10/2015 14:53
1,2,3-Trichlorobenzene	U		3.0	10	µg/L	10	4/10/2015 14:53
1,2,4-Trichlorobenzene	U		1.9	10	µg/L	10	4/10/2015 14:53
1,2-Dibromo-3-chloropropane	U		4.2	10	µg/L	10	4/10/2015 14:53
1,2-Dibromoethane	U		3.4	10	µg/L	10	4/10/2015 14:53
1,2-Dichlorobenzene	U		2.2	10	µg/L	10	4/10/2015 14:53
1,2-Dichloroethane	U		2.6	10	µg/L	10	4/10/2015 14:53
1,2-Dichloropropane	U		2.6	10	µg/L	10	4/10/2015 14:53
1,3-Dichlorobenzene	U		2.1	10	µg/L	10	4/10/2015 14:53
1,4-Dichlorobenzene	U		2.0	10	µg/L	10	4/10/2015 14:53
1,4-Dioxane	U		360	1,000	µg/L	10	4/10/2015 14:53
2-Butanone	**130**		**8.7**	**50**	**µg/L**	10	4/10/2015 14:53
2-Hexanone	U		1.5	50	µg/L	10	4/10/2015 14:53
4-Methyl-2-pentanone	**130**		**1.5**	**10**	**µg/L**	10	4/10/2015 14:53
Acetone	**520**		**31**	**100**	**µg/L**	10	4/10/2015 14:53
Benzene	**4.9**	J	**2.5**	**10**	**µg/L**	10	4/10/2015 14:53
Bromochloromethane	U		2.4	10	µg/L	10	4/10/2015 14:53
Bromodichloromethane	U		1.6	10	µg/L	10	4/10/2015 14:53
Bromoform	U		0.99	10	µg/L	10	4/10/2015 14:53
Bromomethane	U		10	10	µg/L	10	4/10/2015 14:53
Carbon disulfide	U		2.6	10	µg/L	10	4/10/2015 14:53
Carbon tetrachloride	U		1.4	10	µg/L	10	4/10/2015 14:53
Chlorobenzene	U		1.9	10	µg/L	10	4/10/2015 14:53
Chloroethane	U		2.1	10	µg/L	10	4/10/2015 14:53
Chloroform	U		2.5	10	µg/L	10	4/10/2015 14:53
Chloromethane	U		2.5	10	µg/L	10	4/10/2015 14:53
cis-1,2-Dichloroethene	U		2.5	10	µg/L	10	4/10/2015 14:53
cis-1,3-Dichloropropene	U		2.4	10	µg/L	10	4/10/2015 14:53
Cyclohexane	U		3.1	10	µg/L	10	4/10/2015 14:53
Dibromochloromethane	U		1.7	10	µg/L	10	4/10/2015 14:53
Dichlorodifluoromethane	U		4.1	10	µg/L	10	4/10/2015 14:53
Ethylbenzene	U		2.2	10	µg/L	10	4/10/2015 14:53
Isopropylbenzene	U		2.5	10	µg/L	10	4/10/2015 14:53
m,p-Xylene	**6.6**	J	**4.0**	**20**	**µg/L**	10	4/10/2015 14:53
Methyl acetate	**110**		**6.2**	**20**	**µg/L**	10	4/13/2015 11:39
Methyl tert-butyl ether	U		1.2	10	µg/L	10	4/10/2015 14:53
Methylcyclohexane	U		3.2	10	µg/L	10	4/10/2015 14:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-SW-04072015
Collection Date: 4/7/2015 02:45 PM

Work Order: 1504464
Lab ID: 1504464-01
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylene chloride	U		6.4	50	µg/L	10	4/10/2015 14:53
o-Xylene	**2.2**	J	**2.1**	**10**	**µg/L**	10	4/10/2015 14:53
Styrene	U		1.8	10	µg/L	10	4/10/2015 14:53
Tetrachloroethene	U		2.5	10	µg/L	10	4/10/2015 14:53
Toluene	U		2.0	10	µg/L	10	4/10/2015 14:53
trans-1,2-Dichloroethene	U		2.9	10	µg/L	10	4/10/2015 14:53
trans-1,3-Dichloropropene	U		1.9	10	µg/L	10	4/10/2015 14:53
Trichloroethene	U		3.4	10	µg/L	10	4/10/2015 14:53
Trichlorofluoromethane	U		3.9	10	µg/L	10	4/10/2015 14:53
Vinyl chloride	U		1.9	10	µg/L	10	4/10/2015 14:53
Surr: 1,2-Dichloroethane-d4	*93.0*			*75-120*	*%REC*	10	4/10/2015 14:53
Surr: 1,2-Dichloroethane-d4	*89.7*			*75-120*	*%REC*	10	4/13/2015 11:39
Surr: 4-Bromofluorobenzene	*103*			*80-110*	*%REC*	10	4/10/2015 14:53
Surr: 4-Bromofluorobenzene	*104*			*80-110*	*%REC*	10	4/13/2015 11:39
Surr: Dibromofluoromethane	*94.2*			*85-115*	*%REC*	10	4/10/2015 14:53
Surr: Dibromofluoromethane	*92.8*			*85-115*	*%REC*	10	4/13/2015 11:39
Surr: Toluene-d8	*98.8*			*85-110*	*%REC*	10	4/10/2015 14:53
Surr: Toluene-d8	*98.9*			*85-110*	*%REC*	10	4/13/2015 11:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-RW01-04072015
Collection Date: 4/7/2015 03:00 PM

Work Order: 1504464
Lab ID: 1504464-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	U		0.67	5.0	mg/L	1	4/10/2015 11:11
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 4/9/15		Analyst: **RS**
1,1`-Biphenyl	U		0.23	5.3	µg/L	1	4/10/2015 12:48
1,2,4,5-Tetrachlorobenzene	U		2.6	11	µg/L	1	4/10/2015 12:48
2,3,4,6-Tetrachlorophenol	U		0.25	5.3	µg/L	1	4/10/2015 12:48
2,4,5-Trichlorophenol	U		0.31	5.3	µg/L	1	4/10/2015 12:48
2,4,6-Trichlorophenol	U		0.26	5.3	µg/L	1	4/10/2015 12:48
2,4-Dichlorophenol	U		0.18	5.3	µg/L	1	4/10/2015 12:48
2,4-Dimethylphenol	U		0.19	5.3	µg/L	1	4/10/2015 12:48
2,4-Dinitrophenol	U		1.6	5.3	µg/L	1	4/10/2015 12:48
2,4-Dinitrotoluene	U		0.15	5.3	µg/L	1	4/10/2015 12:48
2,6-Dinitrotoluene	U		0.21	5.3	µg/L	1	4/10/2015 12:48
2-Chloronaphthalene	U		0.032	5.3	µg/L	1	4/10/2015 12:48
2-Chlorophenol	U		0.31	5.3	µg/L	1	4/10/2015 12:48
2-Methylnaphthalene	U		0.10	5.3	µg/L	1	4/10/2015 12:48
2-Methylphenol	U		0.15	5.3	µg/L	1	4/10/2015 12:48
2-Nitroaniline	U		0.25	5.3	µg/L	1	4/10/2015 12:48
2-Nitrophenol	U		0.28	5.3	µg/L	1	4/10/2015 12:48
3&4-Methylphenol	U		0.25	5.3	µg/L	1	4/10/2015 12:48
3,3´-Dichlorobenzidine	U		0.74	5.3	µg/L	1	4/10/2015 12:48
3-Nitroaniline	U		0.25	5.3	µg/L	1	4/10/2015 12:48
4,6-Dinitro-2-methylphenol	U		0.13	5.3	µg/L	1	4/10/2015 12:48
4-Bromophenyl phenyl ether	U		0.31	5.3	µg/L	1	4/10/2015 12:48
4-Chloro-3-methylphenol	U		0.17	5.3	µg/L	1	4/10/2015 12:48
4-Chloroaniline	U		0.23	5.3	µg/L	1	4/10/2015 12:48
4-Chlorophenyl phenyl ether	U		0.21	5.3	µg/L	1	4/10/2015 12:48
4-Nitroaniline	U		0.14	5.3	µg/L	1	4/10/2015 12:48
4-Nitrophenol	U		0.65	5.3	µg/L	1	4/10/2015 12:48
Acenaphthene	U		0.043	5.3	µg/L	1	4/10/2015 12:48
Acenaphthylene	U		0.041	5.3	µg/L	1	4/10/2015 12:48
Acetophenone	U		0.39	1.1	µg/L	1	4/10/2015 12:48
Anthracene	U		0.029	5.3	µg/L	1	4/10/2015 12:48
Atrazine	U		0.17	1.1	µg/L	1	4/10/2015 12:48
Benzaldehyde	U		0.26	1.1	µg/L	1	4/10/2015 12:48
Benzo(a)anthracene	U		0.076	5.3	µg/L	1	4/10/2015 12:48
Benzo(a)pyrene	U		0.038	5.3	µg/L	1	4/10/2015 12:48
Benzo(b)fluoranthene	U		0.045	5.3	µg/L	1	4/10/2015 12:48
Benzo(g,h,i)perylene	U		0.074	5.3	µg/L	1	4/10/2015 12:48

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-RW01-04072015
Collection Date: 4/7/2015 03:00 PM

Work Order: 1504464
Lab ID: 1504464-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzo(k)fluoranthene	U		0.065	5.3	µg/L	1	4/10/2015 12:48
Bis(2-chloroethoxy)methane	U		0.24	5.3	µg/L	1	4/10/2015 12:48
Bis(2-chloroethyl)ether	U		0.17	5.3	µg/L	1	4/10/2015 12:48
Bis(2-ethylhexyl)phthalate	U		0.19	5.3	µg/L	1	4/10/2015 12:48
Butyl benzyl phthalate	U		0.13	5.3	µg/L	1	4/10/2015 12:48
Caprolactam	U		1.0	11	µg/L	1	4/10/2015 12:48
Carbazole	U		0.13	5.3	µg/L	1	4/10/2015 12:48
Chrysene	U		0.044	5.3	µg/L	1	4/10/2015 12:48
Dibenzo(a,h)anthracene	U		0.078	5.3	µg/L	1	4/10/2015 12:48
Dibenzofuran	U		0.24	5.3	µg/L	1	4/10/2015 12:48
Diethyl phthalate	**1.9**	J	**0.18**	**5.3**	**µg/L**	1	4/10/2015 12:48
Dimethyl phthalate	U		0.16	5.3	µg/L	1	4/10/2015 12:48
Di-n-butyl phthalate	**0.86**	J	**0.16**	**5.3**	**µg/L**	1	4/10/2015 12:48
Di-n-octyl phthalate	U		0.16	5.3	µg/L	1	4/10/2015 12:48
Fluoranthene	U		0.049	5.3	µg/L	1	4/10/2015 12:48
Fluorene	U		0.038	5.3	µg/L	1	4/10/2015 12:48
Hexachlorobenzene	U		0.24	5.3	µg/L	1	4/10/2015 12:48
Hexachlorobutadiene	U		0.39	5.3	µg/L	1	4/10/2015 12:48
Hexachlorocyclopentadiene	U		0.19	5.3	µg/L	1	4/10/2015 12:48
Hexachloroethane	U		0.49	5.3	µg/L	1	4/10/2015 12:48
Indeno(1,2,3-cd)pyrene	U		0.067	5.3	µg/L	1	4/10/2015 12:48
Isophorone	U		0.26	5.3	µg/L	1	4/10/2015 12:48
Naphthalene	U		0.053	5.3	µg/L	1	4/10/2015 12:48
Nitrobenzene	U		0.24	5.3	µg/L	1	4/10/2015 12:48
N-Nitrosodi-n-propylamine	U		0.25	5.3	µg/L	1	4/10/2015 12:48
N-Nitrosodiphenylamine	U		0.25	5.3	µg/L	1	4/10/2015 12:48
Pentachlorophenol	U		0.55	5.3	µg/L	1	4/10/2015 12:48
Phenanthrene	U		0.057	5.3	µg/L	1	4/10/2015 12:48
Phenol	**3.3**	J	**0.14**	**5.3**	**µg/L**	1	4/10/2015 12:48
Pyrene	U		0.073	5.3	µg/L	1	4/10/2015 12:48
Surr: 2,4,6-Tribromophenol	*68.6*			*38-115*	*%REC*	1	4/10/2015 12:48
Surr: 2-Fluorobiphenyl	*61.9*			*32-100*	*%REC*	1	4/10/2015 12:48
Surr: 2-Fluorophenol	*38.4*			*22-59*	*%REC*	1	4/10/2015 12:48
Surr: 4-Terphenyl-d14	*88.1*			*23-112*	*%REC*	1	4/10/2015 12:48
Surr: Nitrobenzene-d5	*52.7*			*31-93*	*%REC*	1	4/10/2015 12:48
Surr: Phenol-d6	*28.1*			*13-36*	*%REC*	1	4/10/2015 12:48
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260**					Analyst: **RS**
1,1,1-Trichloroethane	**1.3**		**0.19**	**1.0**	**µg/L**	1	4/10/2015 16:14
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	4/10/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-RW01-04072015
Collection Date: 4/7/2015 03:00 PM

