#### REMEDIAL INVESTIGATION REPORT

For Activities in May-2011

Walgreen Store #10441 SWC of Coney Island Avenue and Avenue W Brooklyn, NY 11235

NYSDEC Spill # 06-04377

Prepared for:

Unicorp National Development, Inc. 7505 West Sandlake Road Orlando, FL 32819

Prepared by:

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July 18, 2011

Richard D. Galli, P.E.	Date

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# Remedial Investigation Report Coney Island Avenue and Avenue W NYSDEC Spill # 06-04377

#### 1.0 Purpose

The purpose of this Remedial Investigation Report (RIR) is to convey to New York State Department of Environmental Conservation (DEC) the activities on site since the last RIR dated January 18, 2010. It will also request spill closure for DEC spill #06-04377.

Previous investigations at the property revealed impacts by volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). As part of this investigation, Galli conducted the following scope of work:

- Replaced one groundwater monitoring well on the subject property;
- Repaired two groundwater monitoring wells that were damaged via construction activities;
- Developed and purged the wells;
- Collected groundwater samples from the three wells;
- Performed laboratory analysis of groundwater samples for VOCs Method 8260,
   SVOCs Method 8270 and Priority Pollutant Metals;
- Evaluated laboratory results;
- Prepared this Remedial Investigation report, with conclusions and recommendations;

#### 2.0 Site Background

The subject property was a cleared/vacant parcel of land when the project first started. Mr. Gene Flotteron is the owner of the subject property. Historically, the property was developed as an automotive shop, lumber storage yard and a hardware store. The automotive shop was located in the northern portion of the property situated on the corner of Coney Island Avenue and Avenue W (see figure 1). The lumber storage yard was located in the center of the subject property. A hardware store (Flotteron Hardware Store) was located in the southeastern portion of the property along Coney Island Avenue and Lancaster Avenue. The subject property is being redeveloped as a Walgreen's.

The automotive shop utilized four hydraulic lifts and a 200-gallon waste oil underground storage tank (UST). The lumber storage yard contained a 550-gallon gasoline UST. This tank was connected to an aboveground pump supplying trucks with fuel. The lumber yard showroom contained a 275-gallon #2 heating oil above ground storage tank (AST) located in the basement of the building.

All USTs and ASTs are depicted on the Site Sampling Plan located on Figure 6 & 7.

A spill was reported to the NYSDEC Spill Hotline by the Clayton Group on July 19, 2006. Clayton Group identified a sheen on groundwater while sampling a temporary well point as part of their due diligence investigation at the subject property. The groundwater samples collected during these previous studies have revealed contamination by volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). This contamination is from an unknown source and was assigned NYSDEC Spill Number #06-04377. The NYSDEC Spill Record further notes that additional groundwater samples were taken by the Clayton Group and sent out for laboratory analysis. However, these results were never submitted by the Clayton Group and therefore the presence or absence of additional soil and/or groundwater contamination at the subject property was never confirmed with the NYSDEC. Despite this lack of information, the NYSDEC closed spill # 06-04377 on November 1, 2006.

New investigative work described herein will be performed to determine if the soils and groundwater at the subject property have been adversely impacted by the former uses of

the property and also to delineate the extent of contamination if found. The scope of work will include installing soil borings and monitoring wells for soil and groundwater sampling purposes.

A Limited Subsurface Investigation dated September 7, 2006; was performed by Clayton Group Services, Inc.

The following is a historical review of on-site activities:

7/2006 – Clayton Group performed a Limited Subsurface Investigation on July 19, 2006. "Clayton Group Services conclusions included:

- Samples of soils were found to be above the NYSDEC Recommended Soil Cleanup Objective (RSCO) for Semi Volatile Organic Compounds in SB-1 and SB-2.
- Pesticide contaminants were found to be above the RSCO in SB-2.
- Contaminants in groundwater were detected above the NYSDEC Part 703
  Groundwater Quality Standards for Methyl Tertiary Butyl Ether (MTBE) at the
  subject property."
- Clayton Group Services, Inc. calls in a spill to the NYSDEC Spill Hotline on July 19, 2006 at 12:01 p.m. Spill # 06-04377 is assigned to the subject property. NYSDEC requests field notes and a copy of the soil and groundwater sampling report.

8/2006 – Clayton Group performed a Phase I Environmental Site Assessment (ESA) on the subject property, dated August 9, 2006. Recognized environmental conditions (RECs) were identified in the Phase I ESA as being:

- Current and Former On-site In-Ground Hydraulic Lifts
- Former Underground Storage Tanks (USTs)/Gasoline Pump
- Current Used Oil UST
- Current and Historical Use as a Automobile Repair/Service Shop/Garage

9/2006 - A Limited Subsurface Investigation dated September 7, 2006; was performed by Clayton Group Services, Inc. The Limited Subsurface Investigation indicated environmental impacts from the onsite current and former in-ground hydraulic lifts and auto services operations near the northern side of the garage building. Soil impacts appear to be associated with the UST discovered near the northwestern most lift and corner of the garage building. MTBE was found at elevated concentrations near the northwest corner of the garage building.

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11/2006 – NYSDEC closes spill # 06-04377, administratively. No reports were ever sent to the NYSDEC documenting the Clayton Group's Limited Subsurface Investigation.

1/2008 – Unicorp National Development, Inc. and Mr. Gene Flotteron enter into a land lease deal to build a Walgreen's. Unicorp hires McAlpine Construction as the General Contractor. McAlpine hired B&A Demolition and Removal as a sub-contractor to demolish all structures on the subject property. The subject property contained 4 hydraulic lifts, one 200-gallon waste oil UST, one 275-gallon #2 heating oil AST and one 550-gallon gasoline UST. Additionally, three 55-gallon drums of used oil were located on the subject property.

2/2008 – Unicorp hires Galli Engineering, P.C. to remove all subsurface structures at the subject property. Galli schedules a field visit to view its scope of services. Galli meets with McAlpine and is informed that all ASTs and USTs have been removed by B&A Demolition and Removal except for the 550-gallon gasoline UST and three 55-gallon drums. Galli in conjunction with Tyree Brothers and 95, Inc. performs the necessary remedial cleanup procedures for the UST and drums. Galli collects representative end point samples around and beneath the UST. Galli also collected groundwater samples to ensure the subject property is clean. Additionally, Galli dug three trenches along the northern portion of the subject property to ensure the subsurface structures identified in the Clayton Group report had actually been removed by B&A Demolition and Removal.

3/2008 – Galli Engineering, P.C. submits a remedial closure report to Unicorp National Development, Inc. revealing groundwater contamination in the northern portion of the subject. Mr. Gene Flotteron is concerned with the groundwater contamination and contacts the NYSDEC for more information.

7/2008 – NYSDEC reopens spill case # 06-04377. NYSDEC requests that Galli submit a copy of their Remedial Closure Report. NYSDEC reviews Galli's remedial closure report and responds in an email stating comments, questions and requirements.

8/2008 – Galli Engineering, P.C. submits a response to comments, questions, and requirements along with a Remedial Investigation Work Plan to characterize and delineate petroleum related impacts at the subject property.

9/2008 – Galli Engineering, P.C. received eight comments from the NYSDEC on the Remedial Investigation Work Plan submitted in 8/2008.

10/2008 – Galli Engineering, P.C. submits a revised Remedial Investigation Work Plan (October, 2008) to NYSDEC.

11/2008 – Galli Engineering, P.C. commences installation of soil borings on site.

1/2009 – NYSDEC sends a letter to Mr. Eugene Flotteron and Galli Engineering, P.C. approving the Remedial Investigation Work Plan of October, 2008. (Mr. Mark Tibbe of Region 2 NYSDEC had previously sent an email on October 31, 2008 approving the RIWP and authorizing the start of work.)

5/2009 – Galli Engineering, P.C. samples groundwater from previously installed monitoring wells.

6/2009 – Galli Engineering, P.C. submits Remedial Investigation Report.

1/2010 - Galli Engineering, P.C. resubmits Remedial Investigation Report

3/2011 - MW-2 was replaced and street boxes for MW-1 and MW-3 were repaired.

5/2011 – All monitoring wells are developed.

5/2011 – Attempts to sample wells.

6/2011 - All three wells successfully sampled, lab results received and reviewed.

#### 3.0 Boring and Monitoring Well Installation

On November 20, 2008, three monitoring wells were installed at the subject property. Groundwater at the site was encountered at approximately 15 feet below ground surface (bgs), and the monitoring wells were advanced with 10 feet of PVC pipe and 10 feet of screen. The monitoring wells were installed with 2" Schedule 40 PVC. After installation, wells were developed by bailing out the sediment. The location of the wells is shown in site plan in figure 2.

Soil samples were collected, logged and screened with a photoionization detector (PID) for presence of volatile organic gases. Well installation logs are listed in Appendix B. An environmental scientist from Galli Engineering, P.C., (Galli) was present to monitor all field activities and collect samples.

On March 21, 2011, Laurel Environmental was contracted to replace Monitoring Well #2. MW-2 had been paved over during construction operations and Galli Engineering was unsuccessful in relocating the well. On March 21, 2011 Laurel Environmental, utilizing a Geoprobe 6610, performed a soil boring which was completed as a monitoring well. No soil sample collection was attempted as it was a replacement well. All three wells were developed on May 6, 2011.

On May 30, heights of well casing were measured utilizing site elevations from fixed points from final building survey.