Work Order: 1504464
Lab ID: 1504464-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	4/10/2015 16:14
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	4/10/2015 16:14
1,1-Dichloroethane	**18**		**0.21**	**1.0**	**µg/L**	1	4/10/2015 16:14
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	4/10/2015 16:14
1,2,3-Trichlorobenzene	U		0.30	1.0	µg/L	1	4/10/2015 16:14
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	4/10/2015 16:14
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	4/10/2015 16:14
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	4/10/2015 16:14
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	4/10/2015 16:14
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	4/10/2015 16:14
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	4/10/2015 16:14
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	4/10/2015 16:14
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	4/10/2015 16:14
1,4-Dioxane	U		36	100	µg/L	1	4/10/2015 16:14
2-Butanone	**5.3**		**0.87**	**5.0**	**µg/L**	1	4/10/2015 16:14
2-Hexanone	U		0.15	5.0	µg/L	1	4/10/2015 16:14
4-Methyl-2-pentanone	**5.2**		**0.15**	**1.0**	**µg/L**	1	4/10/2015 16:14
Acetone	**76**		**3.1**	**10**	**µg/L**	1	4/10/2015 16:14
Benzene	U		0.25	1.0	µg/L	1	4/10/2015 16:14
Bromochloromethane	U		0.24	1.0	µg/L	1	4/10/2015 16:14
Bromodichloromethane	U		0.16	1.0	µg/L	1	4/10/2015 16:14
Bromoform	U		0.099	1.0	µg/L	1	4/10/2015 16:14
Bromomethane	U		1.0	1.0	µg/L	1	4/10/2015 16:14
Carbon disulfide	U		0.26	1.0	µg/L	1	4/10/2015 16:14
Carbon tetrachloride	U		0.14	1.0	µg/L	1	4/10/2015 16:14
Chlorobenzene	U		0.19	1.0	µg/L	1	4/10/2015 16:14
Chloroethane	**1.2**		**0.21**	**1.0**	**µg/L**	1	4/10/2015 16:14
Chloroform	U		0.25	1.0	µg/L	1	4/10/2015 16:14
Chloromethane	U		0.25	1.0	µg/L	1	4/10/2015 16:14
cis-1,2-Dichloroethene	**5.5**		**0.25**	**1.0**	**µg/L**	1	4/10/2015 16:14
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	4/10/2015 16:14
Cyclohexane	U		0.31	1.0	µg/L	1	4/10/2015 16:14
Dibromochloromethane	U		0.17	1.0	µg/L	1	4/10/2015 16:14
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	4/10/2015 16:14
Ethylbenzene	U		0.22	1.0	µg/L	1	4/10/2015 16:14
Isopropylbenzene	U		0.25	1.0	µg/L	1	4/10/2015 16:14
m,p-Xylene	**0.67**	J	**0.40**	**2.0**	**µg/L**	1	4/10/2015 16:14
Methyl acetate	U		0.62	2.0	µg/L	1	4/10/2015 16:14
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	4/10/2015 16:14
Methylcyclohexane	U		0.32	1.0	µg/L	1	4/10/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *13-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
Sample ID: OA-RW01-04072015
Collection Date: 4/7/2015 03:00 PM

Work Order: 1504464
Lab ID: 1504464-02
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylene chloride	**310**		**6.4**	**50**	**µg/L**	10	4/10/2015 15:18
o-Xylene	**0.33**	J	**0.21**	**1.0**	**µg/L**	1	4/10/2015 16:14
Styrene	U		0.18	1.0	µg/L	1	4/10/2015 16:14
Tetrachloroethene	U		0.25	1.0	µg/L	1	4/10/2015 16:14
Toluene	**2.2**		**0.20**	**1.0**	**µg/L**	1	4/10/2015 16:14
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	4/10/2015 16:14
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	4/10/2015 16:14
Trichloroethene	U		0.34	1.0	µg/L	1	4/10/2015 16:14
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	4/10/2015 16:14
Vinyl chloride	**1.4**		**0.19**	**1.0**	**µg/L**	1	4/10/2015 16:14
Surr: 1,2-Dichloroethane-d4	*92.5*			*75-120*	*%REC*	10	4/10/2015 15:18
Surr: 1,2-Dichloroethane-d4	*93.0*			*75-120*	*%REC*	1	4/10/2015 16:14
Surr: 4-Bromofluorobenzene	*101*			*80-110*	*%REC*	10	4/10/2015 15:18
Surr: 4-Bromofluorobenzene	*100*			*80-110*	*%REC*	1	4/10/2015 16:14
Surr: Dibromofluoromethane	*93.1*			*85-115*	*%REC*	10	4/10/2015 15:18
Surr: Dibromofluoromethane	*94.0*			*85-115*	*%REC*	1	4/10/2015 16:14
Surr: Toluene-d8	*101*			*85-110*	*%REC*	10	4/10/2015 15:18
Surr: Toluene-d8	*98.2*			*85-110*	*%REC*	1	4/10/2015 16:14

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 13-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X90260001S051502007
WorkOrder: **1504464**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 13-Apr-15

Client: Tetra Tech EM Inc.

Work Order: 1504464

Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161003** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R161003-R161003** Units: **mg/L** Analysis Date: **4/10/2015 10:08 AM**

Client ID: Run ID: **GC11_150410A** SeqNo: **3220163** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R161003-R161003** Units: **mg/L** Analysis Date: **4/10/2015 09:13 AM**

Client ID: Run ID: **GC11_150410A** SeqNo: **3220164** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	502.6	5.0	500	0	101	50-150	0			

MS Sample ID: **1504464-01B MS** Units: **mg/L** Analysis Date: **4/10/2015 09:22 AM**

Client ID: **OA-SW-04072015** Run ID: **GC11_150410A** SeqNo: **3220169** Prep Date: **4/9/2015** DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	27620	200	20000	5206	112	50-150	0			

MSD Sample ID: **1504464-01B MSD** Units: **mg/L** Analysis Date: **4/10/2015 09:31 AM**

Client ID: **OA-SW-04072015** Run ID: **GC11_150410A** SeqNo: **3220171** Prep Date: **4/9/2015** DF: **40**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	27960	200	20000	5206	114	50-150	27620	1.23	30	

The following samples were analyzed in this batch: 1504464-01B 1504464-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK	Sample ID: **SBLKW1-69614-69614**	Units: **µg/L**	Analysis Date: **4/9/2015 06:09 PM**
Client ID:	Run ID: **SVMS5_150409A**	SeqNo: **3220363** Prep Date: **4/9/2015**	DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	5.0								
1,2,4,5-Tetrachlorobenzene	U	10								
2,3,4,6-Tetrachlorophenol	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	5.0								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	5.0								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	5.0								
4,6-Dinitro-2-methylphenol	U	5.0								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	5.0								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	5.0								
4-Nitrophenol	U	5.0								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

Carbazole	U	5.0					
Chrysene	U	5.0					
Dibenzo(a,h)anthracene	U	5.0					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	5.0					
Dimethyl phthalate	U	5.0					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	5.0					
Fluorene	U	5.0					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	5.0					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	5.0					
Isophorone	U	5.0					
Naphthalene	U	5.0					
Nitrobenzene	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
Pentachlorophenol	U	5.0					
Phenanthrene	U	5.0					
Phenol	U	5.0					
Pyrene	U	5.0					
Surr: 2,4,6-Tribromophenol	*29.2*	0	*50*	0	*58.4*	*38-115*	0
Surr: 2-Fluorobiphenyl	*29.9*	0	*50*	0	*59.8*	*32-100*	0
Surr: 2-Fluorophenol	*19.19*	0	*50*	0	*38.4*	*22-59*	0
Surr: 4-Terphenyl-d14	*51.64*	0	*50*	0	*103*	*23-112*	0
Surr: Nitrobenzene-d5	*31.66*	0	*50*	0	*63.3*	*31-93*	0
Surr: Phenol-d6	*12.17*	0	*50*	0	*24.3*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-69614-69614** Units: **µg/L** Analysis Date: **4/9/2015 06:32 PM**

Client ID: Run ID: **SVMS5_150409A** SeqNo: **3220364** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	14.15	5.0	20	0	70.8	30-120	0			
2,4,5-Trichlorophenol	15.01	5.0	20	0	75	50-110	0			
2,4,6-Trichlorophenol	14.32	5.0	20	0	71.6	50-115	0			
2,4-Dichlorophenol	13.54	5.0	20	0	67.7	50-105	0			
2,4-Dimethylphenol	12.34	5.0	20	0	61.7	30-110	0			
2,4-Dinitrophenol	16.62	5.0	20	0	83.1	15-140	0			
2,4-Dinitrotoluene	16.42	5.0	20	0	82.1	50-120	0			
2,6-Dinitrotoluene	16.8	5.0	20	0	84	50-115	0			
2-Chloronaphthalene	14.61	5.0	20	0	73	50-105	0			
2-Chlorophenol	13.56	5.0	20	0	67.8	35-105	0			
2-Methylnaphthalene	13.46	5.0	20	0	67.3	45-105	0			
2-Methylphenol	11.88	5.0	20	0	59.4	40-110	0			
2-Nitroaniline	15.75	5.0	20	0	78.8	50-115	0			
2-Nitrophenol	13.34	5.0	20	0	66.7	40-115	0			
3&4-Methylphenol	11.15	5.0	20	0	55.8	30-110	0			
3-Nitroaniline	14.68	5.0	20	0	73.4	20-125	0			
4,6-Dinitro-2-methylphenol	16.3	5.0	20	0	81.5	40-130	0			
4-Bromophenyl phenyl ether	15.41	5.0	20	0	77	50-115	0			
4-Chloro-3-methylphenol	13.87	5.0	20	0	69.4	45-110	0			
4-Chloroaniline	13.13	5.0	20	0	65.6	15-110	0			
4-Chlorophenyl phenyl ether	14.96	5.0	20	0	74.8	50-110	0			
4-Nitroaniline	16.86	5.0	20	0	84.3	35-150	0			
4-Nitrophenol	5.88	5.0	20	0	29.4	1-58	0			
Acenaphthene	14.77	5.0	20	0	73.8	45-110	0			
Acenaphthylene	15.03	5.0	20	0	75.2	50-105	0			
Acetophenone	15.42	1.0	20	0	77.1	30-120	0			
Anthracene	17.27	5.0	20	0	86.4	55-110	0			
Atrazine	18.01	1.0	20	0	90	30-120	0			
Benzaldehyde	21.82	1.0	20	0	109	30-120	0			
Benzo(a)anthracene	16.94	5.0	20	0	84.7	55-110	0			
Benzo(a)pyrene	16.43	5.0	20	0	82.2	55-110	0			
Benzo(b)fluoranthene	16.46	5.0	20	0	82.3	45-120	0			
Benzo(g,h,i)perylene	16.85	5.0	20	0	84.2	40-125	0			
Benzo(k)fluoranthene	16	5.0	20	0	80	45-125	0			
Bis(2-chloroethoxy)methane	13.99	5.0	20	0	70	45-105	0			
Bis(2-chloroethyl)ether	13.63	5.0	20	0	68.2	35-110	0			
Bis(2-ethylhexyl)phthalate	16.32	5.0	20	0	81.6	40-125	0			
Butyl benzyl phthalate	16.47	5.0	20	0	82.4	45-115	0			
Carbazole	17.34	5.0	20	0	86.7	50-150	0			
Chrysene	17.12	5.0	20	0	85.6	55-110	0			
Dibenzo(a,h)anthracene	16.25	5.0	20	0	81.2	40-125	0			
Dibenzofuran	15.11	5.0	20	0	75.6	55-105	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

Diethyl phthalate	17.01	5.0	20	0	85	40-120	0
Dimethyl phthalate	15.95	5.0	20	0	79.8	25-125	0
Di-n-butyl phthalate	15.76	5.0	20	0	78.8	55-115	0
Di-n-octyl phthalate	16.28	5.0	20	0	81.4	35-135	0
Fluoranthene	16.54	5.0	20	0	82.7	55-115	0
Fluorene	15.53	5.0	20	0	77.6	50-110	0
Hexachlorobenzene	15.47	5.0	20	0	77.4	50-110	0
Hexachlorobutadiene	11.55	5.0	20	0	57.8	25-105	0
Hexachlorocyclopentadiene	6.93	5.0	20	0	34.6	25-105	0
Hexachloroethane	11.52	5.0	20	0	57.6	30-95	0
Indeno(1,2,3-cd)pyrene	16.63	5.0	20	0	83.2	45-125	0
Isophorone	14.5	5.0	20	0	72.5	50-110	0
Naphthalene	13.06	5.0	20	0	65.3	40-100	0
Nitrobenzene	13.63	5.0	20	0	68.2	45-110	0
N-Nitrosodi-n-propylamine	15.02	5.0	20	0	75.1	35-130	0
N-Nitrosodiphenylamine	15.9	5.0	20	0	79.5	50-110	0
Pentachlorophenol	12.14	5.0	20	0	60.7	40-115	0
Phenanthrene	15.59	5.0	20	0	78	50-115	0
Phenol	5.08	5.0	20	0	25.4	12-43	0
Pyrene	17.75	5.0	20	0	88.8	50-130	0
Surr: 2,4,6-Tribromophenol	*37.14*	0	*50*	0	*74.3*	*38-115*	0
Surr: 2-Fluorobiphenyl	*34.16*	0	*50*	0	*68.3*	*32-100*	0
Surr: 2-Fluorophenol	*21.18*	0	*50*	0	*42.4*	*22-59*	0
Surr: 4-Terphenyl-d14	*48.1*	0	*50*	0	*96.2*	*23-112*	0
Surr: Nitrobenzene-d5	*36.82*	0	*50*	0	*73.6*	*31-93*	0
Surr: Phenol-d6	*13.03*	0	*50*	0	*26.1*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

MS Sample ID: **1504229-02B MS** Units: **µg/L** Analysis Date: **4/9/2015 09:00 PM**

Client ID: Run ID: **SVMS5_150409A** SeqNo: **3220365** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	299.2	100	400	0	74.8	30-120	0			
2,4,5-Trichlorophenol	325.8	100	400	0	81.4	50-110	0			
2,4,6-Trichlorophenol	324	100	400	0	81	50-115	0			
2,4-Dichlorophenol	293.6	100	400	7.6	71.5	50-105	0			
2,4-Dimethylphenol	242	100	400	0	60.5	30-110	0			
2,4-Dinitrophenol	88.8	100	400	0	22.2	15-140	0			J
2,4-Dinitrotoluene	332.6	100	400	0	83.2	50-120	0			
2,6-Dinitrotoluene	334	100	400	0	83.5	50-115	0			
2-Chloronaphthalene	294	100	400	0	73.5	50-105	0			
2-Chlorophenol	280.8	100	400	0	70.2	35-105	0			
2-Methylnaphthalene	281.4	100	400	2.8	69.6	45-105	0			
2-Methylphenol	239.6	100	400	0	59.9	40-110	0			
2-Nitroaniline	339.4	100	400	0	84.8	50-115	0			
2-Nitrophenol	279.8	100	400	0	70	40-115	0			
3&4-Methylphenol	217	100	400	0	54.2	30-110	0			
3-Nitroaniline	303.8	100	400	0	76	20-125	0			
4,6-Dinitro-2-methylphenol	95.8	100	400	0	24	40-130	0			JS
4-Bromophenyl phenyl ether	300.2	100	400	0	75	50-115	0			
4-Chloro-3-methylphenol	283.2	100	400	0	70.8	45-110	0			
4-Chloroaniline	262.2	100	400	0	65.6	15-110	0			
4-Chlorophenyl phenyl ether	307.8	100	400	0	77	50-110	0			
4-Nitroaniline	389.6	100	400	0	97.4	35-150	0			
4-Nitrophenol	160.2	100	400	0	40	1-58	0			
Acenaphthene	290.4	100	400	0	72.6	45-110	0			
Acenaphthylene	309	100	400	0	77.2	50-105	0			
Acetophenone	316	20	400	0	79	30-120	0			
Anthracene	344.6	100	400	0	86.2	55-110	0			
Atrazine	387	20	400	13.8	93.3	30-120	0			
Benzaldehyde	440	20	400	0	110	30-120	0			
Benzo(a)anthracene	338.8	100	400	0	84.7	55-110	0			
Benzo(a)pyrene	332.2	100	400	0	83	55-110	0			
Benzo(b)fluoranthene	332	100	400	0	83	45-120	0			
Benzo(g,h,i)perylene	339.8	100	400	0	85	40-125	0			
Benzo(k)fluoranthene	322.4	100	400	0	80.6	45-125	0			
Bis(2-chloroethoxy)methane	286.2	100	400	0	71.6	45-105	0			
Bis(2-chloroethyl)ether	283.2	100	400	0	70.8	35-110	0			
Bis(2-ethylhexyl)phthalate	332.2	100	400	0	83	40-125	0			
Butyl benzyl phthalate	326.6	100	400	0	81.6	45-115	0			
Carbazole	360.8	100	400	0	90.2	50-150	0			
Chrysene	340.4	100	400	0	85.1	55-110	0			
Dibenzo(a,h)anthracene	333.8	100	400	0	83.4	40-125	0			
Dibenzofuran	312.4	100	400	0	78.1	55-105	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

Diethyl phthalate	339.6	100	400	0	84.9	40-120	0	
Dimethyl phthalate	314.4	100	400	0	78.6	25-125	0	
Di-n-butyl phthalate	329.2	100	400	0	82.3	55-115	0	
Di-n-octyl phthalate	329	100	400	0	82.2	35-135	0	
Fluoranthene	345.6	100	400	0	86.4	55-115	0	
Fluorene	319.4	100	400	0	79.8	50-110	0	
Hexachlorobenzene	304.8	100	400	0	76.2	50-110	0	
Hexachlorobutadiene	241.6	100	400	0	60.4	25-105	0	
Hexachlorocyclopentadiene	79.8	100	400	0	20	25-105	0	JS
Hexachloroethane	244.8	100	400	0	61.2	30-95	0	
Indeno(1,2,3-cd)pyrene	333.6	100	400	0	83.4	45-125	0	
Isophorone	293.2	100	400	0	73.3	50-110	0	
Naphthalene	280	100	400	0	70	40-100	0	
Nitrobenzene	278.4	100	400	0	69.6	45-110	0	
N-Nitrosodi-n-propylamine	305.8	100	400	0	76.4	35-130	0	
N-Nitrosodiphenylamine	312	100	400	0	78	50-110	0	
Pentachlorophenol	195.8	100	400	0	49	40-115	0	
Phenanthrene	305.2	100	400	0	76.3	50-115	0	
Phenol	97.8	100	400	0	24.4	12-43	0	J
Pyrene	334.2	100	400	0	83.6	50-130	0	
Surr: 2,4,6-Tribromophenol	*763*	0	*1000*	0	*76.3*	*38-115*	0	
Surr: 2-Fluorobiphenyl	*694.2*	0	*1000*	0	*69.4*	*32-100*	0	
Surr: 2-Fluorophenol	*411.4*	0	*1000*	0	*41.1*	*22-59*	0	
Surr: 4-Terphenyl-d14	*927.8*	0	*1000*	0	*92.8*	*23-112*	0	
Surr: Nitrobenzene-d5	*768*	0	*1000*	0	*76.8*	*31-93*	0	
Surr: Phenol-d6	*245.6*	0	*1000*	0	*24.6*	*13-36*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD Sample ID: **1504229-02B MSD** Units: **µg/L** Analysis Date: **4/9/2015 09:23 PM**

Client ID: Run ID: **SVMS5_150409A** SeqNo: **3220366** Prep Date: **4/9/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	284.2	100	400	0	71	30-120	299.2	5.14	30	
2,4,5-Trichlorophenol	308.6	100	400	0	77.2	50-110	325.8	5.42	30	
2,4,6-Trichlorophenol	308	100	400	0	77	50-115	324	5.06	30	
2,4-Dichlorophenol	289.6	100	400	7.6	70.5	50-105	293.6	1.37	30	
2,4-Dimethylphenol	219.8	100	400	0	55	30-110	242	9.61	30	
2,4-Dinitrophenol	102.6	100	400	0	25.6	15-140	88.8	14.4	30	
2,4-Dinitrotoluene	329.2	100	400	0	82.3	50-120	332.6	1.03	30	
2,6-Dinitrotoluene	328.8	100	400	0	82.2	50-115	334	1.57	30	
2-Chloronaphthalene	287	100	400	0	71.8	50-105	294	2.41	30	
2-Chlorophenol	273.6	100	400	0	68.4	35-105	280.8	2.6	30	
2-Methylnaphthalene	274.6	100	400	2.8	68	45-105	281.4	2.45	30	
2-Methylphenol	235.8	100	400	0	59	40-110	239.6	1.6	30	
2-Nitroaniline	330.2	100	400	0	82.6	50-115	339.4	2.75	30	
2-Nitrophenol	268.2	100	400	0	67	40-115	279.8	4.23	30	
3&4-Methylphenol	212	100	400	0	53	30-110	217	2.33	30	
3-Nitroaniline	294.6	100	400	0	73.6	20-125	303.8	3.07	30	
4,6-Dinitro-2-methylphenol	110	100	400	0	27.5	40-130	95.8	13.8	30	S
4-Bromophenyl phenyl ether	301.8	100	400	0	75.4	50-115	300.2	0.532	30	
4-Chloro-3-methylphenol	275.4	100	400	0	68.8	45-110	283.2	2.79	30	
4-Chloroaniline	237	100	400	0	59.2	15-110	262.2	10.1	30	
4-Chlorophenyl phenyl ether	300.4	100	400	0	75.1	50-110	307.8	2.43	30	
4-Nitroaniline	368.2	100	400	0	92	35-150	389.6	5.65	30	
4-Nitrophenol	172.2	100	400	0	43	1-58	160.2	7.22	30	
Acenaphthene	274.4	100	400	0	68.6	45-110	290.4	5.67	30	
Acenaphthylene	300.8	100	400	0	75.2	50-105	309	2.69	30	
Acetophenone	303.4	20	400	0	75.8	30-120	316	4.07	30	
Anthracene	352.8	100	400	0	88.2	55-110	344.6	2.35	30	
Atrazine	374.2	20	400	13.8	90.1	30-120	387	3.36	30	
Benzaldehyde	432.8	20	400	0	108	30-120	440	1.65	30	
Benzo(a)anthracene	351.6	100	400	0	87.9	55-110	338.8	3.71	30	
Benzo(a)pyrene	334.6	100	400	0	83.6	55-110	332.2	0.72	30	
Benzo(b)fluoranthene	340.8	100	400	0	85.2	45-120	332	2.62	30	
Benzo(g,h,i)perylene	343.2	100	400	0	85.8	40-125	339.8	0.996	30	
Benzo(k)fluoranthene	334.2	100	400	0	83.6	45-125	322.4	3.59	30	
Bis(2-chloroethoxy)methane	285.2	100	400	0	71.3	45-105	286.2	0.35	30	
Bis(2-chloroethyl)ether	278.6	100	400	0	69.6	35-110	283.2	1.64	30	
Bis(2-ethylhexyl)phthalate	344	100	400	0	86	40-125	332.2	3.49	30	
Butyl benzyl phthalate	337.4	100	400	0	84.4	45-115	326.6	3.25	30	
Carbazole	364.6	100	400	0	91.2	50-150	360.8	1.05	30	
Chrysene	353.6	100	400	0	88.4	55-110	340.4	3.8	30	
Dibenzo(a,h)anthracene	338.8	100	400	0	84.7	40-125	333.8	1.49	30	
Dibenzofuran	301.2	100	400	0	75.3	55-105	312.4	3.65	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **69614** Instrument ID **SVMS5** Method: **SW846 8270D**

Diethyl phthalate	340.6	100	400	0	85.2	40-120	339.6	0.294	30	
Dimethyl phthalate	320.4	100	400	0	80.1	25-125	314.4	1.89	30	
Di-n-butyl phthalate	330.2	100	400	0	82.6	55-115	329.2	0.303	30	
Di-n-octyl phthalate	331.8	100	400	0	83	35-135	329	0.847	30	
Fluoranthene	346	100	400	0	86.5	55-115	345.6	0.116	30	
Fluorene	309.6	100	400	0	77.4	50-110	319.4	3.12	30	
Hexachlorobenzene	311.8	100	400	0	78	50-110	304.8	2.27	30	
Hexachlorobutadiene	244.8	100	400	0	61.2	25-105	241.6	1.32	30	
Hexachlorocyclopentadiene	88	100	400	0	22	25-105	79.8	0	30	JS
Hexachloroethane	243.4	100	400	0	60.8	30-95	244.8	0.574	30	
Indeno(1,2,3-cd)pyrene	346.2	100	400	0	86.6	45-125	333.6	3.71	30	
Isophorone	288.6	100	400	0	72.2	50-110	293.2	1.58	30	
Naphthalene	272.6	100	400	0	68.2	40-100	280	2.68	30	
Nitrobenzene	277	100	400	0	69.2	45-110	278.4	0.504	30	
N-Nitrosodi-n-propylamine	303.4	100	400	0	75.8	35-130	305.8	0.788	30	
N-Nitrosodiphenylamine	322.6	100	400	0	80.6	50-110	312	3.34	30	
Pentachlorophenol	253.2	100	400	0	63.3	40-115	195.8	25.6	30	
Phenanthrene	314.2	100	400	0	78.6	50-115	305.2	2.91	30	
Phenol	97.2	100	400	0	24.3	12-43	97.8	0	30	J
Pyrene	351.6	100	400	0	87.9	50-130	334.2	5.07	30	
Surr: 2,4,6-Tribromophenol	*788.6*	0	*1000*	0	*78.9*	*38-115*	763	*3.3*	*40*	
Surr: 2-Fluorobiphenyl	*675.8*	0	*1000*	0	*67.6*	*32-100*	694.2	*2.69*	*40*	
Surr: 2-Fluorophenol	*415.6*	0	*1000*	0	*41.6*	*22-59*	411.4	*1.02*	*40*	
Surr: 4-Terphenyl-d14	*940.4*	0	*1000*	0	*94*	*23-112*	927.8	*1.35*	*40*	
Surr: Nitrobenzene-d5	*754*	0	*1000*	0	*75.4*	*31-93*	768	*1.84*	*40*	
Surr: Phenol-d6	*255*	0	*1000*	0	*25.5*	*13-36*	245.6	*3.76*	*40*	

The following samples were analyzed in this batch: 1504464-01A 1504464-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

MBLK Sample ID: **VBLKW1-150410-R161006** Units: **µg/L** Analysis Date: **4/10/2015 02:28 PM**

Client ID: Run ID: **VMS7_150410A** SeqNo: **3221118** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,3-Trichlorobenzene	0.76	1.0								J
1,2,4-Trichlorobenzene	0.76	1.0								J
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
1,4-Dioxane	U	120								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromochloromethane	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	1.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylcyclohexane	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

Methylene chloride	1.46	5.0						J
o-Xylene	U	1.0						
Styrene	U	1.0						
Tetrachloroethene	U	1.0						
Toluene	U	1.0						
trans-1,2-Dichloroethene	U	1.0						
trans-1,3-Dichloropropene	U	1.0						
Trichloroethene	U	1.0						
Trichlorofluoromethane	U	1.0						
Vinyl chloride	U	1.0						
Surr: 1,2-Dichloroethane-d4	*18.27*	0	*20*	0	*91.4*	*75-120*	0	
Surr: 4-Bromofluorobenzene	*20.01*	0	*20*	0	*100*	*80-110*	0	
Surr: Dibromofluoromethane	*18.9*	0	*20*	0	*94.5*	*85-115*	0	
Surr: Toluene-d8	*19.83*	0	*20*	0	*99.2*	*85-110*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

LCS Sample ID: **VLCSW1-150410-R161006** Units: **µg/L** Analysis Date: **4/10/2015 01:12 PM**