#### 4.0 Sampling and Analysis

The monitoring wells that were used to obtain the soil and groundwater samples consisted of three two-inch diameter wells. The monitoring well locations are shown on the site plan on Figure 2. Casing elevations were measured on May 30, 2011.

#### 4.1 Soil Sampling

No soil sampling was performed for this well installation as it was a replacement well.

#### 4.2 Groundwater Sampling

Groundwater sampling was accomplished on June 6 and 16, 2011. No free phase product was observed in any of the three wells. The wells were purged prior to sampling using low flow pumping techniques with a Geopump2. After purging, groundwater samples were collected from each of the wells. Each groundwater sample was placed into laboratory prepared bottles, one 1-liter amber colored glass jar, two clear 40-milliliter glass vials and two 250 ml plastic bottles. Metals samples were collected both unfiltered and field filtered. Each container was then labeled with designated sample identification, date and time of collection. Each sample bottle was placed in a secure cooler. The samples were then logged on a chain of custody document by sampling personnel, and remained in the custody of Galli Engineering until transport of the samples to the analytical laboratory via Federal Express and courier to be analyzed for the parameters described above (Section 1.0 "Purpose"). There were two incidents which caused two wells to be re-sampled on June 16. Pace Laboratories destroyed the sample for SVO on MW-2 during sample processing. In addition, there was a miscount on sample bottles on the original cooler shipped to Pace Laboratories on June 6. Both bottles for metals on MW-1 were inadvertently left out of the shipping cooler. When the missing bottles were discovered by Pace upon their inspection of the shipping cooler, it was a Galli Engineering decision to resample the well. This took place on June 16. The laboratory analytical results are discussed in Sections 6.2 and 6.3.

#### 5.0 Quality Assurance and Quality Control Procedures (QA/QC)

The following sampling QA/QC protocol is in accordance with the United States Environmental Protection Agency's (USEPA) accepted sampling procedures for hazardous waste streams [Municipal Research Laboratory, 1980, Sampling and Analysis Procedures for Hazardous Material Waste Streams, Office of Emergency and Remedial Response, Cincinnati, Ohio, EPA-600/280-018] and American Society of Testing and Materials (ASTM) Sampling Procedures.

#### 5.1 Sampling Personnel

Frank Gehrling, Senior Geologist purged the wells and secured all groundwater samples.

#### 5.2 Sample Vessels

All sample vessels were new containers supplied by a New York State Certified Laboratory.

#### 5.3 Sample Documentation

A sample represents physical evidence. An essential part of data validation is the proper control of gathered evidence. To establish proper control, the following sample identification and chain-of custody procedures were followed.

#### 5.3.1 Sample Identification

Sample identification was documented by use of a sample tag, log book and chain-of-custody form. The documentation provided the following information: 1) the project name; 2) the sample laboratory number; 3) the sample preservative; 4) the date the sample was secured from the source media; 5) the time the sample was secured from the source media; and 6) the name of the person who secured the sample.

#### 5.3.2 Chain-of-Custody Procedures

Due to the evidential nature of samples, possession was traceable from the time the samples were collected until they were received by the testing laboratory. A sample was considered in custody if it was in a person's possession; in a person's view after being in possession; in a person's possession, but in a locked area; or, it was in a designated secure area. When transferring custody, the individuals relinquishing and receiving the

samples signed, dated, and noted the time of the transfer on the Chain-of-Custody Form.

#### 5.3.3 <u>Laboratory-Custody Procedures</u>

A designated sample custodian accepted custody of the shipped samples and verified that the information on the sample tags matched that on the Chain-of-Custody Records. Pertinent information, such as shipment, pick-up, and courier, was entered in the "remarks" section. The custodian entered the sample tag data into a bound logbook.

The laboratory custodian used the sample tag number, or assigned a unique laboratory number to each sample tag, and assured that all samples were transferred to the proper analyst or stored in the appropriate source. The laboratory custodian distributed samples to the appropriate analysts. Laboratory personnel were responsible for the care and custody of samples from the time they were received, until the sample was exhausted or returned to the sample custodian. All identifying data sheets and laboratory records were retained as part of the permanent documentation. Samples received by the laboratory were retained until after analysis and quality assurance checks were completed.

#### 6.0 <u>Laboratory Analysis</u>

#### 6.1 Analytical Test Methods

The groundwater samples were transported to, Pace Analytical a New York State Department of Health Certified Commercial Laboratory, for analysis. Selection of the analytical test methods was based upon previous sampling by other consultants, data requirements and contaminants of concern. The laboratory test methods (VOCs Method 8260 and SVOCs Method 8270) were in accordance with methodologies published by the U.S. Environmental Protection Agency. Test results were analyzed and assessed in accordance with Division of Water Technical and Operational Guidance Series (1.1.1) (TOGS) "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations". The complete laboratory analytical results are presented in Appendix A of this report.

#### 6.2 Groundwater Laboratory Analytical Results

No SVOCs or PCBs were detected in any of the monitoring wells. VOCs were detected in all three monitoring wells. MW-2 had a high of 448 ppb of MTBE and MW-1 had a high of 43 ppb of PCE with TCE at 9.73. Benzene was not detected in any of the current samples (see figure 5).

Metals were detected in all three wells below New York State Groundwater Quality Standards except for the slight exceedence in Selenium in MW-1 and MW-2. See Table 1 for a summary and Appendix A for the full laboratory report.

Table 1 – Results of Groundwater Sampling Event on May 6 & 16, 2011

VOCs	TOGS ug/L	MW-1 ug/L	MW-2 ug/L	MW-3 ug/L
MTBE	10	8.80	448	205
Tetrachloroethene (PCE)	5	43.0	1.99	4.45
Trichloroethene (TCE)	5	9.73	nd	nd
SVOCs	ug/L	ug/L	ug/L	
bis(2- Ethylhexyl)phthalate	5	nd	nd	99.1

Metals	TOGS ug/L	MW-1 ug/L	Filtered MW-1 ug/L	MW-2 ug/L	Filtered MW-2 ug/L	MW-3 ug/L	Filtered MW-3 ug/L
Chromium	50	6.06	6.04	11.1	nd	nd	nd
Copper	200	nd	nd	11.6	nd	nd	nd
Nickel	100	27.3	24.1	63.1	18.1	11.1	9.8
Selenium	10	11.6	12.8	nd	nd	nd	nd
Zinc	2000	13.1	6.67	54.9	nd	84.0	nd

nd = Analyte not detected at mdl, n/a = Analyte not sampled for, ug/L = micrograms per liter, mg/L = milligrams per liter, Values in bold exceed the NYSDEC ambient groundwater limits

#### 7.0 Discussion

Based on field and analytical data, the following results were identified for the June 2011 sampling event:

- No free phase product was found in any of the wells or samples during installation of MW-2 or subsequent sampling of the groundwater.
- VOCs were a concern as MTBE was found in all monitoring wells. High values of MTBE was found in MW-2 448 ppb and MW-3 205 ppb. Tetrachloroethene was found in all the monitoring well with MW-1 at 43.0 ppb, MW-2 at 1.99 ppb and MW-3 at 4.45 ppb. Trichloroethene was found in MW-1 at 9.73 ppb.
- SVOCs were not detected in groundwater samples from MW-1 or MW-2. Some phthalate was found in MW-3.
- Metals were detected in all three wells within New York State Groundwater Quality Standards with the exception of Selenium on MW-1 and MW-2 which was very slightly above the TOGS standard. Filtered and Unfiltered sample results were similar except for Zinc which showed lower results in the filtered samples.

Historic volatile organic groundwater contamination has been greatly reduced. Table 2 of the Clayton Group Services, Inc Phase II report dated September 7, 2006 (see Appendix B) show exceedences for Methyl-tertiary-butyl-ether for all 6 of the groundwater samples that they analyzed with one sample in the northern portion of the site SB-2, to have MTBE at 1,400 ppb. Clayton Group Monitoring well SB-2 also showed Benzene to be at 71 ppb (see figure 6).

The Galli Engineering sampling event of February 2008 (see Table 2), after the tanks were removed showed MTBE from 1,200 ppb to 380 ppb in the northern end of the construction site and no MTBE found in the southern end of the site. Benzene was at 16 ppb at GW1 (see figure 7).

Table 2 – Galli Engineering Summary of Data for February 2008 Sampling

Summary of Lab Data for Soil and Groundwater Samples Taken at SW Corner of Coney Island Avenue and Avenue W – 02/08						
Metals	TAGM (SOILS)	EP-N	EP-S	EP-E	EP-W	EP-B
Compound	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Aluminum	SB (SB=33,000)	3,580	3,870	3,540	4,660	3,290
Antimony	SB (SB=N/A)	0.819	-	-	-	-
Arsenic	7.5 or SB (SB=3-12)	1.66	1.76	1.56	2.50	1.76
Barium	300 or SB (SB=15-600)	18.2	20.1	38.2	27.0	15.5
Cadmium	1 or SB (0.1 –1)	-	-	-	0.979	-
Calcium	SB (SB=130- 35,000)	544	638	698	2,400	580
Chromium	10.0 or SB (SB=1.4-40)	10.0	14.6	14.2	14.0	11.8
Copper	25 or SB (SB=1-50)	8.02	7.86	8.30	11.7	7.65
Iron	2,000 or SB (SB=2,000- 550,000)	8,840	9,920	10,100	11,600	9,390
Lead	SB (SB=200- 500)	3.10	3.06	3.26	8.28	2.81
Magnesium	SB (SB=100- 5,000)	1,970	1,670	2,030	2,090	1,470

Manganese	SB (SB=50- 5,000)	203	236	392	222	174
Mercury	0.1 (SB=0.001- 0.2)	-	-	-	0.0171	-
Nickel	13 or SB (SB=0.5-25)	27.0	28.7	35.7	32.5	24.8
Potassium	SB (SB=8,500- 43,000)	1,030	877	973	998	610
Sodium	SB (SB=6,000- 8,000)	103	67.8	119	78.0	70.3
Vanadium	150 or SB (SB=1-300)	12.1	16.6	15.0	19.4	13.9
Zinc	20 or SB (SB=9-50)	18.3	18.3	19.7	26.6	16.6
Metals	NYSDEC GWQS (WATER)	GW-1	GW-2	GW-3	GW-4	GW-5
Compound	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Chromium	0.05	0.0163J	0.0140	0.150	0.0292	0.0385
Copper	0.2	0.0376	0.0142	0.0331	0.0279	0.0356
Lead	0.025	-	-	0.0137	0.00901J	0.0106
Nickel	0.1	0.145	0.0821	0.182	0.141	0.139
Zinc	5	0.0639	0.175	0.108	0.115	0.0934
SVOCs	NYSDEC GWQS (WATER) ug/l	GW-1 ug/l	GW-2 ug/l	GW-3 ug/l	GW-4 ug/l	GW-5 ug/l
2-Methylphenol	n/a	5.0J	-	-	-	-
3+4-Methylphenol	n/a	7.9	-	-	-	-
Naphthalene	10	4.1J	-	-	-	-
VOCs	NYSDEC GWQS (WATER)	GW-1 ug/l	GW-2 ug/l	GW-3 ug/l	GW-4 ug/l	GW-5 ug/l
1,2,4,5- Tetramethylbenzene	n/a	13	-	-	-	-
1,2,4- Trimethylbenzene	5	56	-	-	-	-
1,3,5-	5	16	-	-	-	-

Trimethylbenzene						
4-Isopropyltoluene	n/a	1.2	-	-	-	-
4-Methyl-2- pentanone	n/a	73	-	-	-	-
Benzene	1	16	-	-	-	-
Ethylbenzene	5	21	-	-	-	-
Isopropylbenzene	5	2.2	-	-	-	-
m,p-Xylene	5	70	-	-	-	-
Methyl tert-butyl ether	10	1,200	450	380	-	-
Methylene chloride	5	6.2B	4.7B	7.2B	5.3B	6.5B
Naphthalene	10	5.7	-	-	-	-
n-Propylbenzene	5	7.0	-	-	-	-
o-Xylene	5	43	-	-	-	-
p-Diethylbenzene	n/a	12	-	-	-	-
p-Ethyltoluene	n/a	38	-	-	-	-
Tetrachlorethene	5	170	-	-	-	-
Toluene	5	41	-	-	-	-

Table 3 shows results for the Galli Engineering groundwater sampling event of May 2009, when the three monitoring wells were installed. No volatile or semi-volatile organics were detected, including Benzene and MTBE. Figure 2 shows the locations of the monitoring wells.

Table 3 – Galli Engineering Groundwater Sampling Event on May 8, 2009

Compound	NYS GWQS	MW-1	MW-2	MW-3
STARS VOCs	ug/L	ug/L	ug/L	ug/L
			None Detected	
STARS SVOCs	NYS GWQS	MW-1	MW-2	MW-3
	ug/L	ug/L	ug/L	ug/L
			None Detected	
PCB's	NYS GWQS	MW-1	MW-2	MW-3
	ug/L	ug/L	ug/L	ug/L
			None Detected	

Metals	NYS GWQS mg/L	MW-1 mg/L	MW-2 mg/L	MW-3 mg/L
Aluminum	0.1	12.0	5.20	48.0
Arsenic	0.025	0.15	-	0.032
Barium	1.0	0.20	0.16	0.46
Calcium	n/a	96.0	59.0	89.0
Chromium	0.05	0.044	0.017	0.11
Cobalt	0.005	0.032	0.016	0.053
Copper	0.2	0.040	0.020	0.14
Iron	0.3	23.0	10.0	62.0
Zinc	0.066	0.090	0.070	0.48
Magnesium	35	29.0	32.0	23.0
Manganese	0.3	11.0	1.20	2.80
Nickel	0.1	0.24	0.14	0.33
Potassium	n/a	15.0	12.0	20.0
Sodium	20	82.0	120	57.0
Vanadium	0.014	0.035	0.014	0.11
Lead	0.025	ı	0.0080	0.22
Antimony	0.003	-	- -	0.0090
Beryllium	0.011	-	-	0.0030
Mercury	0.0007	-	0.00073	-

The sampling event of June 2011 shows a decrease of VOC constituents in groundwater in the northern part of the site from the February 2008 sampling in the area. There is an increase of VOC compared to the May 2009 results for these wells. The increases were in MTBE and TCE.

In May of 2008, due to construction scheduling issues, the monitoring wells installed in at that time were not surveyed and subsequent construction destroyed the monitoring wells. These were the wells that were rehabilitated and re-drilled in 2011. Local groundwater flow was not determined at that time. Measurements of well casing elevations were done in 2011 and groundwater flow direction was determined. Figure 3 shows local groundwater flow to be from the northeast.

A number of items point to an off site source of MTBE. First, there were no gasoline underground storage tanks in the northern part of the site. There was a UST in the northwest corner of the former building which contained waste oil. Evidence that the waste oil tank leaked is from the amounts of mixed VOC that have been found in the northwest corner of the property. This is found in Clayton Group's 2006 SB2 GW result that included many gasoline constituents, such as BTEX and daughter products

including various tri-methyl benzenes, all over TAGM 4046 limits. The mix of volatile organic compounds found in the 2006 SB-2GW results were similar to the 2008 results in Galli GW-1. Again these results could be interpreted as minor amounts of gasoline with remedial daughter products, such as the tri-methyl benzenes. PCE was at 87 ppb in 2006 and 170ppb in 2008. There was not much change between the Clayton Group results and the 2008 Galli results in general.

A large change occurs in 2009 when new wells were installed. The 2009 results show no volatile organic compounds found. This is not repeated in the 2011 results which show results for volatile organic compounds showing minor amounts of PCE and TCE and modest amounts of MTBE, especially in MW-2. There were no other VOC reported as being found in the current sampling round. MTBE was the only gasoline constituent found in the June 2011 sampling event. Groundwater contours show groundwater flow direction is to the southwest. Sources to the north and northeast along Coney Island Avenue include a gasoline fueling point at a New York City Police precinct building on the northwest corner of Coney Island Avenue and Avenue W and gasoline stations north of the site on Coney Island Avenue.

The pattern that is forming is that of a site that had been contaminated by on site sources, such as the waste oil tank in the northwest corner of the site. This would account for the PCE and daughter products and gasoline constituents found in earlier testing. However, there was a large change in 2009 that had results showing no VOCs. In 2011 modest amounts of PCE and minor amounts of TCE were found. There were large increases in the amount of MTBE found, but without any other gasoline constituents being found. MTBE can behave as a gasoline plume outlier since it is much more soluble in water than any other common gasoline continuant. Since all known tanks or other active sources have been removed from the site in 2008, a possibility that is left is an offsite source.

#### 8.0 Recommendations

Galli Engineering, P.C. has prepared this Remedial Investigation Report on behalf of Unicorp National Development, Inc. to establish current conditions of groundwater, which has reportedly been impacted due to past uses of the subject property. This report is intended to provide information about the absence or presence of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals at the locations and depths tested and to form the basis for design of a remedial system.

It is Galli Engineering's opinion that no further investigative work be done and that spill # 06-04377 be closed for the following reasons:

- Organic contamination in soils was found to be minimal in February of 2008.
- Organic contamination of groundwater is present. However, the large amounts of MTBE are probably originating from off site.

## **FIGURES**

Figure 1:	Location Map
Figure 2:	Site Plan and 2011 MW Locations
Figure 3:	Site Plan and 2011 GW Contour Map
Figure 4:	MTBE Results from 2009
Figure 5	MTBE Results from May 2011
Figure 6	Clayton Group Site Plan 2006
Figure 7	Galli Site Plan 2008