Client ID: Run ID: **VMS7_150410A** SeqNo: **3221163** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.42	1.0	20	0	102	75-130	0			
1,1,2,2-Tetrachloroethane	19.2	1.0	20	0	96	75-130	0			
1,1,2-Trichloroethane	19.97	1.0	20	0	99.8	75-125	0			
1,1-Dichloroethane	21.03	1.0	20	0	105	75-133	0			
1,1-Dichloroethene	19.32	1.0	20	0	96.6	70-145	0			
1,2,3-Trichlorobenzene	23.18	1.0	20	0	116	70-140	0			
1,2,4-Trichlorobenzene	24.23	1.0	20	0	121	70-135	0			
1,2-Dibromo-3-chloropropane	17.98	1.0	20	0	89.9	60-130	0			
1,2-Dibromoethane	22.42	1.0	20	0	112	80-150	0			
1,2-Dichlorobenzene	20.67	1.0	20	0	103	70-130	0			
1,2-Dichloroethane	19.12	1.0	20	0	95.6	78-125	0			
1,2-Dichloropropane	20.42	1.0	20	0	102	75-125	0			
1,3-Dichlorobenzene	21.36	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	21.22	1.0	20	0	106	75-130	0			
2-Butanone	19.01	5.0	20	0	95	55-150	0			
2-Hexanone	18.93	5.0	20	0	94.6	60-135	0			
4-Methyl-2-pentanone	24.18	1.0	20	0	121	77-178	0			
Acetone	13.79	10	20	0	69	60-160	0			
Benzene	20.44	1.0	20	0	102	85-125	0			
Bromochloromethane	21.07	1.0	20	0	105	75-130	0			
Bromodichloromethane	18.77	1.0	20	0	93.8	75-125	0			
Bromoform	16.81	1.0	20	0	84	60-125	0			
Bromomethane	15.24	1.0	20	0	76.2	30-185	0			
Carbon disulfide	19.25	1.0	20	0	96.2	60-165	0			
Carbon tetrachloride	19.34	1.0	20	0	96.7	65-140	0			
Chlorobenzene	19.5	1.0	20	0	97.5	80-120	0			
Chloroethane	16.36	1.0	20	0	81.8	50-140	0			
Chloroform	18.9	1.0	20	0	94.5	80-130	0			
Chloromethane	20.48	1.0	20	0	102	50-130	0			
cis-1,2-Dichloroethene	22.18	1.0	20	0	111	75-134	0			
cis-1,3-Dichloropropene	19.06	1.0	20	0	95.3	70-130	0			
Dibromochloromethane	17.27	1.0	20	0	86.4	60-115	0			
Dichlorodifluoromethane	14.95	1.0	20	0	74.8	20-120	0			
Ethylbenzene	19.72	1.0	20	0	98.6	85-125	0			
Isopropylbenzene	20.65	1.0	20	0	103	80-127	0			
m,p-Xylene	39.1	2.0	40	0	97.8	75-130	0			
Methyl tert-butyl ether	18.51	1.0	20	0	92.6	80-130	0			
Methylene chloride	19.1	5.0	20	0	95.5	75-140	0			
o-Xylene	19.56	1.0	20	0	97.8	80-125	0			
Styrene	20.19	1.0	20	0	101	85-125	0			
Tetrachloroethene	19.99	1.0	20	0	100	77-138	0			
Toluene	19.81	1.0	20	0	99	85-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	19.76	1.0	20	0	98.8	80-140	0
trans-1,3-Dichloropropene	21.69	1.0	20	0	108	81-123	0
Trichloroethene	19.26	1.0	20	0	96.3	84-130	0
Trichlorofluoromethane	15.69	1.0	20	0	78.4	60-140	0
Vinyl chloride	20.8	1.0	20	0	104	50-136	0
Surr: 1,2-Dichloroethane-d4	*18.36*	0	*20*	0	*91.8*	*75-120*	0
Surr: 4-Bromofluorobenzene	*20*	0	*20*	0	*100*	*80-110*	0
Surr: Dibromofluoromethane	*19.24*	0	*20*	0	*96.2*	*85-115*	0
Surr: Toluene-d8	*19.88*	0	*20*	0	*99.4*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

MS Sample ID: **1504057-07A MS** Units: **µg/L** Analysis Date: **4/10/2015 10:33 PM**

Client ID: Run ID: **VMS7_150410A** SeqNo: **3221154** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	23.03	1.0	20	0	115	75-130	0			
1,1,2,2-Tetrachloroethane	22.6	1.0	20	0	113	75-130	0			
1,1,2-Trichloroethane	22.27	1.0	20	0	111	75-125	0			
1,1-Dichloroethane	23.48	1.0	20	0	117	75-133	0			
1,1-Dichloroethene	21.54	1.0	20	0	108	70-145	0			
1,2,3-Trichlorobenzene	18.35	1.0	20	0	91.8	70-140	0			
1,2,4-Trichlorobenzene	18.78	1.0	20	0	93.9	70-135	0			
1,2-Dibromo-3-chloropropane	19.94	1.0	20	0	99.7	60-130	0			
1,2-Dibromoethane	25.65	1.0	20	0	128	80-150	0			
1,2-Dichlorobenzene	21.24	1.0	20	0	106	70-130	0			
1,2-Dichloroethane	21.28	1.0	20	0	106	78-125	0			
1,2-Dichloropropane	22.89	1.0	20	0	114	75-125	0			
1,3-Dichlorobenzene	21.03	1.0	20	0	105	75-130	0			
1,4-Dichlorobenzene	21.04	1.0	20	0	105	75-130	0			
2-Butanone	22.07	5.0	20	0	110	55-150	0			
2-Hexanone	25.04	5.0	20	0	125	60-135	0			
4-Methyl-2-pentanone	30.74	1.0	20	0	154	77-178	0			
Acetone	17.52	10	20	0	87.6	60-160	0			
Benzene	23.27	1.0	20	0.27	115	85-125	0			
Bromochloromethane	23.35	1.0	20	0	117	75-130	0			
Bromodichloromethane	20.11	1.0	20	0	101	75-125	0			
Bromoform	17.77	1.0	20	0	88.8	60-125	0			
Bromomethane	10.38	1.0	20	0	51.9	30-185	0			
Carbon disulfide	21.62	1.0	20	0	108	60-165	0			
Carbon tetrachloride	21.33	1.0	20	0	107	65-140	0			
Chlorobenzene	21.38	1.0	20	0	107	80-120	0			
Chloroethane	19.66	1.0	20	0	98.3	50-140	0			
Chloroform	21.24	1.0	20	0	106	80-130	0			
Chloromethane	22.34	1.0	20	0	112	50-130	0			
cis-1,2-Dichloroethene	24.76	1.0	20	0	124	75-134	0			
cis-1,3-Dichloropropene	20.62	1.0	20	0	103	70-130	0			
Dibromochloromethane	18.42	1.0	20	0	92.1	60-115	0			
Dichlorodifluoromethane	17.49	1.0	20	0	87.4	20-120	0			
Ethylbenzene	22.24	1.0	20	0.29	110	85-125	0			
Isopropylbenzene	22.15	1.0	20	0	111	80-127	0			
m,p-Xylene	43.51	2.0	40	0.47	108	75-130	0			
Methyl tert-butyl ether	21.19	1.0	20	0	106	80-130	0			
Methylene chloride	20.97	5.0	20	0	105	75-140	0			
o-Xylene	21.95	1.0	20	0.24	109	80-125	0			
Styrene	22.02	1.0	20	0	110	85-125	0			
Tetrachloroethene	23.24	1.0	20	0.94	112	77-138	0			
Toluene	22.98	1.0	20	0.78	111	85-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	22.18	1.0	20	0	111	80-140	0
trans-1,3-Dichloropropene	23.28	1.0	20	0	116	81-123	0
Trichloroethene	21.93	1.0	20	0	110	84-130	0
Trichlorofluoromethane	17.62	1.0	20	0	88.1	60-140	0
Vinyl chloride	23.4	1.0	20	0	117	50-136	0
Surr: 1,2-Dichloroethane-d4	*18.46*	0	*20*	0	*92.3*	*75-120*	0
Surr: 4-Bromofluorobenzene	*20.46*	0	*20*	0	*102*	*80-110*	0
Surr: Dibromofluoromethane	*19.24*	0	*20*	0	*96.2*	*85-115*	0
Surr: Toluene-d8	*19.79*	0	*20*	0	*99*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

MSD Sample ID: **1504057-07A MSD** Units: **µg/L** Analysis Date: **4/10/2015 10:59 PM**

Client ID: Run ID: **VMS7_150410A** SeqNo: **3221156** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.59	1.0	20	0	108	75-130	23.03	6.45	30	
1,1,2,2-Tetrachloroethane	21.25	1.0	20	0	106	75-130	22.6	6.16	30	
1,1,2-Trichloroethane	20.92	1.0	20	0	105	75-125	22.27	6.25	30	
1,1-Dichloroethane	21.7	1.0	20	0	108	75-133	23.48	7.88	30	
1,1-Dichloroethene	20.14	1.0	20	0	101	70-145	21.54	6.72	30	
1,2,3-Trichlorobenzene	18.5	1.0	20	0	92.5	70-140	18.35	0.814	30	
1,2,4-Trichlorobenzene	18.52	1.0	20	0	92.6	70-135	18.78	1.39	30	
1,2-Dibromo-3-chloropropane	19.27	1.0	20	0	96.4	60-130	19.94	3.42	30	
1,2-Dibromoethane	23.75	1.0	20	0	119	80-150	25.65	7.69	30	
1,2-Dichlorobenzene	19.13	1.0	20	0	95.6	70-130	21.24	10.5	30	
1,2-Dichloroethane	20.11	1.0	20	0	101	78-125	21.28	5.65	30	
1,2-Dichloropropane	21.63	1.0	20	0	108	75-125	22.89	5.66	30	
1,3-Dichlorobenzene	19.43	1.0	20	0	97.2	75-130	21.03	7.91	30	
1,4-Dichlorobenzene	18.94	1.0	20	0	94.7	75-130	21.04	10.5	30	
2-Butanone	21.59	5.0	20	0	108	55-150	22.07	2.2	30	
2-Hexanone	24.33	5.0	20	0	122	60-135	25.04	2.88	30	
4-Methyl-2-pentanone	29.43	1.0	20	0	147	77-178	30.74	4.35	30	
Acetone	16.62	10	20	0	83.1	60-160	17.52	5.27	30	
Benzene	21.62	1.0	20	0.27	107	85-125	23.27	7.35	30	
Bromochloromethane	21.3	1.0	20	0	106	75-130	23.35	9.18	30	
Bromodichloromethane	18.68	1.0	20	0	93.4	75-125	20.11	7.37	30	
Bromoform	16.48	1.0	20	0	82.4	60-125	17.77	7.53	30	
Bromomethane	10.12	1.0	20	0	50.6	30-185	10.38	2.54	30	
Carbon disulfide	20	1.0	20	0	100	60-165	21.62	7.78	30	
Carbon tetrachloride	19.81	1.0	20	0	99	65-140	21.33	7.39	30	
Chlorobenzene	19.62	1.0	20	0	98.1	80-120	21.38	8.59	30	
Chloroethane	17.63	1.0	20	0	88.2	50-140	19.66	10.9	30	
Chloroform	20.03	1.0	20	0	100	80-130	21.24	5.86	30	
Chloromethane	20.63	1.0	20	0	103	50-130	22.34	7.96	30	
cis-1,2-Dichloroethene	23.25	1.0	20	0	116	75-134	24.76	6.29	30	
cis-1,3-Dichloropropene	19.02	1.0	20	0	95.1	70-130	20.62	8.07	30	
Dibromochloromethane	17.12	1.0	20	0	85.6	60-115	18.42	7.32	30	
Dichlorodifluoromethane	16.27	1.0	20	0	81.4	20-120	17.49	7.23	30	
Ethylbenzene	20.42	1.0	20	0.29	101	85-125	22.24	8.53	30	
Isopropylbenzene	20.41	1.0	20	0	102	80-127	22.15	8.18	30	
m,p-Xylene	40.39	2.0	40	0.47	99.8	75-130	43.51	7.44	30	
Methyl tert-butyl ether	19.84	1.0	20	0	99.2	80-130	21.19	6.58	30	
Methylene chloride	19.42	5.0	20	0	97.1	75-140	20.97	7.68	30	
o-Xylene	20.12	1.0	20	0.24	99.4	80-125	21.95	8.7	30	
Styrene	20.34	1.0	20	0	102	85-125	22.02	7.93	30	
Tetrachloroethene	21.54	1.0	20	0.94	103	77-138	23.24	7.59	30	
Toluene	21.22	1.0	20	0.78	102	85-125	22.98	7.96	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161006** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	20.32	1.0	20	0	102	80-140	22.18	8.75	30
trans-1,3-Dichloropropene	21.71	1.0	20	0	109	81-123	23.28	6.98	30
Trichloroethene	20.4	1.0	20	0	102	84-130	21.93	7.23	30
Trichlorofluoromethane	16.2	1.0	20	0	81	60-140	17.62	8.4	30
Vinyl chloride	22.1	1.0	20	0	110	50-136	23.4	5.71	30
Surr: 1,2-Dichloroethane-d4	*18.33*	0	*20*	0	*91.6*	*75-120*	18.46	*0.707*	*30*
Surr: 4-Bromofluorobenzene	*20.02*	0	*20*	0	*100*	*80-110*	20.46	*2.17*	*30*
Surr: Dibromofluoromethane	*19.22*	0	*20*	0	*96.1*	*85-115*	19.24	*0.104*	*30*
Surr: Toluene-d8	*19.97*	0	*20*	0	*99.8*	*85-110*	19.79	*0.905*	*30*

The following samples were analyzed in this batch: 1504464-01B 1504464-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504464
Project: Olympic Antifreeze 103X90260001S051502007

QC BATCH REPORT

Batch ID: **R161141** Instrument ID **VMS7** Method: **SW8260**

MBLK Sample ID: **VBLKW1-150413-R161141** Units: **µg/L** Analysis Date: **4/13/2015 11:13 AM**

Client ID: Run ID: **VMS7_150413A** SeqNo: **3222930** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Methyl acetate	U	2.0								
Surr: 1,2-Dichloroethane-d4	*17.82*	0	*20*	0	*89.1*	*75-120*	0			
Surr: 4-Bromofluorobenzene	*20.28*	0	*20*	0	*101*	*80-110*	0			
Surr: Dibromofluoromethane	*18.89*	0	*20*	0	*94.4*	*85-115*	0			
Surr: Toluene-d8	*19.66*	0	*20*	0	*98.3*	*85-110*	0			

The following samples were analyzed in this batch: 1504464-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 123456

- ☐ Cincinnati, OH +1 513 733 5336
- ☒ Holland, MI +1 616 399 6070
- ☐ Salt Lake City, UT +1 801 266 7700
- ☐ Everett, WA +1 425 356 2600
- ☐ Houston, TX +1 281 530 5656
- ☐ Spring City, PA +1 610 948 4903
- ☐ Fort Collins, CO +1 970 490 1511
- ☐ Middletown, PA +1 717 944 5541
- ☐ York, PA +1 717 505 5280

ALS Project Manager:		Work Order #:	1504464

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	SVOC's / 8270C
Work Order		Project Number	103X9026000150515020 07	B	VOC's / 8260B
Company Name	Tetra Tech Inc.	Bill To Company	Tetra Tech Inc.	C	Ethylene Glycol / 8015B
Send Report To	Matt Villicana	Invoice Attn.	Chris Burns	D	
Address	1 S. Wacker Dr	Address	1 S. Wacker Dr	E	
				F	
City/State/Zip	Chicago / IL / 60606	City/State/Zip	Chicago / IL / 60606	G	
Phone	708-502-1513	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-SW-04072015	4-07	1445	Water	4°C	5	X	X	X								
2	OA-RW01-04072015	4-07	1500	↓	4°C	5	X	X	X								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Cordell Keener

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☒ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:	Notes:
	4-07	1630	FEDEX	
Relinquished by: FEDEX	Date: 4/8/15	Time: 1000	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date: 4/8/15	Time: 1400	Checked by (Laboratory):	2.2°C

QC Package: (Check Box Below)

- ☐ Level II: Standard QC
- ☐ Level III: Std QC + Raw Data
- ☒ Level IV: SW846 CLP-Like
- ☐ Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **08-Apr-15 10:00**

Work Order: **1504464** Received by: **KRW**

Checklist completed by Keith Wierenga (eSignature) 08-Apr-15 (Date) Reviewed by: Joseph Ribar (eSignature) 08-Apr-15 (Date)

Matrices: Water
Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.2 C	SR2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	4/8/2015 2:11:14 PM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

14-Apr-2015

Matt Villicana
Tetra Tech EM Inc.
1 South Wacker Dr
Suite 3700
Chicago, IL 60606

Re: **Olympic Antifreeze 103X902600015051502007** Work Order: **1504585**

Dear Matt,

ALS Environmental received 2 samples on 10-Apr-2015 10:40 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with NELAP standard requirements and QC results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 29.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

Joseph Ribar

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: IL: 003530

ADDRESS 3352 128th Avenue Holland, Michigan 49424-9263 | PHONE (616) 399-6070 | FAX (616) 399-6185
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

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ALS Group USA, Corp

Date: 14-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Work Order: **1504585**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1504585-01	OA-RW02-04092015	Groundwater		4/9/2015 09:47	4/10/2015 10:40	☐
1504585-02	OA-SW-04092015	Surface Water		4/9/2015 09:57	4/10/2015 10:40	☐

ALS Group USA, Corp

Date: 14-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Work Order: 1504585

Case Narrative

Samples for the above noted Work Order were received on 04/10/2015. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:
No other deviations or anomalies were noted.