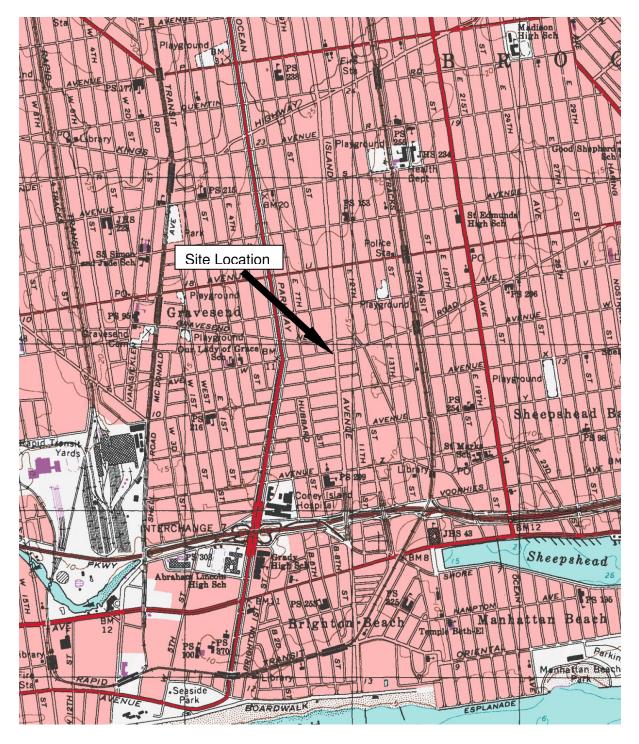
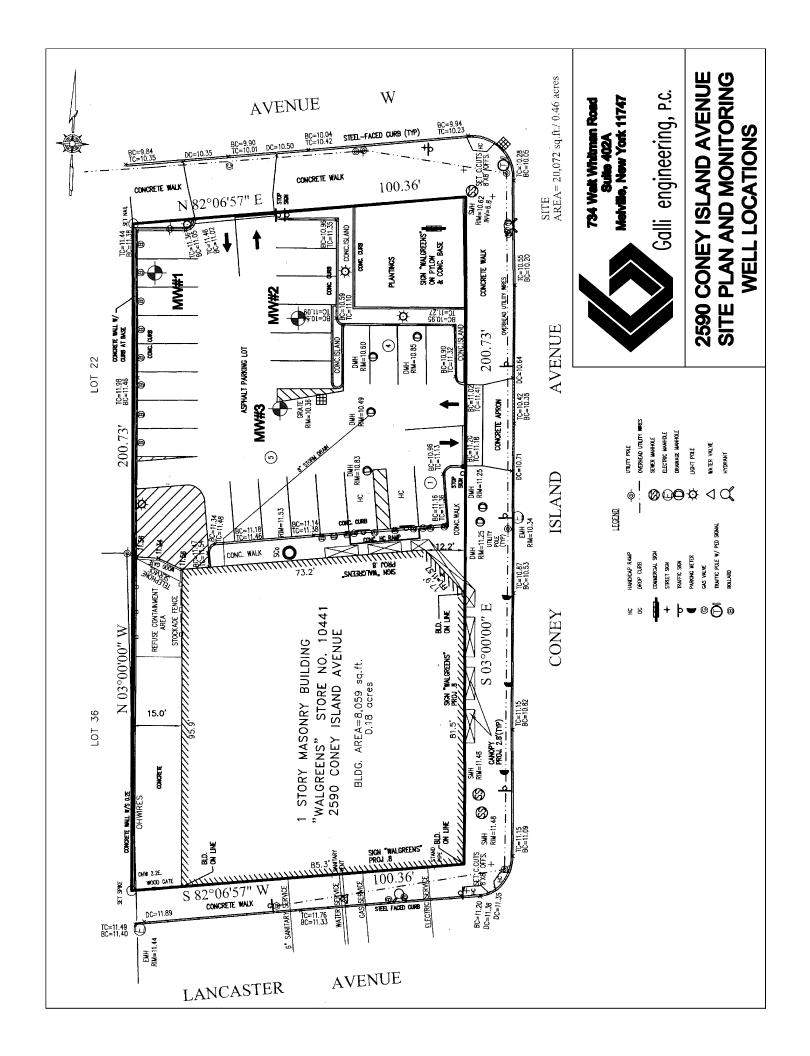
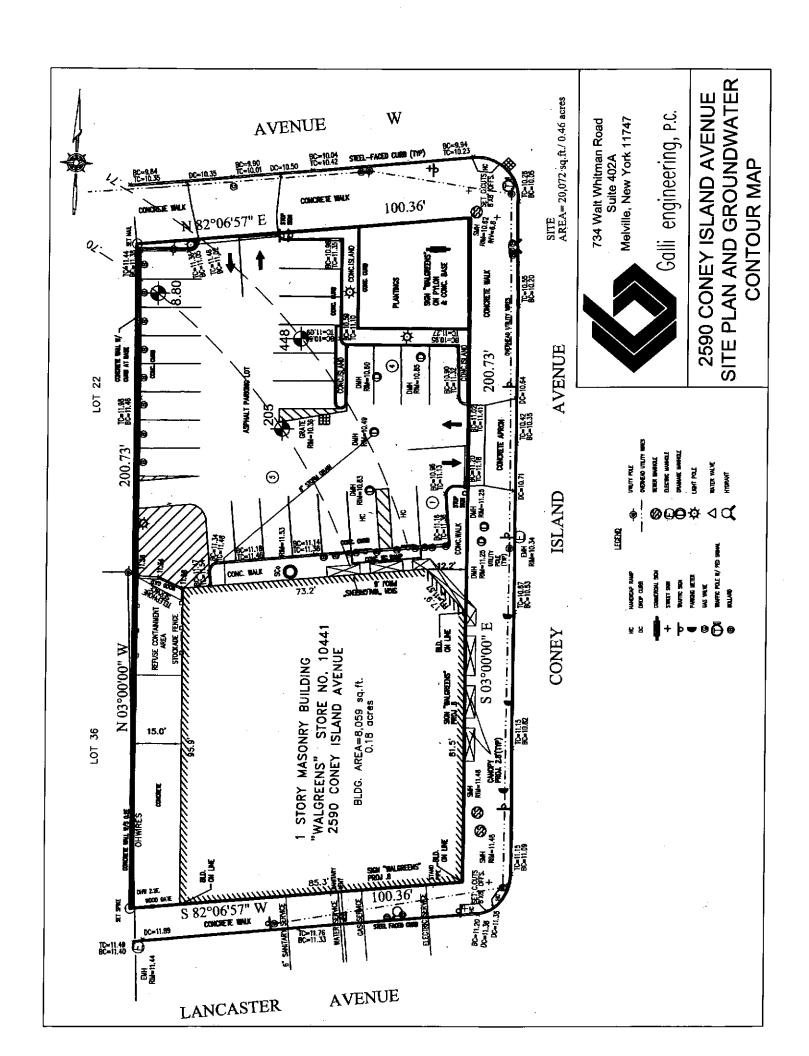
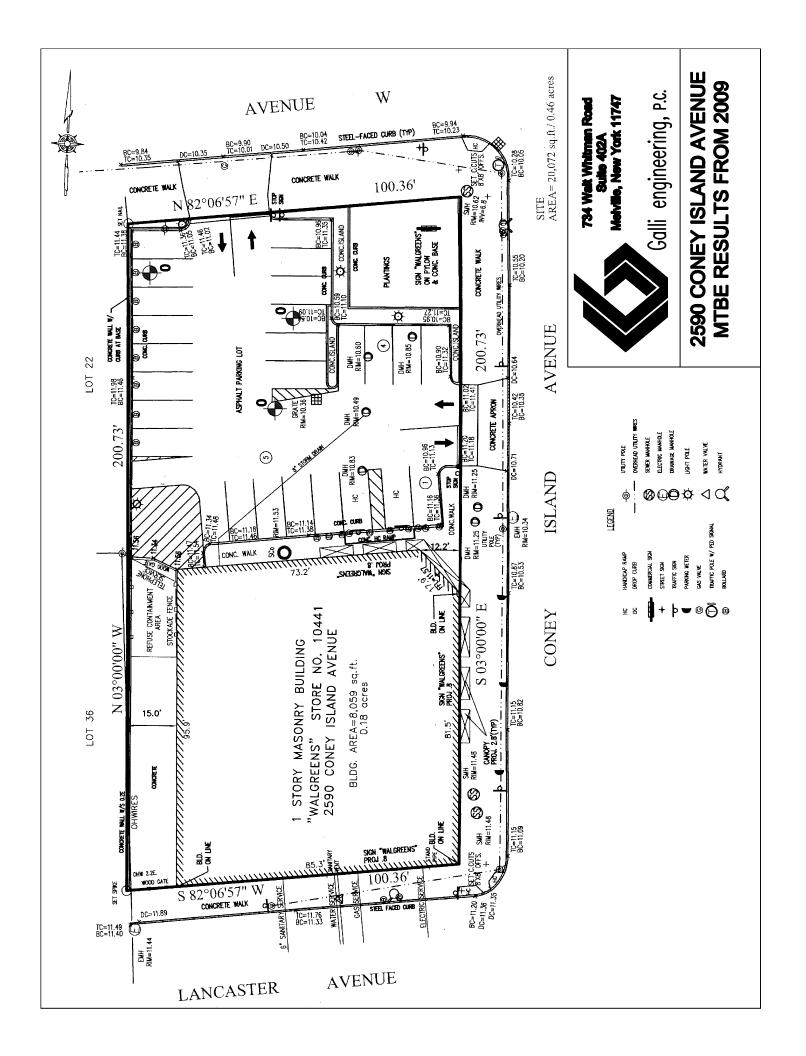


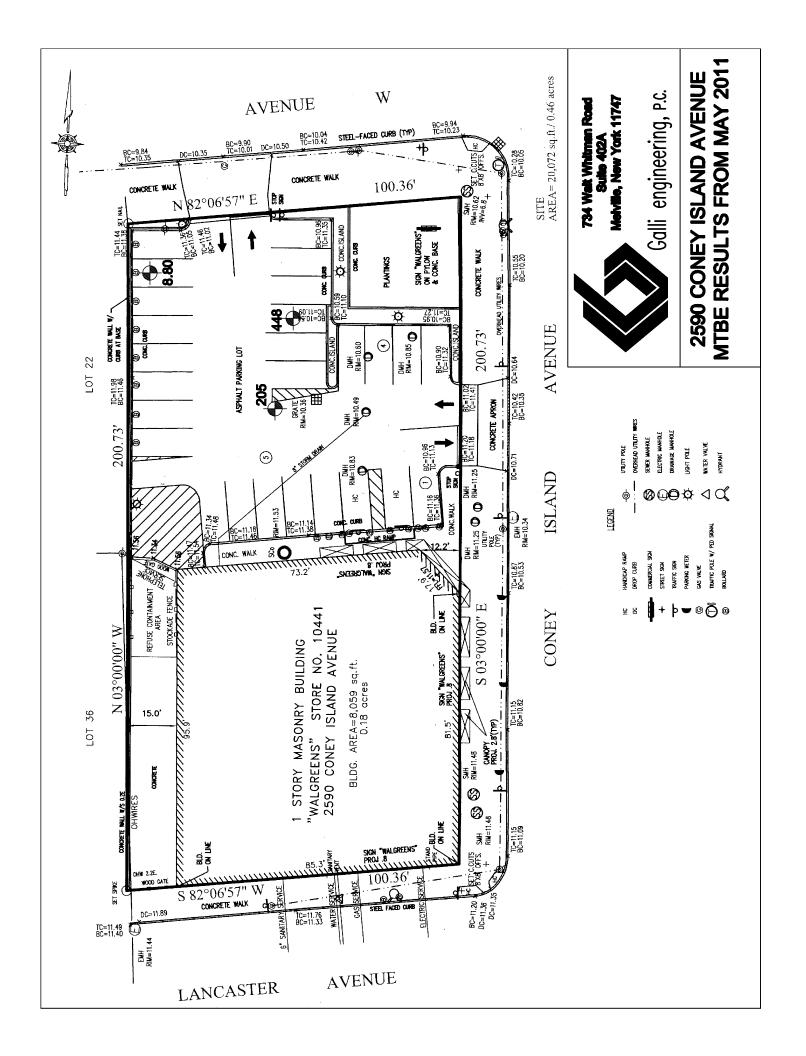
Figure 1 - Site Location Map

Avenue W and Coney Island Avenue Brooklyn, New York









## AVENUE W P SB-2 Waste Oil OFFICE UST PARKING, FRANKLEN AUTO CONEY ISLAND AVENUE ©<sub>⊕sв\_3</sub> ⊕ SB-4 STORAGE STORAGE LUMBER STORAGE LUMBER STORAGE AND PICKUP SB-5 ESTIMATED LOCATION OF FORMER UST [U] **FLOTTERON** SHOWROOM HARDWARE STORE Former Lift Location Lift Location Scale: 1 inch = 70 fcet**Soil Boring Location**

Project No. 99006-006632,00,003

Drawn By: JAS Date: 08/22/06

Reviewed By: MJG Date: 08/22/06

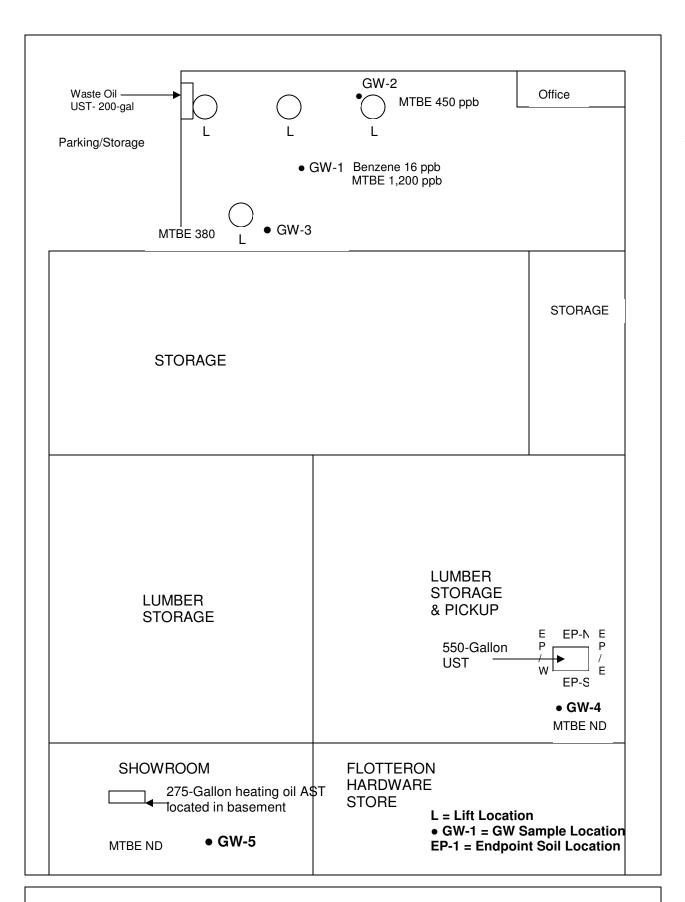
Client
UNICORP NATIONAL DEVELOPMENT
7 Jennings Meadow
Cold Springs Harbor, New York 11724

Proposed Walgreen Store #10443 SWC Coney Island Ave and Ave W Brooklyn, New York Title
Soil Boring Locations

Figure 6

#### SITE SAMPLING PLAN - AVENUE W

#### Galli Sampling February 2008



C O N E Y I S L A N D A V Е N U E

Figure 7

## APPENDIX A

Groundwater Laboratory Results



Date: June 17, 2011

#### NEA Analytical e-Report

Report prepared for:

GALLI ENGINEERING, P.C. 734 WALT WHITMAN ROAD SUITE 402A

MELVILLE, NY 11747

CONTACT: FRANK GEHRLING

Project ID: CONEY ISLAND AVE Sampling Date(s): June 09, 2011

NEA Report ID: 11060117 Report Date: June 17, 2011

Client Service Contact: Judith Minholz (518) 346-4592

-----

Analysis Included: VOCs by GCMS SVOCs by GCMS Mercury Analysis Metals by ICP (Priority Pollutants)

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. This report shall not be reproduced, except in full, without the written consent of Northeast Analytical, Inc.

Robert E. Wagner Laboratory Director

Robert E. Wagn

TNI IMBORATORY

Certifications: NYS (NY00906), NJ (NY026), CT (PH-0337), MA(M-NY906), NC (668)

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## **CASE NARRATIVE**

#### CASE NARRATIVE

This data package (NEA SDG ID: 11060117) consists of 6 water samples received on 06/09/2011. The samples are from Project Name: CONEY ISLAND AVE.

This sample delivery group consists of the following samples:

Client ID	Collection Date
MW-1	06/09/2011
MW-1 FILTERED	06/09/2011
MW-2	06/09/2011
MW-2 FILTERED	06/09/2011
MW-3	06/09/2011
MW-3 FILTERED	06/09/2011
	MW-1 MW-1 FILTERED MW-2 MW-2 FILTERED MW-3

#### Sample Delivery and Receipt Conditions

- (1.) Lab provided sample pickup service on 06/09/2011.
- (2.) All samples were received at the laboratory intact and within holding times.
- (3.) The following pH measurements of VOA vials were recorded using pH strips: AO07422 pH=2, AO07424 pH=2, AO07426 pH=2.
- (4.) The following cooler temperature was recorded at sample receipt (Control limits are between 0-6 Degrees Celsius): 4.6 degrees Celsius. Please see Chain of Custody for details.

#### Volatile Organics Analysis

Analysis for Volatile Organics was performed by method SW-846 8260B. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

#### Semivolatile Organics Analysis

Analysis for Semivolatile Organics was performed by method SW-846 8270C. Samples were extracted by Continuous Liquid/Liquid Extraction (EPA - Method 3520C). The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

#### Mercury Analysis

Analysis for mercury was performed by method SW-846 7470A. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

#### Metals Analysis by ICP

Analysis for metals was performed by EPA Method 200.7. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

Respectfully submitted,

William A. Kotas

Client Services Manager

# **QUALIFIERS**



#### **Organic Laboratory Qualifiers Defined**

- B Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.
- D Surrogate was diluted out. The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria.
- E Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.
- J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).
- P Indicates relative percent difference (RPD) between primary and secondary GC column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary GC column analysis exceeds 25 %.
- U Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.
- Z Chromatographic interference due to PCB co-elution.
- \* Value not within control limits.

#### **Inorganic Laboratory Qualifiers Defined**

- B Denotes analyte observed in associated method blank or digestion blank. Analyte concentration should be considered as estimated.
- E Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.
- J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).
- U Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.
- \* Value not within control limits.