Extractable Organics :

Batch 69743, Method 8270, Sample SLCSW1-69743: The LCS recovery was above the upper control limit. All the sample results in the batch were non-detect. No qualification is necessary for this analyte: Benzaldehyde

Batch 69743, Method 8270, Sample 1504421-01A MS: The MS and/or MSD recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: Benzaldehyde

Batch 69743, Method 8270, Sample 1504421-01A MSD: The RPD between the MS and MSD was outside of the control limit. The corresponding result should be considered estimated for this compound: 2,4-Dinitrophenol

ALS Group USA, Corp

Date: *14-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Sample ID: OA-RW02-04092015
Collection Date: 4/9/2015 09:47 AM

Work Order: 1504585
Lab ID: 1504585-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**50**		**0.67**	**5.0**	**mg/L**	1	4/10/2015 17:41
SEMI-VOLATILE ORGANIC COMPOUNDS		Method: **SW846 8270D**			Prep: SW3510 / 4/12/15		Analyst: **RM**
1,1`-Biphenyl	U		0.24	5.4	µg/L	1	4/13/2015 23:44
1,2,4,5-Tetrachlorobenzene	U		2.7	11	µg/L	1	4/13/2015 23:44
2,3,4,6-Tetrachlorophenol	U		0.26	5.4	µg/L	1	4/13/2015 23:44
2,4,5-Trichlorophenol	U		0.31	5.4	µg/L	1	4/13/2015 23:44
2,4,6-Trichlorophenol	U		0.27	5.4	µg/L	1	4/13/2015 23:44
2,4-Dichlorophenol	U		0.18	5.4	µg/L	1	4/13/2015 23:44
2,4-Dimethylphenol	U		0.19	5.4	µg/L	1	4/13/2015 23:44
2,4-Dinitrophenol	U		1.6	5.4	µg/L	1	4/13/2015 23:44
2,4-Dinitrotoluene	U		0.15	5.4	µg/L	1	4/13/2015 23:44
2,6-Dinitrotoluene	U		0.22	5.4	µg/L	1	4/13/2015 23:44
2-Chloronaphthalene	U		0.032	5.4	µg/L	1	4/13/2015 23:44
2-Chlorophenol	U		0.31	5.4	µg/L	1	4/13/2015 23:44
2-Methylnaphthalene	U		0.11	5.4	µg/L	1	4/13/2015 23:44
2-Methylphenol	U		0.15	5.4	µg/L	1	4/13/2015 23:44
2-Nitroaniline	U		0.26	5.4	µg/L	1	4/13/2015 23:44
2-Nitrophenol	U		0.29	5.4	µg/L	1	4/13/2015 23:44
3&4-Methylphenol	U		0.26	5.4	µg/L	1	4/13/2015 23:44
3,3´-Dichlorobenzidine	U		0.76	5.4	µg/L	1	4/13/2015 23:44
3-Nitroaniline	U		0.26	5.4	µg/L	1	4/13/2015 23:44
4,6-Dinitro-2-methylphenol	U		0.13	5.4	µg/L	1	4/13/2015 23:44
4-Bromophenyl phenyl ether	U		0.31	5.4	µg/L	1	4/13/2015 23:44
4-Chloro-3-methylphenol	U		0.17	5.4	µg/L	1	4/13/2015 23:44
4-Chloroaniline	U		0.24	5.4	µg/L	1	4/13/2015 23:44
4-Chlorophenyl phenyl ether	U		0.22	5.4	µg/L	1	4/13/2015 23:44
4-Nitroaniline	U		0.14	5.4	µg/L	1	4/13/2015 23:44
4-Nitrophenol	U		0.67	5.4	µg/L	1	4/13/2015 23:44
Acenaphthene	U		0.044	5.4	µg/L	1	4/13/2015 23:44
Acenaphthylene	**0.19**	J	**0.042**	**5.4**	**µg/L**	1	4/13/2015 23:44
Acetophenone	U		0.40	1.1	µg/L	1	4/13/2015 23:44
Anthracene	U		0.030	5.4	µg/L	1	4/13/2015 23:44
Atrazine	U		0.17	1.1	µg/L	1	4/13/2015 23:44
Benzaldehyde	U		0.27	1.1	µg/L	1	4/13/2015 23:44
Benzo(a)anthracene	U		0.078	5.4	µg/L	1	4/13/2015 23:44
Benzo(a)pyrene	U		0.039	5.4	µg/L	1	4/13/2015 23:44
Benzo(b)fluoranthene	U		0.046	5.4	µg/L	1	4/13/2015 23:44
Benzo(g,h,i)perylene	U		0.076	5.4	µg/L	1	4/13/2015 23:44

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *14-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Sample ID: OA-RW02-04092015
Collection Date: 4/9/2015 09:47 AM

Work Order: 1504585
Lab ID: 1504585-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzo(k)fluoranthene	U		0.067	5.4	µg/L	1	4/13/2015 23:44
Bis(2-chloroethoxy)methane	U		0.25	5.4	µg/L	1	4/13/2015 23:44
Bis(2-chloroethyl)ether	U		0.17	5.4	µg/L	1	4/13/2015 23:44
Bis(2-ethylhexyl)phthalate	U		0.19	5.4	µg/L	1	4/13/2015 23:44
Butyl benzyl phthalate	U		0.13	5.4	µg/L	1	4/13/2015 23:44
Caprolactam	U		1.0	11	µg/L	1	4/13/2015 23:44
Carbazole	U		0.13	5.4	µg/L	1	4/13/2015 23:44
Chrysene	U		0.045	5.4	µg/L	1	4/13/2015 23:44
Dibenzo(a,h)anthracene	U		0.080	5.4	µg/L	1	4/13/2015 23:44
Dibenzofuran	U		0.25	5.4	µg/L	1	4/13/2015 23:44
Diethyl phthalate	U		0.18	5.4	µg/L	1	4/13/2015 23:44
Dimethyl phthalate	U		0.16	5.4	µg/L	1	4/13/2015 23:44
Di-n-butyl phthalate	U		0.16	5.4	µg/L	1	4/13/2015 23:44
Di-n-octyl phthalate	U		0.16	5.4	µg/L	1	4/13/2015 23:44
Fluoranthene	U		0.051	5.4	µg/L	1	4/13/2015 23:44
Fluorene	U		0.039	5.4	µg/L	1	4/13/2015 23:44
Hexachlorobenzene	U		0.25	5.4	µg/L	1	4/13/2015 23:44
Hexachlorobutadiene	U		0.40	5.4	µg/L	1	4/13/2015 23:44
Hexachlorocyclopentadiene	U		0.19	5.4	µg/L	1	4/13/2015 23:44
Hexachloroethane	U		0.51	5.4	µg/L	1	4/13/2015 23:44
Indeno(1,2,3-cd)pyrene	U		0.069	5.4	µg/L	1	4/13/2015 23:44
Isophorone	U		0.27	5.4	µg/L	1	4/13/2015 23:44
Naphthalene	U		0.054	5.4	µg/L	1	4/13/2015 23:44
Nitrobenzene	U		0.25	5.4	µg/L	1	4/13/2015 23:44
N-Nitrosodi-n-propylamine	U		0.26	5.4	µg/L	1	4/13/2015 23:44
N-Nitrosodiphenylamine	U		0.26	5.4	µg/L	1	4/13/2015 23:44
Pentachlorophenol	U		0.56	5.4	µg/L	1	4/13/2015 23:44
Phenanthrene	U		0.058	5.4	µg/L	1	4/13/2015 23:44
Phenol	U		0.14	5.4	µg/L	1	4/13/2015 23:44
Pyrene	U		0.075	5.4	µg/L	1	4/13/2015 23:44
Surr: 2,4,6-Tribromophenol	*78.2*			*38-115*	*%REC*	1	4/13/2015 23:44
Surr: 2-Fluorobiphenyl	*66.2*			*32-100*	*%REC*	1	4/13/2015 23:44
Surr: 2-Fluorophenol	*37.7*			*22-59*	*%REC*	1	4/13/2015 23:44
Surr: 4-Terphenyl-d14	*83.7*			*23-112*	*%REC*	1	4/13/2015 23:44
Surr: Nitrobenzene-d5	*70.4*			*31-93*	*%REC*	1	4/13/2015 23:44
Surr: Phenol-d6	*24.2*			*13-36*	*%REC*	1	4/13/2015 23:44
VOLATILE ORGANIC COMPOUNDS		Method: **SW8260**					Analyst: **AK**
1,1,1-Trichloroethane	U		0.19	1.0	µg/L	1	4/13/2015 12:04
1,1,2,2-Tetrachloroethane	U		0.34	1.0	µg/L	1	4/13/2015 12:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *14-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Sample ID: OA-RW02-04092015
Collection Date: 4/9/2015 09:47 AM

Work Order: 1504585
Lab ID: 1504585-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
1,1,2-Trichloroethane	U		0.25	1.0	µg/L	1	4/13/2015 12:04
1,1,2-Trichlorotrifluoroethane	U		0.47	1.0	µg/L	1	4/13/2015 12:04
1,1-Dichloroethane	**7.2**		**0.21**	**1.0**	**µg/L**	1	4/13/2015 12:04
1,1-Dichloroethene	U		0.24	1.0	µg/L	1	4/13/2015 12:04
1,2,3-Trichlorobenzene	U		0.30	1.0	µg/L	1	4/13/2015 12:04
1,2,4-Trichlorobenzene	U		0.19	1.0	µg/L	1	4/13/2015 12:04
1,2-Dibromo-3-chloropropane	U		0.42	1.0	µg/L	1	4/13/2015 12:04
1,2-Dibromoethane	U		0.34	1.0	µg/L	1	4/13/2015 12:04
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	4/13/2015 12:04
1,2-Dichloroethane	U		0.26	1.0	µg/L	1	4/13/2015 12:04
1,2-Dichloropropane	U		0.26	1.0	µg/L	1	4/13/2015 12:04
1,3-Dichlorobenzene	U		0.21	1.0	µg/L	1	4/13/2015 12:04
1,4-Dichlorobenzene	U		0.20	1.0	µg/L	1	4/13/2015 12:04
1,4-Dioxane	U		36	100	µg/L	1	4/13/2015 12:04
2-Butanone	**1.4**	J	**0.87**	**5.0**	**µg/L**	1	4/13/2015 12:04
2-Hexanone	U		0.15	5.0	µg/L	1	4/13/2015 12:04
4-Methyl-2-pentanone	U		0.15	1.0	µg/L	1	4/13/2015 12:04
Acetone	**28**		**3.1**	**10**	**µg/L**	1	4/13/2015 12:04
Benzene	**0.58**	J	**0.25**	**1.0**	**µg/L**	1	4/13/2015 12:04
Bromochloromethane	U		0.24	1.0	µg/L	1	4/13/2015 12:04
Bromodichloromethane	U		0.16	1.0	µg/L	1	4/13/2015 12:04
Bromoform	U		0.099	1.0	µg/L	1	4/13/2015 12:04
Bromomethane	U		1.0	1.0	µg/L	1	4/13/2015 12:04
Carbon disulfide	U		0.26	1.0	µg/L	1	4/13/2015 12:04
Carbon tetrachloride	U		0.14	1.0	µg/L	1	4/13/2015 12:04
Chlorobenzene	U		0.19	1.0	µg/L	1	4/13/2015 12:04
Chloroethane	**9.0**		**0.21**	**1.0**	**µg/L**	1	4/13/2015 12:04
Chloroform	U		0.25	1.0	µg/L	1	4/13/2015 12:04
Chloromethane	U		0.25	1.0	µg/L	1	4/13/2015 12:04
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	4/13/2015 12:04
cis-1,3-Dichloropropene	U		0.24	1.0	µg/L	1	4/13/2015 12:04
Cyclohexane	U		0.31	1.0	µg/L	1	4/13/2015 12:04
Dibromochloromethane	U		0.17	1.0	µg/L	1	4/13/2015 12:04
Dichlorodifluoromethane	U		0.41	1.0	µg/L	1	4/13/2015 12:04
Ethylbenzene	U		0.22	1.0	µg/L	1	4/13/2015 12:04
Isopropylbenzene	U		0.25	1.0	µg/L	1	4/13/2015 12:04
m,p-Xylene	**1.7**	J	**0.40**	**2.0**	**µg/L**	1	4/13/2015 12:04
Methyl acetate	U		0.62	2.0	µg/L	1	4/13/2015 12:04
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	4/13/2015 12:04
Methylcyclohexane	U		0.32	1.0	µg/L	1	4/13/2015 12:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *14-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Sample ID: OA-RW02-04092015
Collection Date: 4/9/2015 09:47 AM

Work Order: 1504585
Lab ID: 1504585-01
Matrix: GROUNDWATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylene chloride	**0.91**	J	**0.64**	**5.0**	**µg/L**	1	4/13/2015 12:04
o-Xylene	**0.54**	J	**0.21**	**1.0**	**µg/L**	1	4/13/2015 12:04
Styrene	U		0.18	1.0	µg/L	1	4/13/2015 12:04
Tetrachloroethene	U		0.25	1.0	µg/L	1	4/13/2015 12:04
Toluene	**3.0**		**0.20**	**1.0**	**µg/L**	1	4/13/2015 12:04
trans-1,2-Dichloroethene	U		0.29	1.0	µg/L	1	4/13/2015 12:04
trans-1,3-Dichloropropene	U		0.19	1.0	µg/L	1	4/13/2015 12:04
Trichloroethene	U		0.34	1.0	µg/L	1	4/13/2015 12:04
Trichlorofluoromethane	U		0.39	1.0	µg/L	1	4/13/2015 12:04
Vinyl chloride	U		0.19	1.0	µg/L	1	4/13/2015 12:04
Surr: 1,2-Dichloroethane-d4	*90.0*			*75-120*	*%REC*	1	4/13/2015 12:04
Surr: 4-Bromofluorobenzene	*101*			*80-110*	*%REC*	1	4/13/2015 12:04
Surr: Dibromofluoromethane	*93.4*			*85-115*	*%REC*	1	4/13/2015 12:04
Surr: Toluene-d8	*97.2*			*85-110*	*%REC*	1	4/13/2015 12:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: *14-Apr-15*

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
Sample ID: OA-SW-04092015
Collection Date: 4/9/2015 09:57 AM

Work Order: 1504585
Lab ID: 1504585-02
Matrix: SURFACE WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
ORGANIC COMPOUNDS BY GC-FID		Method: **SW8015M**					Analyst: **KYM**
Ethylene glycol	**28,000**		**67**	**500**	**mg/L**	100	4/10/2015 17:50

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group USA, Corp

Date: 14-Apr-15

Client: Tetra Tech EM Inc.
Project: Olympic Antifreeze 103X902600015051502007
WorkOrder: **1504585**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte is present at an estimated concentration between the MDL and Report Limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL
X	Analyte was detected in the Method Blank between the MDL and PQL, sample results may exhibit background or reagent contamination at the observed level.