### SAMPLE CHAIN OF CUSTODY



#### **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

	ction A uired Client Information:	Section B					i			ion C											a	ge:			of		
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### GC/MS Volatiles



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW-1

**Lab Sample ID:** 11060117-01 (AO07422)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Percent Solid: N/A

Batch ID M	ethod	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-2699-13 EPA	Method 8260B	06/13/2011 14:58	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,1,1,2-Tetrachloroethane	630-20-6	ND	5.00	5.00	U	MS05-2699-13
1,1,1-Trichloroethane	71-55-6	ND	5.00	5.00	U	MS05-2699-13
1,1,2,2-Tetrachloroethane	79-34-5	ND	5.00	5.00	U	MS05-2699-13
1,1,2-Trichloroethane	79-00-5	ND	5.00	5.00	U	MS05-2699-13
1,1-Dichloroethane	75-34-3	ND	5.00	5.00	U	MS05-2699-13
1,1-Dichloroethene	75-35-4	ND	5.00	5.00	U	MS05-2699-13
1,1-Dichloropropene	563-58-6	ND	5.00	5.00	U	MS05-2699-13
1,2,3-Trichlorobenzene	87-61-6	ND	5.00	5.00	U	MS05-2699-13
1,2,3-Trichloropropane	96-18-4	ND	5.00	5.00	U	MS05-2699-13
1,2,4-Trichlorobenzene	120-82-1	ND	5.00	5.00	U	MS05-2699-13
1,2,4-Trimethylbenzene	95-63-6	ND	5.00	5.00	U	MS05-2699-13
1,2-Dibromo-3-chloropropane	96-12-8	ND	5.00	5.00	U	MS05-2699-13
1,2-Dibromoethane	106-93-4	ND	5.00	5.00	U	MS05-2699-13
1,2-Dichlorobenzene	95-50-1	ND	5.00	5.00	U	MS05-2699-13
1,2-Dichloroethane	107-06-2	ND	5.00	5.00	Ü	MS05-2699-13
1,2-Dichloropropane	78-87-5	ND	5.00	5.00	Ü	MS05-2699-13
1,3,5-Trimethylbenzene	108-67-8	ND	5.00	5.00	Ü	MS05-2699-13
1,3-Dichlorobenzene	541-73-1	ND	5.00	5.00	Ü	MS05-2699-13
1,3-Dichloropropane	142-28-9	ND	5.00	5.00	Ü	MS05-2699-13
1,4-Dichlorobenzene	106-46-7	ND	5.00	5.00	Ü	MS05-2699-13
2,2-Dichloropropane	590-20-7	ND	5.00	5.00	Ü	MS05-2699-13
2-Butanone	78-93-3	ND ND	5.00	5.00	U	MS05-2699-13
2-Chloroethylvinylether	110-75-8	ND ND	5.00	5.00	U	MS05-2699-13
2-Chlorotoluene	95-49-8	ND ND	5.00	5.00	U	MS05-2699-13
2-Hexanone	591-78-6	ND ND	5.00	5.00	U	MS05-2699-13
4-Chlorotoluene	106-43-4	ND ND	5.00	5.00	U	MS05-2699-13
4-Isopropyltoluene	99-87-6	ND ND	5.00	5.00	U	MS05-2699-13
4-Methyl-2-pentanone	108-10-1	ND ND	5.00	5.00	U	MS05-2699-13
Acetone	67-64-1	ND ND	25.0	5.00	U	MS05-2699-13
Benzene	71-43-2	ND ND	5.00	5.00	U	MS05-2699-13
Bromobenzene	108-86-1	ND ND	5.00	5.00	U	MS05-2699-13
Bromochloromethane	74-97-5	ND ND	5.00	5.00	U	MS05-2699-13
Bromodichloromethane	75-27-4	ND ND	5.00	5.00	U	
Bromoform	75-27-4 75-25-2	ND ND	5.00	5.00	U	MS05-2699-13 MS05-2699-13
Bromomethane Carbon disulfide	74-83-9	ND ND	5.00	5.00	U	MS05-2699-13
	75-15-0 56-22-5	ND	5.00	5.00	U	MS05-2699-13
Carbon tetrachloride	56-23-5	ND	5.00	5.00	U	MS05-2699-13
Chlorobenzene	108-90-7	ND	5.00	5.00	U	MS05-2699-13
Chloroethane	75-00-3	ND	5.00	5.00	U	MS05-2699-13
Chloroform	67-66-3	ND	5.00	5.00	U	MS05-2699-13
Chloromethane	74-87-3	ND	5.00	5.00	U	MS05-2699-13
cis-1,2-Dichloroethene	156-59-2	215	5.00	5.00		MS05-2699-13
cis-1,3-Dichloropropene	10061-01-5	ND	5.00	5.00	U	MS05-2699-13
Dibromochloromethane	124-48-1	ND	5.00	5.00	U	MS05-2699-13
Dibromomethane	74-95-3	ND	5.00	5.00	U	MS05-2699-13
Dichlorodifluoromethane	75-71-8	ND	5.00	5.00	U	MS05-2699-13
Ethylbenzene	100-41-4	ND	5.00	5.00	U	MS05-2699-13
Hexachlorobutadiene	87-68-3	ND	5.00	5.00	U	MS05-2699-13

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**NEA Job Number:** 11060117

**NEA Laboratory, Division of** Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW-1

**Lab Sample ID:** 11060117-01 (AO07422)

Collection Date: 06/09/2011 **Sample Matrix:** WATER

**Received Date:** 06/09/2011 16:55

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-2699-13	EPA Method 8260B	06/13/2011 14:58	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Isopropylbenzene	98-82-8	ND	5.00	5.00	U	MS05-2699-13
m&p-Xylene	136777-61-2	ND	5.00	5.00	U	MS05-2699-13
Methylene chloride	75-09-2	ND	5.00	5.00	U	MS05-2699-13
MTBE	1634-04-4	8.80	5.00	5.00		MS05-2699-13
Naphthalene	91-20-3	ND	5.00	5.00	U	MS05-2699-13
n-Butylbenzene	104-51-8	ND	5.00	5.00	U	MS05-2699-13
n-Propylbenzene	103-65-1	ND	5.00	5.00	U	MS05-2699-13
o-Xylene	95-47-6	ND	5.00	5.00	U	MS05-2699-13
sec-Butylbenzene	135-98-8	ND	5.00	5.00	U	MS05-2699-13
Styrene	100-42-5	ND	5.00	5.00	U	MS05-2699-13
tert-Butylbenzene	98-06-6	ND	5.00	5.00	U	MS05-2699-13
Tetrachloroethene	127-18-4	43.0	5.00	5.00		MS05-2699-13
Toluene	108-88-3	ND	5.00	5.00	U	MS05-2699-13
trans-1,2-Dichloroethene	156-60-5	ND	5.00	5.00	U	MS05-2699-13
trans-1,3-Dichloropropene	10061-02-6	ND	5.00	5.00	U	MS05-2699-13
Trichloroethene	79-01-6	9.73	5.00	5.00		MS05-2699-13
Trichlorofluoromethane	75-69-4	ND	5.00	5.00	U	MS05-2699-13
Vinyl acetate	108-05-4	ND	5.00	5.00	U	MS05-2699-13
Vinyl chloride	75-01-4	ND	5.00	5.00	U	MS05-2699-13
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%		$\mathbf{Q}^{^{1}}$	File ID
Bromofluorobenzene	460-00-4	109	86.0	-115		MS05-2699-13
Dibromofluoromethane	1868-53-7	102	86.0	-118		MS05-2699-13
Toluene-d8	2037-26-5	97.7	88.0	-110		MS05-2699-13
1,2-Dichloroethane-d4	17060-07-0	98.4		-120		MS05-2699-13

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-2

**Lab Sample ID:** 11060117-03 (AO07424)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-2699-8	EPA Method 8260B	06/13/2011 12:16	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 $\mu m$
Analysis 2: MS05-2699-10	EPA Method 8260B	06/13/2011 13:12	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,1,1,2-Tetrachloroethane	630-20-6	ND	1.00	1.00	U	MS05-2699-8
1,1,1-Trichloroethane	71-55-6	ND	1.00	1.00	U	MS05-2699-8
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.00	1.00	U	MS05-2699-8
1,1,2-Trichloroethane	79-00-5	ND	1.00	1.00	U	MS05-2699-8
1,1-Dichloroethane	75-34-3	ND	1.00	1.00	U	MS05-2699-8
1,1-Dichloroethene	75-35-4	ND	1.00	1.00	U	MS05-2699-8
1,1-Dichloropropene	563-58-6	ND	1.00	1.00	U	MS05-2699-8
1,2,3-Trichlorobenzene	87-61-6	ND	1.00	1.00	U	MS05-2699-8
1,2,3-Trichloropropane	96-18-4	ND	1.00	1.00	U	MS05-2699-8
1,2,4-Trichlorobenzene	120-82-1	ND	1.00	1.00	U	MS05-2699-8
1,2,4-Trimethylbenzene	95-63-6	ND	1.00	1.00	U	MS05-2699-8
1,2-Dibromo-3-chloropropa	ane 96-12-8	ND	1.00	1.00	U	MS05-2699-8
1,2-Dibromoethane	106-93-4	ND	1.00	1.00	U	MS05-2699-8
1,2-Dichlorobenzene	95-50-1	ND	1.00	1.00	U	MS05-2699-8
1,2-Dichloroethane	107-06-2	ND	1.00	1.00	U	MS05-2699-8
1,2-Dichloropropane	78-87-5	ND	1.00	1.00	U	MS05-2699-8
1,3,5-Trimethylbenzene	108-67-8	ND	1.00	1.00	Ü	MS05-2699-8
1,3-Dichlorobenzene	541-73-1	ND	1.00	1.00	Ü	MS05-2699-8
1,3-Dichloropropane	142-28-9	ND	1.00	1.00	Ü	MS05-2699-8
1,4-Dichlorobenzene	106-46-7	ND	1.00	1.00	Ü	MS05-2699-8
2,2-Dichloropropane	590-20-7	ND	1.00	1.00	Ü	MS05-2699-8
2-Butanone	78-93-3	ND	1.00	1.00	Ü	MS05-2699-8
2-Chloroethylvinylether	110-75-8	ND	1.00	1.00	Ü	MS05-2699-8
2-Chlorotoluene	95-49-8	ND	1.00	1.00	Ü	MS05-2699-8
2-Hexanone	591-78-6	ND	1.00	1.00	Ü	MS05-2699-8
4-Chlorotoluene	106-43-4	ND	1.00	1.00	Ü	MS05-2699-8
4-Isopropyltoluene	99-87-6	ND	1.00	1.00	Ü	MS05-2699-8
4-Methyl-2-pentanone	108-10-1	ND	1.00	1.00	Ü	MS05-2699-8
Acetone	67-64-1	ND	5.00	1.00	Ü	MS05-2699-8
Benzene	71-43-2	ND	1.00	1.00	Ü	MS05-2699-8
Bromobenzene	108-86-1	ND	1.00	1.00	Ü	MS05-2699-8
Bromochloromethane	74-97-5	ND	1.00	1.00	Ü	MS05-2699-8
Bromodichloromethane	75-27-4	ND	1.00	1.00	Ü	MS05-2699-8
Bromoform	75-25-2	ND	1.00	1.00	Ü	MS05-2699-8
Bromomethane	74-83-9	ND	1.00	1.00	Ü	MS05-2699-8
Carbon disulfide	75-15-0	ND	1.00	1.00	Ü	MS05-2699-8
Carbon tetrachloride	56-23-5	ND	1.00	1.00	U	MS05-2699-8
Chlorobenzene	108-90-7	ND	1.00	1.00	Ü	MS05-2699-8
Chloroethane	75-00-3	ND	1.00	1.00	U	MS05-2699-8
Chloroform	67-66-3	ND	1.00	1.00	U	MS05-2699-8
Chloromethane	74-87-3	ND ND	1.00	1.00	U	MS05-2699-8
cis-1,2-Dichloroethene	156-59-2	ND ND	1.00	1.00	U	MS05-2699-8
cis-1,3-Dichloropropene	10061-01-5	ND ND	1.00	1.00	U	MS05-2699-8
Dibromochloromethane	124-48-1	ND ND	1.00	1.00	U	MS05-2699-8
Dibromomethane	74-95-3	ND ND	1.00	1.00	U	MS05-2699-8
Dichlorodifluoromethane	74-93-3 75-71-8	ND ND			U	MS05-2699-8 MS05-2699-8
Ethylbenzene	/5-/1-8 100-41-4	ND ND	1.00	1.00 1.00	U	
Emylochizene	100-41-4	ND	1.00	1.00	U	MS05-2699-8

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**NEA Job Number:** 11060117

**NEA Laboratory, Division of** Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-2

**Lab Sample ID:** 11060117-03 (AO07424)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
	IS05-2699-8	EPA Method 8260B	06/13/2011 12:16	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm
Analysis 2: M	IS05-2699-10	EPA Method 8260B	06/13/2011 13:12	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm
Analyte		CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Hexachlorobutad	liene	87-68-3	ND	1.00	1.00	U	MS05-2699-8
Isopropylbenzene	e	98-82-8	ND	1.00	1.00	U	MS05-2699-8
m&p-Xylene		136777-61-2	ND	1.00	1.00	U	MS05-2699-8
Methylene chlori	ide	75-09-2	ND	1.00	1.00	U	MS05-2699-8
MTBE		1634-04-4	448	10.0	10.0		MS05-2699-10
Naphthalene		91-20-3	ND	1.00	1.00	U	MS05-2699-8
n-Butylbenzene		104-51-8	ND	1.00	1.00	U	MS05-2699-8
n-Propylbenzene		103-65-1	ND	1.00	1.00	U	MS05-2699-8
o-Xylene		95-47-6	ND	1.00	1.00	U	MS05-2699-8
sec-Butylbenzene	e	135-98-8	ND	1.00	1.00	U	MS05-2699-8
Styrene		100-42-5	ND	1.00	1.00	U	MS05-2699-8
tert-Butylbenzen	e	98-06-6	ND	1.00	1.00	U	MS05-2699-8
Tetrachloroethen	ie	127-18-4	1.99	1.00	1.00		MS05-2699-8
Toluene		108-88-3	ND	1.00	1.00	U	MS05-2699-8
trans-1,2-Dichlor	roethene	156-60-5	ND	1.00	1.00	U	MS05-2699-8
trans-1,3-Dichlor	ropropene	10061-02-6	ND	1.00	1.00	U	MS05-2699-8
Trichloroethene		79-01-6	ND	1.00	1.00	U	MS05-2699-8
Trichlorofluorom	nethane	75-69-4	ND	1.00	1.00	U	MS05-2699-8
Vinyl acetate		108-05-4	ND	1.00	1.00	U	MS05-2699-8
Vinyl chloride		75-01-4	ND	1.00	1.00	U	MS05-2699-8
				Lin	nits		
Surrogate		CAS No.	% Recovery	(%		$\mathbf{Q}^1$	File ID
Bromofluorobenz		460-00-4	104		-115	_	MS05-2699-8
Dibromofluorom	ethane	1868-53-7	99.9		-118		MS05-2699-8
Toluene-d8		2037-26-5	105		-110		MS05-2699-8
1,2-Dichloroetha		17060-07-0 value outside the control limits or 'D	98.9		-120		MS05-2699-8

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Percent Solid: N/A

Batch ID Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS05-2699-9 EPA Method 8260B	06/13/2011 12:43	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm
Analysis 2: MS05-2699-11 EPA Method 8260B	06/13/2011 13:42	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm
Analyte CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,1,1,2-Tetrachloroethane 630-20-6	ND	1.00	1.00	U	MS05-2699-9
1,1,1-Trichloroethane 71-55-6	ND	1.00	1.00	U	MS05-2699-9
1,1,2,2-Tetrachloroethane 79-34-5	ND	1.00	1.00	U	MS05-2699-9
1,1,2-Trichloroethane 79-00-5	ND	1.00	1.00	U	MS05-2699-9
1,1-Dichloroethane 75-34-3	ND	1.00	1.00	U	MS05-2699-9
1,1-Dichloroethene 75-35-4	ND	1.00	1.00	U	MS05-2699-9
1,1-Dichloropropene 563-58-6	ND	1.00	1.00	U	MS05-2699-9
1,2,3-Trichlorobenzene 87-61-6	ND	1.00	1.00	U	MS05-2699-9
1,2,3-Trichloropropane 96-18-4	ND	1.00	1.00	U	MS05-2699-9
1,2,4-Trichlorobenzene 120-82-1	ND	1.00	1.00	U	MS05-2699-9
1,2,4-Trimethylbenzene 95-63-6	ND	1.00	1.00	U	MS05-2699-9
1,2-Dibromo-3-chloropropane 96-12-8	ND	1.00	1.00	U	MS05-2699-9
1,2-Dibromoethane 106-93-4	ND	1.00	1.00	U	MS05-2699-9
1,2-Dichlorobenzene 95-50-1	ND	1.00	1.00	U	MS05-2699-9
1,2-Dichloroethane 107-06-2	ND	1.00	1.00	U	MS05-2699-9
1,2-Dichloropropane 78-87-5	ND	1.00	1.00	U	MS05-2699-9
1,3,5-Trimethylbenzene 108-67-8	ND	1.00	1.00	U	MS05-2699-9
1,3-Dichlorobenzene 541-73-1	ND	1.00	1.00	U	MS05-2699-9
1,3-Dichloropropane 142-28-9	ND	1.00	1.00	U	MS05-2699-9
1,4-Dichlorobenzene 106-46-7	ND	1.00	1.00	U	MS05-2699-9
2,2-Dichloropropane 590-20-7	ND	1.00	1.00	U	MS05-2699-9
2-Butanone 78-93-3	ND	1.00	1.00	U	MS05-2699-9
2-Chloroethylvinylether 110-75-8	ND	1.00	1.00	U	MS05-2699-9
2-Chlorotoluene 95-49-8	ND	1.00	1.00	U	MS05-2699-9
2-Hexanone 591-78-6	ND	1.00	1.00	U	MS05-2699-9
4-Chlorotoluene 106-43-4	ND	1.00	1.00	U	MS05-2699-9
4-Isopropyltoluene 99-87-6	ND	1.00	1.00	U	MS05-2699-9
4-Methyl-2-pentanone 108-10-1	ND	1.00	1.00	U	MS05-2699-9
Acetone 67-64-1	ND	5.00	1.00	U	MS05-2699-9
Benzene 71-43-2	ND	1.00	1.00	U	MS05-2699-9
Bromobenzene 108-86-1	ND	1.00	1.00	U	MS05-2699-9
Bromochloromethane 74-97-5	ND	1.00	1.00	U	MS05-2699-9
Bromodichloromethane 75-27-4	ND	1.00	1.00	U	MS05-2699-9
Bromoform 75-25-2	ND	1.00	1.00	U	MS05-2699-9
Bromomethane 74-83-9	ND	1.00	1.00	U	MS05-2699-9
Carbon disulfide 75-15-0	ND	1.00	1.00	U	MS05-2699-9
Carbon tetrachloride 56-23-5	ND	1.00	1.00	U	MS05-2699-9
Chlorobenzene 108-90-7	ND	1.00	1.00	U	MS05-2699-9
Chloroethane 75-00-3	ND	1.00	1.00	U	MS05-2699-9
Chloroform 67-66-3	ND	1.00	1.00	U	MS05-2699-9
Chloromethane 74-87-3	ND	1.00	1.00	U	MS05-2699-9
cis-1,2-Dichloroethene 156-59-2	ND	1.00	1.00	U	MS05-2699-9
cis-1,3-Dichloropropene 10061-01-5	ND	1.00	1.00	U	MS05-2699-9
Dibromochloromethane 124-48-1	ND	1.00	1.00	U	MS05-2699-9
Dibromomethane 74-95-3	ND	1.00	1.00	U	MS05-2699-9
Dichlorodifluoromethane 75-71-8	ND	1.00	1.00	U	MS05-2699-9
Ethylbenzene 100-41-4	ND	1.00	1.00	U	MS05-2699-9