Acronym	Description
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

Units Reported	Description
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter

ALS Group USA, Corp

Date: 14-Apr-15

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161245** Instrument ID **GC11** Method: **SW8015M**

MBLK Sample ID: **MB-R161245-R161245** Units: **mg/L** Analysis Date: **4/10/2015 05:32 PM**
Client ID: Run ID: **GC11_150410B** SeqNo: **3224224** Prep Date: **4/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	U	5.0								

LCS Sample ID: **LCS-R161245-R161245** Units: **mg/L** Analysis Date: **4/10/2015 04:38 PM**
Client ID: Run ID: **GC11_150410B** SeqNo: **3224225** Prep Date: **4/10/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	490.5	5.0	500	0	98.1	50-150	0			

MS Sample ID: **1504585-01C MS** Units: **mg/L** Analysis Date: **4/10/2015 04:47 PM**
Client ID: **OA-RW02-04092015** Run ID: **GC11_150410B** SeqNo: **3224230** Prep Date: **4/10/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1168	10	1000	49.96	112	50-150	0			

MSD Sample ID: **1504585-01C MSD** Units: **mg/L** Analysis Date: **4/10/2015 04:56 PM**
Client ID: **OA-RW02-04092015** Run ID: **GC11_150410B** SeqNo: **3224232** Prep Date: **4/10/2015** DF: **2**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Ethylene glycol	1189	10	1000	49.96	114	50-150	1168	1.81	30	

The following samples were analyzed in this batch: 1504585-01C 1504585-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

MBLK Sample ID: **SBLKW1-69743-69743** Units: **µg/L** Analysis Date: **4/13/2015 12:13 PM**

Client ID: Run ID: **SVMS8_150413A** SeqNo: **3224714** Prep Date: **4/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1`-Biphenyl	U	5.0								
1,2,4,5-Tetrachlorobenzene	U	10								
2,3,4,6-Tetrachlorophenol	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	5.0								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	5.0								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3´-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	5.0								
4,6-Dinitro-2-methylphenol	U	5.0								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	5.0								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	5.0								
4-Nitrophenol	U	5.0								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

Carbazole	U	5.0					
Chrysene	U	5.0					
Dibenzo(a,h)anthracene	U	5.0					
Dibenzofuran	U	5.0					
Diethyl phthalate	U	5.0					
Dimethyl phthalate	U	5.0					
Di-n-butyl phthalate	U	5.0					
Di-n-octyl phthalate	U	5.0					
Fluoranthene	U	5.0					
Fluorene	U	5.0					
Hexachlorobenzene	U	5.0					
Hexachlorobutadiene	U	5.0					
Hexachlorocyclopentadiene	U	5.0					
Hexachloroethane	U	5.0					
Indeno(1,2,3-cd)pyrene	U	5.0					
Isophorone	U	5.0					
Naphthalene	U	5.0					
Nitrobenzene	U	5.0					
N-Nitrosodi-n-propylamine	U	5.0					
N-Nitrosodiphenylamine	U	5.0					
Pentachlorophenol	U	5.0					
Phenanthrene	U	5.0					
Phenol	U	5.0					
Pyrene	U	5.0					
Surr: 2,4,6-Tribromophenol	*36.11*	0	*50*	0	*72.2*	*38-115*	0
Surr: 2-Fluorobiphenyl	*33.33*	0	*50*	0	*66.7*	*32-100*	0
Surr: 2-Fluorophenol	*21.58*	0	*50*	0	*43.2*	*22-59*	0
Surr: 4-Terphenyl-d14	*47.74*	0	*50*	0	*95.5*	*23-112*	0
Surr: Nitrobenzene-d5	*35.07*	0	*50*	0	*70.1*	*31-93*	0
Surr: Phenol-d6	*12.17*	0	*50*	0	*24.3*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

LCS Sample ID: **SLCSW1-69743-69743** Units: **µg/L** Analysis Date: **4/13/2015 12:33 PM**

Client ID: Run ID: **SVMS8_150413A** SeqNo: **3224716** Prep Date: **4/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	16.38	5.0	20	0	81.9	50-110	0			
2,4,6-Trichlorophenol	16.29	5.0	20	0	81.4	50-115	0			
2,4-Dichlorophenol	15.95	5.0	20	0	79.8	50-105	0			
2,4-Dimethylphenol	14.43	5.0	20	0	72.2	30-110	0			
2,4-Dinitrophenol	14.09	5.0	20	0	70.4	15-140	0			
2,4-Dinitrotoluene	16.25	5.0	20	0	81.2	50-120	0			
2,6-Dinitrotoluene	16.23	5.0	20	0	81.2	50-115	0			
2-Chloronaphthalene	14.25	5.0	20	0	71.2	50-105	0			
2-Chlorophenol	15.02	5.0	20	0	75.1	35-105	0			
2-Methylnaphthalene	15.12	5.0	20	0	75.6	45-105	0			
2-Methylphenol	13.22	5.0	20	0	66.1	40-110	0			
2-Nitroaniline	15.7	5.0	20	0	78.5	50-115	0			
2-Nitrophenol	15.52	5.0	20	0	77.6	40-115	0			
3&4-Methylphenol	12.44	5.0	20	0	62.2	30-110	0			
3-Nitroaniline	15.56	5.0	20	0	77.8	20-125	0			
4,6-Dinitro-2-methylphenol	14.91	5.0	20	0	74.6	40-130	0			
4-Bromophenyl phenyl ether	16.25	5.0	20	0	81.2	50-115	0			
4-Chloro-3-methylphenol	15.98	5.0	20	0	79.9	45-110	0			
4-Chloroaniline	16.29	5.0	20	0	81.4	15-110	0			
4-Chlorophenyl phenyl ether	15.02	5.0	20	0	75.1	50-110	0			
4-Nitroaniline	15.57	5.0	20	0	77.8	35-150	0			
4-Nitrophenol	6.93	5.0	20	0	34.6	1-58	0			
Acenaphthene	15.19	5.0	20	0	76	45-110	0			
Acenaphthylene	14.12	5.0	20	0	70.6	50-105	0			
Acetophenone	15.82	1.0	20	0	79.1	30-120	0			
Anthracene	15.22	5.0	20	0	76.1	55-110	0			
Atrazine	17.18	1.0	20	0	85.9	30-120	0			
Benzaldehyde	31.74	1.0	20	0	159	30-120	0			S
Benzo(a)anthracene	16.22	5.0	20	0	81.1	55-110	0			
Benzo(a)pyrene	18.49	5.0	20	0	92.4	55-110	0			
Benzo(b)fluoranthene	19.08	5.0	20	0	95.4	45-120	0			
Benzo(g,h,i)perylene	17.25	5.0	20	0	86.2	40-125	0			
Benzo(k)fluoranthene	17.99	5.0	20	0	90	45-125	0			
Bis(2-chloroethoxy)methane	14.75	5.0	20	0	73.8	45-105	0			
Bis(2-chloroethyl)ether	16.02	5.0	20	0	80.1	35-110	0			
Bis(2-ethylhexyl)phthalate	16.07	5.0	20	0	80.4	40-125	0			
Butyl benzyl phthalate	15.8	5.0	20	0	79	45-115	0			
Carbazole	16.7	5.0	20	0	83.5	50-150	0			
Chrysene	16.13	5.0	20	0	80.6	55-110	0			
Dibenzo(a,h)anthracene	16.71	5.0	20	0	83.6	40-125	0			
Dibenzofuran	15.64	5.0	20	0	78.2	55-105	0			
Diethyl phthalate	15.97	5.0	20	0	79.8	40-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

Dimethyl phthalate	15.74	5.0	20	0	78.7	25-125	0
Di-n-butyl phthalate	16.41	5.0	20	0	82	55-115	0
Di-n-octyl phthalate	18.05	5.0	20	0	90.2	35-135	0
Fluoranthene	16.08	5.0	20	0	80.4	55-115	0
Fluorene	15.18	5.0	20	0	75.9	50-110	0
Hexachlorobenzene	15.61	5.0	20	0	78	50-110	0
Hexachlorobutadiene	12.76	5.0	20	0	63.8	25-105	0
Hexachlorocyclopentadiene	11.5	5.0	20	0	57.5	25-105	0
Hexachloroethane	12.32	5.0	20	0	61.6	30-95	0
Indeno(1,2,3-cd)pyrene	16.86	5.0	20	0	84.3	45-125	0
Isophorone	15.2	5.0	20	0	76	50-110	0
Naphthalene	11.99	5.0	20	0	60	40-100	0
Nitrobenzene	14.34	5.0	20	0	71.7	45-110	0
N-Nitrosodi-n-propylamine	16.33	5.0	20	0	81.6	35-130	0
N-Nitrosodiphenylamine	16.06	5.0	20	0	80.3	50-110	0
Pentachlorophenol	13.72	5.0	20	0	68.6	40-115	0
Phenanthrene	15.12	5.0	20	0	75.6	50-115	0
Phenol	6.97	5.0	20	0	34.8	12-43	0
Pyrene	16.6	5.0	20	0	83	50-130	0
Surr: 2,4,6-Tribromophenol	*40.97*	0	*50*	0	*81.9*	*38-115*	0
Surr: 2-Fluorobiphenyl	*36.41*	0	*50*	0	*72.8*	*32-100*	0
Surr: 2-Fluorophenol	*23.16*	0	*50*	0	*46.3*	*22-59*	0
Surr: 4-Terphenyl-d14	*46.66*	0	*50*	0	*93.3*	*23-112*	0
Surr: Nitrobenzene-d5	*39.08*	0	*50*	0	*78.2*	*31-93*	0
Surr: Phenol-d6	*14.24*	0	*50*	0	*28.5*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

MS Sample ID: **1504421-01A MS** Units: **µg/L** Analysis Date: **4/13/2015 01:22 PM**

Client ID: Run ID: **SVMS8_150413A** SeqNo: **3224719** Prep Date: **4/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	303.4	100	400	0	75.8	50-110	0			
2,4,6-Trichlorophenol	324.4	100	400	0	81.1	50-115	0			
2,4-Dichlorophenol	290.2	100	400	0	72.6	50-105	0			
2,4-Dimethylphenol	277.2	100	400	0	69.3	30-110	0			
2,4-Dinitrophenol	233.2	100	400	0	58.3	15-140	0			
2,4-Dinitrotoluene	296	100	400	0	74	50-120	0			
2,6-Dinitrotoluene	298.8	100	400	0	74.7	50-115	0			
2-Chloronaphthalene	291.4	100	400	0	72.8	50-105	0			
2-Chlorophenol	278	100	400	0	69.5	35-105	0			
2-Methylnaphthalene	281.8	100	400	0	70.4	45-105	0			
2-Methylphenol	239.4	100	400	0	59.8	40-110	0			
2-Nitroaniline	292.8	100	400	0	73.2	50-115	0			
2-Nitrophenol	295	100	400	0	73.8	40-115	0			
3&4-Methylphenol	211.8	100	400	0	53	30-110	0			
3-Nitroaniline	263.8	100	400	0	66	20-125	0			
4,6-Dinitro-2-methylphenol	279.2	100	400	0	69.8	40-130	0			
4-Bromophenyl phenyl ether	330.6	100	400	0	82.6	50-115	0			
4-Chloro-3-methylphenol	274	100	400	0	68.5	45-110	0			
4-Chloroaniline	248.8	100	400	0	62.2	15-110	0			
4-Chlorophenyl phenyl ether	282.2	100	400	0	70.6	50-110	0			
4-Nitroaniline	268.2	100	400	0	67	35-150	0			
4-Nitrophenol	122.8	100	400	0	30.7	1-58	0			
Acenaphthene	298.8	100	400	0	74.7	45-110	0			
Acenaphthylene	280	100	400	0	70	50-105	0			
Acetophenone	280.4	20	400	0	70.1	30-120	0			
Anthracene	299.4	100	400	0	74.8	55-110	0			
Atrazine	294.8	20	400	0	73.7	30-120	0			
Benzaldehyde	633.8	20	400	0	158	30-120	0			S
Benzo(a)anthracene	313.4	100	400	0	78.4	55-110	0			
Benzo(a)pyrene	365.4	100	400	0	91.4	55-110	0			
Benzo(b)fluoranthene	359	100	400	0	89.8	45-120	0			
Benzo(g,h,i)perylene	355.2	100	400	0	88.8	40-125	0			
Benzo(k)fluoranthene	353	100	400	0	88.2	45-125	0			
Bis(2-chloroethoxy)methane	277.4	100	400	0	69.4	45-105	0			
Bis(2-chloroethyl)ether	288.8	100	400	0	72.2	35-110	0			
Bis(2-ethylhexyl)phthalate	323.6	100	400	0	80.9	40-125	0			
Butyl benzyl phthalate	299.4	100	400	0	74.8	45-115	0			
Carbazole	311	100	400	0	77.8	50-150	0			
Chrysene	321.6	100	400	0	80.4	55-110	0			
Dibenzo(a,h)anthracene	336.6	100	400	0	84.2	40-125	0			
Dibenzofuran	294.8	100	400	0	73.7	55-105	0			
Diethyl phthalate	290.6	100	400	0	72.6	40-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