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**NEA Job Number:** 11060117

**NEA Laboratory, Division of** Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	atch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
3	S05-2699-9	EPA Method 8260B	06/13/2011 12:43	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 $\mu m$
Analysis 2: M	S05-2699-11	EPA Method 8260B	06/13/2011 13:42	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm
Analyte		CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Hexachlorobutad	iene	87-68-3	ND	1.00	1.00	U	MS05-2699-9
Isopropylbenzene	e	98-82-8	ND	1.00	1.00	U	MS05-2699-9
m&p-Xylene		136777-61-2	ND	1.00	1.00	U	MS05-2699-9
Methylene chlori	de	75-09-2	ND	1.00	1.00	U	MS05-2699-9
MTBE		1634-04-4	205	5.00	5.00		MS05-2699-11
Naphthalene		91-20-3	ND	1.00	1.00	U	MS05-2699-9
n-Butylbenzene		104-51-8	ND	1.00	1.00	U	MS05-2699-9
n-Propylbenzene		103-65-1	ND	1.00	1.00	U	MS05-2699-9
o-Xylene		95-47-6	ND	1.00	1.00	U	MS05-2699-9
sec-Butylbenzene	e	135-98-8	ND	1.00	1.00	U	MS05-2699-9
Styrene		100-42-5	ND	1.00	1.00	U	MS05-2699-9
tert-Butylbenzene	e	98-06-6	ND	1.00	1.00	U	MS05-2699-9
Tetrachloroethen	e	127-18-4	4.44	1.00	1.00		MS05-2699-9
Toluene		108-88-3	ND	1.00	1.00	U	MS05-2699-9
trans-1,2-Dichlor	oethene	156-60-5	ND	1.00	1.00	U	MS05-2699-9
trans-1,3-Dichlor	opropene	10061-02-6	ND	1.00	1.00	U	MS05-2699-9
Trichloroethene		79-01-6	ND	1.00	1.00	U	MS05-2699-9
Trichlorofluorom	nethane	75-69-4	ND	1.00	1.00	U	MS05-2699-9
Vinyl acetate		108-05-4	ND	1.00	1.00	U	MS05-2699-9
Vinyl chloride		75-01-4	ND	1.00	1.00	U	MS05-2699-9
				Lin	nits		
Surrogate		CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^{^{1}}$	File ID
Bromofluorobenz	zene	460-00-4	99.2	86.0	-115		MS05-2699-9
Dibromofluorom	ethane	1868-53-7	98.9	86.0	-118		MS05-2699-9
Toluene-d8		2037-26-5	102		-110		MS05-2699-9
1,2-Dichloroetha		17060-07-0 value outside the control limits or 'D	99.7		-120		MS05-2699-9

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

## GC/MS Volatiles QC



#### Quality Control Sample Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07494B)

Lab Sample ID: VBLK-03

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

Batch ID Analysis 1: MS05-2699-5	Method EPA Method 8260B	Date 06/13/2011 10::	Analyst 57 KRM	Init Wt./Vol.	Final Vol.	Column  Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 µm
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,1,1,2-Tetrachloroethane	630-20-6	ND	1.00	1.00	U	MS05-2699-5
1,1,1-Trichloroethane	71-55-6	ND	1.00	1.00	U	MS05-2699-5
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.00	1.00	U	MS05-2699-5
1,1,2-Trichloroethane	79-00-5	ND	1.00	1.00	U	MS05-2699-5
1,1-Dichloroethane	75-34-3	ND	1.00	1.00	U	MS05-2699-5
1,1-Dichloroethene	75-35-4	ND	1.00	1.00	U	MS05-2699-5
1,1-Dichloropropene	563-58-6	ND	1.00	1.00	U	MS05-2699-5
1,2,3-Trichlorobenzene	87-61-6	ND	1.00	1.00	U	MS05-2699-5
1,2,3-Trichloropropane	96-18-4	ND	1.00	1.00	U	MS05-2699-5
1,2,4-Trichlorobenzene	120-82-1	ND	1.00	1.00	U	MS05-2699-5
1,2,4-Trimethylbenzene	95-63-6	ND	1.00	1.00	U	MS05-2699-5
1,2-Dibromo-3-chloropropand	e 96-12-8	ND	1.00	1.00	U	MS05-2699-5
1,2-Dibromoethane	106-93-4	ND	1.00	1.00	U	MS05-2699-5
1,2-Dichlorobenzene	95-50-1	ND	1.00	1.00	U	MS05-2699-5
1,2-Dichloroethane	107-06-2	ND	1.00	1.00	U	MS05-2699-5
1,2-Dichloropropane	78-87-5	ND	1.00	1.00	U	MS05-2699-5
1,3,5-Trimethylbenzene	108-67-8	ND	1.00	1.00	U	MS05-2699-5
1,3-Dichlorobenzene	541-73-1	ND	1.00	1.00	U	MS05-2699-5
1,3-Dichloropropane	142-28-9	ND	1.00	1.00	U	MS05-2699-5
1,4-Dichlorobenzene	106-46-7	ND	1.00	1.00	U	MS05-2699-5
2,2-Dichloropropane	590-20-7	ND	1.00	1.00	U	MS05-2699-5
2-Butanone	78-93-3	ND	1.00	1.00	U	MS05-2699-5
2-Chloroethylvinylether	110-75-8	ND	1.00	1.00	U	MS05-2699-5
2-Chlorotoluene	95-49-8	ND	1.00	1.00	U	MS05-2699-5
2-Hexanone	591-78-6	ND	1.00	1.00	U	MS05-2699-5
4-Chlorotoluene	106-43-4	ND	1.00	1.00	U	MS05-2699-5
4-Isopropyltoluene	99-87-6	ND	1.00	1.00	U	MS05-2699-5
4-Methyl-2-pentanone	108-10-1	ND	1.00	1.00	U	MS05-2699-5
Acetone	67-64-1	ND	5.00	1.00	U	MS05-2699-5
Benzene	71-43-2	ND	1.00	1.00	U	MS05-2699-5
Bromobenzene	108-86-1	ND	1.00	1.00	U	MS05-2699-5
Bromochloromethane	74-97-5	ND	1.00	1.00	U	MS05-2699-5
Bromodichloromethane	75-27-4	ND	1.00	1.00	U	MS05-2699-5
Bromoform	75-25-2	ND	1.00	1.00	U	MS05-2699-5
Bromomethane	74-83-9	ND	1.00	1.00	U	MS05-2699-5
Carbon disulfide	75-15-0	ND	1.00	1.00	U	MS05-2699-5
Carbon tetrachloride	56-23-5	ND	1.00	1.00	U	MS05-2699-5
Chlorobenzene	108-90-7	ND	1.00	1.00	U	MS05-2699-5
Chloroethane	75-00-3	ND	1.00	1.00	U	MS05-2699-5
Chloroform	67-66-3	ND	1.00	1.00	U	MS05-2699-5
Chloromethane	74-87-3	ND	1.00	1.00	U	MS05-2699-5
cis-1,2-Dichloroethene	156-59-2	ND	1.00	1.00	U	MS05-2699-5
cis-1,3-Dichloropropene	10061-01-5	ND	1.00	1.00	U	MS05-2699-5
Dibromochloromethane	124-48-1	ND	1.00	1.00	U	MS05-2699-5
Dibromomethane	74-95-3	ND	1.00	1.00	U	MS05-2699-5
Dichlorodifluoromethane	75-71-8	ND	1.00	1.00	U	MS05-2699-5
Ethylbenzene	100-41-4	ND	1.00	1.00	U	MS05-2699-5
Hexachlorobutadiene	87-68-3	ND	1.00	1.00	U	MS05-2699-5

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#### Quality Control Sample Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07494B)

Lab Sample ID: VBLK-03

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

Batch ID  Analysis 1: MS05-2699-5	Method EPA Method 8260B	Date 06/13/2011 10:57	Analyst KRM	Init Wt./Vol.	Final Vol.	Column  Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Isopropylbenzene	98-82-8	ND	1.00	1.00	U	MS05-2699-5
m&p-Xylene	136777-61-2	ND	1.00	1.00	U	MS05-2699-5
Methylene chloride	75-09-2	ND	1.00	1.00	U	MS05-2699-5
MTBE	1634-04-4	ND	1.00	1.00	U	MS05-2699-5
Naphthalene	91-20-3	ND	1.00	1.00	U	MS05-2699-5
n-Butylbenzene	104-51-8	ND	1.00	1.00	U	MS05-2699-5
n-Propylbenzene	103-65-1	ND	1.00	1.00	U	MS05-2699-5
o-Xylene	95-47-6	ND	1.00	1.00	U	MS05-2699-5
sec-Butylbenzene	135-98-8	ND	1.00	1.00	U	MS05-2699-5
Styrene	100-42-5	ND	1.00	1.00	U	MS05-2699-5
tert-Butylbenzene	98-06-6	ND	1.00	1.00	U	MS05-2699-5
Tetrachloroethene	127-18-4	ND	1.00	1.00	U	MS05-2699-5
Toluene	108-88-3	ND	1.00	1.00	U	MS05-2699-5
trans-1,2-Dichloroethene	156-60-5	ND	1.00	1.00	U	MS05-2699-5
trans-1,3-Dichloropropene	10061-02-6	