Dimethyl phthalate	285.8	100	400	0	71.4	25-125	0
Di-n-butyl phthalate	304.8	100	400	0	76.2	55-115	0
Di-n-octyl phthalate	326.8	100	400	0	81.7	35-135	0
Fluoranthene	294.6	100	400	0	73.6	55-115	0
Fluorene	279.8	100	400	0	70	50-110	0
Hexachlorobenzene	313.8	100	400	0	78.4	50-110	0
Hexachlorobutadiene	253.8	100	400	0	63.4	25-105	0
Hexachlorocyclopentadiene	262	100	400	0	65.5	25-105	0
Hexachloroethane	229.6	100	400	0	57.4	30-95	0
Indeno(1,2,3-cd)pyrene	336.4	100	400	0	84.1	45-125	0
Isophorone	275.8	100	400	0	69	50-110	0
Naphthalene	230	100	400	0	57.5	40-100	0
Nitrobenzene	275.6	100	400	0	68.9	45-110	0
N-Nitrosodi-n-propylamine	287.6	100	400	0	71.9	35-130	0
N-Nitrosodiphenylamine	337.4	100	400	0	84.4	50-110	0
Pentachlorophenol	278.2	100	400	0	69.6	40-115	0
Phenanthrene	301.4	100	400	0	75.4	50-115	0
Phenol	126.2	100	400	0	31.6	12-43	0
Pyrene	309	100	400	0	77.2	50-130	0
Surr: 2,4,6-Tribromophenol	*823.4*	0	*1000*	0	*82.3*	*38-115*	0
Surr: 2-Fluorobiphenyl	*743.4*	0	*1000*	0	*74.3*	*32-100*	0
Surr: 2-Fluorophenol	*428.8*	0	*1000*	0	*42.9*	*22-59*	0
Surr: 4-Terphenyl-d14	*864.2*	0	*1000*	0	*86.4*	*23-112*	0
Surr: Nitrobenzene-d5	*752.8*	0	*1000*	0	*75.3*	*31-93*	0
Surr: Phenol-d6	*260.4*	0	*1000*	0	*26*	*13-36*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

MSD Sample ID: **1504421-01A MSD** Units: **µg/L** Analysis Date: **4/13/2015 01:42 PM**

Client ID: Run ID: **SVMS8_150413A** SeqNo: **3224722** Prep Date: **4/12/2015** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2,4,5-Trichlorophenol	317.6	100	400	0	79.4	50-110	303.4	4.57	30	
2,4,6-Trichlorophenol	335.4	100	400	0	83.8	50-115	324.4	3.33	30	
2,4-Dichlorophenol	298.6	100	400	0	74.6	50-105	290.2	2.85	30	
2,4-Dimethylphenol	285.6	100	400	0	71.4	30-110	277.2	2.99	30	
2,4-Dinitrophenol	319.4	100	400	0	79.8	15-140	233.2	31.2	30	R
2,4-Dinitrotoluene	366.2	100	400	0	91.6	50-120	296	21.2	30	
2,6-Dinitrotoluene	336	100	400	0	84	50-115	298.8	11.7	30	
2-Chloronaphthalene	288.2	100	400	0	72	50-105	291.4	1.1	30	
2-Chlorophenol	288.4	100	400	0	72.1	35-105	278	3.67	30	
2-Methylnaphthalene	297	100	400	0	74.2	45-105	281.8	5.25	30	
2-Methylphenol	264.4	100	400	0	66.1	40-110	239.4	9.92	30	
2-Nitroaniline	324.8	100	400	0	81.2	50-115	292.8	10.4	30	
2-Nitrophenol	301.6	100	400	0	75.4	40-115	295	2.21	30	
3&4-Methylphenol	234.6	100	400	0	58.6	30-110	211.8	10.2	30	
3-Nitroaniline	311.2	100	400	0	77.8	20-125	263.8	16.5	30	
4,6-Dinitro-2-methylphenol	340	100	400	0	85	40-130	279.2	19.6	30	
4-Bromophenyl phenyl ether	331.8	100	400	0	83	50-115	330.6	0.362	30	
4-Chloro-3-methylphenol	315	100	400	0	78.8	45-110	274	13.9	30	
4-Chloroaniline	277.8	100	400	0	69.4	15-110	248.8	11	30	
4-Chlorophenyl phenyl ether	319.4	100	400	0	79.8	50-110	282.2	12.4	30	
4-Nitroaniline	332.2	100	400	0	83	35-150	268.2	21.3	30	
4-Nitrophenol	146.4	100	400	0	36.6	1-58	122.8	17.5	30	
Acenaphthene	317.2	100	400	0	79.3	45-110	298.8	5.97	30	
Acenaphthylene	286.8	100	400	0	71.7	50-105	280	2.4	30	
Acetophenone	302.2	20	400	0	75.6	30-120	280.4	7.48	30	
Anthracene	325.6	100	400	0	81.4	55-110	299.4	8.38	30	
Atrazine	371.8	20	400	0	93	30-120	294.8	23.1	30	
Benzaldehyde	671	20	400	0	168	30-120	633.8	5.7	30	S
Benzo(a)anthracene	350.2	100	400	0	87.6	55-110	313.4	11.1	30	
Benzo(a)pyrene	398.6	100	400	0	99.6	55-110	365.4	8.69	30	
Benzo(b)fluoranthene	401.2	100	400	0	100	45-120	359	11.1	30	
Benzo(g,h,i)perylene	372.4	100	400	0	93.1	40-125	355.2	4.73	30	
Benzo(k)fluoranthene	403.2	100	400	0	101	45-125	353	13.3	30	
Bis(2-chloroethoxy)methane	287.8	100	400	0	72	45-105	277.4	3.68	30	
Bis(2-chloroethyl)ether	303.4	100	400	0	75.8	35-110	288.8	4.93	30	
Bis(2-ethylhexyl)phthalate	352.8	100	400	0	88.2	40-125	323.6	8.63	30	
Butyl benzyl phthalate	341.6	100	400	0	85.4	45-115	299.4	13.2	30	
Carbazole	355.8	100	400	0	89	50-150	311	13.4	30	
Chrysene	350.8	100	400	0	87.7	55-110	321.6	8.69	30	
Dibenzo(a,h)anthracene	355	100	400	0	88.8	40-125	336.6	5.32	30	
Dibenzofuran	317.2	100	400	0	79.3	55-105	294.8	7.32	30	
Diethyl phthalate	343.8	100	400	0	86	40-120	290.6	16.8	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **69743** Instrument ID **SVMS8** Method: **SW846 8270D**

Dimethyl phthalate	325	100	400	0	81.2	25-125	285.8	12.8	30
Di-n-butyl phthalate	354.8	100	400	0	88.7	55-115	304.8	15.2	30
Di-n-octyl phthalate	387.6	100	400	0	96.9	35-135	326.8	17	30
Fluoranthene	352.2	100	400	0	88	55-115	294.6	17.8	30
Fluorene	316.2	100	400	0	79	50-110	279.8	12.2	30
Hexachlorobenzene	335.2	100	400	0	83.8	50-110	313.8	6.59	30
Hexachlorobutadiene	252.6	100	400	0	63.2	25-105	253.8	0.474	30
Hexachlorocyclopentadiene	253	100	400	0	63.2	25-105	262	3.5	30
Hexachloroethane	235.4	100	400	0	58.8	30-95	229.6	2.49	30
Indeno(1,2,3-cd)pyrene	360.8	100	400	0	90.2	45-125	336.4	7	30
Isophorone	296.6	100	400	0	74.2	50-110	275.8	7.27	30
Naphthalene	236.6	100	400	0	59.2	40-100	230	2.83	30
Nitrobenzene	280.2	100	400	0	70	45-110	275.6	1.66	30
N-Nitrosodi-n-propylamine	313.2	100	400	0	78.3	35-130	287.6	8.52	30
N-Nitrosodiphenylamine	338.4	100	400	0	84.6	50-110	337.4	0.296	30
Pentachlorophenol	311	100	400	0	77.8	40-115	278.2	11.1	30
Phenanthrene	325.2	100	400	0	81.3	50-115	301.4	7.6	30
Phenol	141	100	400	0	35.2	12-43	126.2	11.1	30
Pyrene	352.6	100	400	0	88.2	50-130	309	13.2	30
Surr: 2,4,6-Tribromophenol	*871.4*	0	*1000*	0	*87.1*	*38-115*	823.4	*5.66*	*40*
Surr: 2-Fluorobiphenyl	*723.6*	0	*1000*	0	*72.4*	*32-100*	743.4	*2.7*	*40*
Surr: 2-Fluorophenol	*447.8*	0	*1000*	0	*44.8*	*22-59*	428.8	*4.33*	*40*
Surr: 4-Terphenyl-d14	*950.4*	0	*1000*	0	*95*	*23-112*	864.2	*9.5*	*40*
Surr: Nitrobenzene-d5	*762*	0	*1000*	0	*76.2*	*31-93*	752.8	*1.21*	*40*
Surr: Phenol-d6	*287.8*	0	*1000*	0	*28.8*	*13-36*	260.4	*10*	*40*

The following samples were analyzed in this batch: 1504585-01A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

MBLK Sample ID: **VBLKW1-150413-R161141A** Units: **µg/L** Analysis Date: **4/13/2015 11:13 AM**

Client ID: Run ID: **VMS7_150413A** SeqNo: **3222930** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,3-Trichlorobenzene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
1,4-Dioxane	U	120								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromochloromethane	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	1.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylcyclohexane	U	1.0								

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

Methylene chloride	0.9	5.0						J
o-Xylene	U	1.0						
Styrene	U	1.0						
Tetrachloroethene	U	1.0						
Toluene	U	1.0						
trans-1,2-Dichloroethene	U	1.0						
trans-1,3-Dichloropropene	U	1.0						
Trichloroethene	U	1.0						
Trichlorofluoromethane	U	1.0						
Vinyl chloride	U	1.0						
Surr: 1,2-Dichloroethane-d4	*17.82*	0	*20*	0	*89.1*	*75-120*	0	
Surr: 4-Bromofluorobenzene	*20.28*	0	*20*	0	*101*	*80-110*	0	
Surr: Dibromofluoromethane	*18.89*	0	*20*	0	*94.4*	*85-115*	0	
Surr: Toluene-d8	*19.66*	0	*20*	0	*98.3*	*85-110*	0	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

LCS Sample ID: **VLCSW1-150413-R161141A** Units: **µg/L** Analysis Date: **4/13/2015 09:26 AM**

Client ID: Run ID: **VMS7_150413A** SeqNo: **3222929** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	22.02	1.0	20	0	110	75-130	0			
1,1,2,2-Tetrachloroethane	20.34	1.0	20	0	102	75-130	0			
1,1,2-Trichloroethane	22.3	1.0	20	0	112	75-125	0			
1,1-Dichloroethane	22.91	1.0	20	0	115	75-133	0			
1,1-Dichloroethene	20.05	1.0	20	0	100	70-145	0			
1,2,3-Trichlorobenzene	25.16	1.0	20	0	126	70-140	0			
1,2,4-Trichlorobenzene	24.97	1.0	20	0	125	70-135	0			
1,2-Dibromo-3-chloropropane	18.46	1.0	20	0	92.3	60-130	0			
1,2-Dibromoethane	24.61	1.0	20	0	123	80-150	0			
1,2-Dichlorobenzene	22.64	1.0	20	0	113	70-130	0			
1,2-Dichloroethane	20.96	1.0	20	0	105	78-125	0			
1,2-Dichloropropane	23.25	1.0	20	0	116	75-125	0			
1,3-Dichlorobenzene	22.8	1.0	20	0	114	75-130	0			
1,4-Dichlorobenzene	22.76	1.0	20	0	114	75-130	0			
2-Butanone	19.99	5.0	20	0	100	55-150	0			
2-Hexanone	18.46	5.0	20	0	92.3	60-135	0			
4-Methyl-2-pentanone	24.07	1.0	20	0	120	77-178	0			
Acetone	14.59	10	20	0	73	60-160	0			
Benzene	23.07	1.0	20	0	115	85-125	0			
Bromochloromethane	23.27	1.0	20	0	116	75-130	0			
Bromodichloromethane	21.04	1.0	20	0	105	75-125	0			
Bromoform	18.72	1.0	20	0	93.6	60-125	0			
Bromomethane	15.41	1.0	20	0	77	30-185	0			
Carbon disulfide	20.13	1.0	20	0	101	60-165	0			
Carbon tetrachloride	21.1	1.0	20	0	106	65-140	0			
Chlorobenzene	21.74	1.0	20	0	109	80-120	0			
Chloroethane	17.26	1.0	20	0	86.3	50-140	0			
Chloroform	21.2	1.0	20	0	106	80-130	0			
Chloromethane	20.35	1.0	20	0	102	50-130	0			
cis-1,2-Dichloroethene	24.31	1.0	20	0	122	75-134	0			
cis-1,3-Dichloropropene	21.61	1.0	20	0	108	70-130	0			
Dibromochloromethane	19.33	1.0	20	0	96.6	60-115	0			
Dichlorodifluoromethane	13.74	1.0	20	0	68.7	20-120	0			
Ethylbenzene	21.87	1.0	20	0	109	85-125	0			
Isopropylbenzene	22.69	1.0	20	0	113	80-127	0			
m,p-Xylene	43.51	2.0	40	0	109	75-130	0			
Methyl tert-butyl ether	20.12	1.0	20	0	101	80-130	0			
Methylene chloride	21.86	5.0	20	0	109	75-140	0			
o-Xylene	21.65	1.0	20	0	108	80-125	0			
Styrene	22.77	1.0	20	0	114	85-125	0			
Tetrachloroethene	22.07	1.0	20	0	110	77-138	0			
Toluene	21.96	1.0	20	0	110	85-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	21.07	1.0	20	0	105	80-140	0
trans-1,3-Dichloropropene	23.3	1.0	20	0	116	81-123	0
Trichloroethene	21.37	1.0	20	0	107	84-130	0
Trichlorofluoromethane	16.27	1.0	20	0	81.4	60-140	0
Vinyl chloride	21.06	1.0	20	0	105	50-136	0
Surr: 1,2-Dichloroethane-d4	*17.4*	0	*20*	0	*87*	*75-120*	0
Surr: 4-Bromofluorobenzene	*19.81*	0	*20*	0	*99*	*80-110*	0
Surr: Dibromofluoromethane	*19.02*	0	*20*	0	*95.1*	*85-115*	0
Surr: Toluene-d8	*19.77*	0	*20*	0	*98.8*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

MS Sample ID: **1504231-01A MS** Units: **µg/L** Analysis Date: **4/13/2015 07:37 PM**

Client ID: Run ID: **VMS7_150413A** SeqNo: **3224211** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.94	1.0	20	0	99.7	75-130	0			
1,1,2,2-Tetrachloroethane	19.08	1.0	20	0	95.4	75-130	0			
1,1,2-Trichloroethane	19.31	1.0	20	0	96.6	75-125	0			
1,1-Dichloroethane	20.52	1.0	20	0	103	75-133	0			
1,1-Dichloroethene	18.29	1.0	20	0	91.4	70-145	0			
1,2,3-Trichlorobenzene	16.56	1.0	20	0	82.8	70-140	0			
1,2,4-Trichlorobenzene	16.82	1.0	20	0	84.1	70-135	0			
1,2-Dibromo-3-chloropropane	16.15	1.0	20	0	80.8	60-130	0			
1,2-Dibromoethane	21.85	1.0	20	0	109	80-150	0			
1,2-Dichlorobenzene	18.86	1.0	20	0	94.3	70-130	0			
1,2-Dichloroethane	17.87	1.0	20	0	89.4	78-125	0			
1,2-Dichloropropane	19.94	1.0	20	0	99.7	75-125	0			
1,3-Dichlorobenzene	19.04	1.0	20	0	95.2	75-130	0			
1,4-Dichlorobenzene	18.61	1.0	20	0	93	75-130	0			
2-Butanone	18.18	5.0	20	0	90.9	55-150	0			
2-Hexanone	19.56	5.0	20	0	97.8	60-135	0			
4-Methyl-2-pentanone	24	1.0	20	0	120	77-178	0			
Acetone	11.28	10	20	0	56.4	60-160	0			S
Benzene	20.5	1.0	20	0	102	85-125	0			
Bromochloromethane	19.89	1.0	20	0	99.4	75-130	0			
Bromodichloromethane	17.56	1.0	20	0	87.8	75-125	0			
Bromoform	15.32	1.0	20	0	76.6	60-125	0			
Bromomethane	7.9	1.0	20	0	39.5	30-185	0			
Carbon disulfide	17.65	1.0	20	0	88.2	60-165	0			
Carbon tetrachloride	18.71	1.0	20	0	93.6	65-140	0			
Chlorobenzene	18.79	1.0	20	0	94	80-120	0			
Chloroethane	15.28	1.0	20	0	76.4	50-140	0			
Chloroform	18.63	1.0	20	0	93.2	80-130	0			
Chloromethane	16.61	1.0	20	0	83	50-130	0			
cis-1,2-Dichloroethene	21.44	1.0	20	0	107	75-134	0			
cis-1,3-Dichloropropene	18.05	1.0	20	0	90.2	70-130	0			
Dibromochloromethane	15.59	1.0	20	0	78	60-115	0			
Dichlorodifluoromethane	12.68	1.0	20	0	63.4	20-120	0			
Ethylbenzene	19.15	1.0	20	0	95.8	85-125	0			
Isopropylbenzene	18.99	1.0	20	0	95	80-127	0			
m,p-Xylene	37.72	2.0	40	0	94.3	75-130	0			
Methyl tert-butyl ether	17.84	1.0	20	0	89.2	80-130	0			
Methylene chloride	17.19	5.0	20	0	86	75-140	0			
o-Xylene	18.61	1.0	20	0	93	80-125	0			
Styrene	19.28	1.0	20	0	96.4	85-125	0			
Tetrachloroethene	19.78	1.0	20	0	98.9	77-138	0			
Toluene	19.54	1.0	20	0.18	96.8	85-125	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	18.66	1.0	20	0	93.3	80-140	0
trans-1,3-Dichloropropene	19.98	1.0	20	0	99.9	81-123	0
Trichloroethene	19.72	1.0	20	0	98.6	84-130	0
Trichlorofluoromethane	15.01	1.0	20	0	75	60-140	0
Vinyl chloride	18.8	1.0	20	0	94	50-136	0
Surr: 1,2-Dichloroethane-d4	*17.18*	0	*20*	0	*85.9*	*75-120*	0
Surr: 4-Bromofluorobenzene	*20.03*	0	*20*	0	*100*	*80-110*	0
Surr: Dibromofluoromethane	*18.6*	0	*20*	0	*93*	*85-115*	0
Surr: Toluene-d8	*19.76*	0	*20*	0	*98.8*	*85-110*	0

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

MSD Sample ID: **1504231-01A MSD** Units: **µg/L** Analysis Date: **4/13/2015 08:02 PM**

Client ID: Run ID: **VMS7_150413A** SeqNo: **3224212** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	22.15	1.0	20	0	111	75-130	19.94	10.5	30	
1,1,2,2-Tetrachloroethane	20.72	1.0	20	0	104	75-130	19.08	8.24	30	
1,1,2-Trichloroethane	21.26	1.0	20	0	106	75-125	19.31	9.61	30	
1,1-Dichloroethane	21.9	1.0	20	0	110	75-133	20.52	6.51	30	
1,1-Dichloroethene	19.4	1.0	20	0	97	70-145	18.29	5.89	30	
1,2,3-Trichlorobenzene	18.86	1.0	20	0	94.3	70-140	16.56	13	30	
1,2,4-Trichlorobenzene	18.92	1.0	20	0	94.6	70-135	16.82	11.8	30	
1,2-Dibromo-3-chloropropane	17.79	1.0	20	0	89	60-130	16.15	9.66	30	
1,2-Dibromoethane	23.88	1.0	20	0	119	80-150	21.85	8.88	30	
1,2-Dichlorobenzene	19.83	1.0	20	0	99.2	70-130	18.86	5.01	30	
1,2-Dichloroethane	19.57	1.0	20	0	97.8	78-125	17.87	9.08	30	
1,2-Dichloropropane	22.2	1.0	20	0	111	75-125	19.94	10.7	30	
1,3-Dichlorobenzene	20.27	1.0	20	0	101	75-130	19.04	6.26	30	
1,4-Dichlorobenzene	19.99	1.0	20	0	100	75-130	18.61	7.15	30	
2-Butanone	19.26	5.0	20	0	96.3	55-150	18.18	5.77	30	
2-Hexanone	22.34	5.0	20	0	112	60-135	19.56	13.3	30	
4-Methyl-2-pentanone	26.88	1.0	20	0	134	77-178	24	11.3	30	
Acetone	13	10	20	0	65	60-160	11.28	14.2	30	
Benzene	22.32	1.0	20	0	112	85-125	20.5	8.5	30	
Bromochloromethane	21.57	1.0	20	0	108	75-130	19.89	8.1	30	
Bromodichloromethane	19.1	1.0	20	0	95.5	75-125	17.56	8.4	30	
Bromoform	16.82	1.0	20	0	84.1	60-125	15.32	9.33	30	
Bromomethane	9.6	1.0	20	0	48	30-185	7.9	19.4	30	
Carbon disulfide	19.17	1.0	20	0	95.8	60-165	17.65	8.26	30	
Carbon tetrachloride	20.58	1.0	20	0	103	65-140	18.71	9.52	30	
Chlorobenzene	20.52	1.0	20	0	103	80-120	18.79	8.8	30	
Chloroethane	16.29	1.0	20	0	81.4	50-140	15.28	6.4	30	
Chloroform	19.94	1.0	20	0	99.7	80-130	18.63	6.79	30	
Chloromethane	17.09	1.0	20	0	85.4	50-130	16.61	2.85	30	
cis-1,2-Dichloroethene	22.95	1.0	20	0	115	75-134	21.44	6.8	30	
cis-1,3-Dichloropropene	20.02	1.0	20	0	100	70-130	18.05	10.3	30	
Dibromochloromethane	17.72	1.0	20	0	88.6	60-115	15.59	12.8	30	
Dichlorodifluoromethane	12.59	1.0	20	0	63	20-120	12.68	0.712	30	
Ethylbenzene	20.95	1.0	20	0	105	85-125	19.15	8.98	30	
Isopropylbenzene	21.08	1.0	20	0	105	80-127	18.99	10.4	30	
m,p-Xylene	41.2	2.0	40	0	103	75-130	37.72	8.82	30	
Methyl tert-butyl ether	19.12	1.0	20	0	95.6	80-130	17.84	6.93	30	
Methylene chloride	18.56	5.0	20	0	92.8	75-140	17.19	7.66	30	
o-Xylene	20.34	1.0	20	0	102	80-125	18.61	8.88	30	
Styrene	21.12	1.0	20	0	106	85-125	19.28	9.11	30	
Tetrachloroethene	21.7	1.0	20	0	108	77-138	19.78	9.26	30	
Toluene	21.51	1.0	20	0.18	107	85-125	19.54	9.6	30	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Tetra Tech EM Inc.
Work Order: 1504585
Project: Olympic Antifreeze 103X902600015051502007

QC BATCH REPORT

Batch ID: **R161141A** Instrument ID **VMS7** Method: **SW8260**

trans-1,2-Dichloroethene	19.92	1.0	20	0	99.6	80-140	18.66	6.53	30
trans-1,3-Dichloropropene	22.04	1.0	20	0	110	81-123	19.98	9.8	30
Trichloroethene	21.56	1.0	20	0	108	84-130	19.72	8.91	30
Trichlorofluoromethane	15.75	1.0	20	0	78.8	60-140	15.01	4.81	30
Vinyl chloride	19.99	1.0	20	0	100	50-136	18.8	6.14	30
Surr: 1,2-Dichloroethane-d4	*17.25*	0	*20*	0	*86.2*	*75-120*	17.18	*0.407*	*30*
Surr: 4-Bromofluorobenzene	*20.04*	0	*20*	0	*100*	*80-110*	20.03	*0.0499*	*30*
Surr: Dibromofluoromethane	*18.93*	0	*20*	0	*94.6*	*85-115*	18.6	*1.76*	*30*
Surr: Toluene-d8	*19.59*	0	*20*	0	*98*	*85-110*	19.76	*0.864*	*30*

The following samples were analyzed in this batch: 1504585-01B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Chain of Custody Form

Page 1 of 1

COC ID: 123456

- ☐ Cincinnati, OH +1 513 733 5336
- ☒ Holland, MI +1 616 399 6070
- ☐ Salt Lake City, UT +1 801 266 7700
- ☐ Everett, WA +1 425 356 2600
- ☐ Houston, TX +1 281 530 5656
- ☐ Spring City, PA +1 610 948 4903
- ☐ Fort Collins, CO +1 970 490 1511
- ☐ Middletown, PA +1 717 944 5541
- ☐ York, PA +1 717 505 5280

ALS Project Manager: | Work Order #: 1504585

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Olympic Antifreeze	A	SVOC's / 8270C
Work Order		Project Number	108X9026000150515020007	B	VOC's / 8260B
Company Name	Tetra Tech Inc	Bill To Company	Tetra Tech	C	Ethylene Glycol / 8015B
Send Report To	Matt. Villicana	Invoice Attn.	Chris Burns	D	
Address	15. Wacker Dr	Address		E	
				F	
City/State/Zip	Chicago/IL/60606	City/State/Zip		G	
Phone	708-502-1573	Phone		H	
Fax		Fax		I	
e-Mail Address	Matt.Villicana@tetratech.com	e-Mail Address	Chris.Burns@tetratech.com	J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	OA-RW02-04092015	4-9-2015	0947	GW	HCL/4°	5	X	X	X								
2	OA-SW-04092015	4-9-2015	0957	SW	None	1			X								
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign: Colette Nemer

Shipment Method:

Required Turnaround Time: ☐ STD 10 Wk Days ☐ 5 Wk Days ☒ 2 Wk Days ☐ 24 Hour ☐ Other _____

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
	4-9-2015	1400	FedEx
FedEx	4/10/15	1040	
Logged by (Laboratory):	Date: 4/10/15	Time: 1110	Checked by (Laboratory):

Notes:

Cooler Temp. 2.2

QC Package: (Check Box Below)
- Level II: Standard QC
- Level III: Std QC + Raw Data
- Level IV: SW846 CLP-Like
- Other: _____

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

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ORIGIN ID:CHIA (312) 201-7700
MAILROOM
TETRA TECH INC - EMI DIVISION
1 S WACKER DR
37TH FLOOR
CHICAGO, IL 60606
UNITED STATES US

SHIP DATE: 09APR15
ACTWGT: 27.8 LB MA
CAD: 778146/CAFE2
DIMS: 18x14x12 I
BILL SENDER

RT 828 ST 12 5 10:30 B 7434 04.10

521C1/87

TO SAMPLES RECEIVING
ALS ENVIRONMENTAL
3352 128TH AVE

HOLLAND MI 49424

REF: 103X9026000 1S051502007

FedEx Express

J141214073001uv

FRI - 10 APR 10:30A
PRIORITY OVERNIGHT

34

49424
MI-US
GRR

522C2/8FC5/65D0

ALS Group USA, Corp

Sample Receipt Checklist

Client Name: **TETRATECH-EM-CHI** Date/Time Received: **10-Apr-15 10:40**

Work Order: **1504585** Received by: **JR**

Checklist completed by Joseph Ribar (eSignature) 10-Apr-15 (Date) Reviewed by: Joseph Ribar (eSignature) 10-Apr-15 (Date)

Matrices: GW, SW

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.0c	sr2	
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:	4/10/2015 11:29:29 AM		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction: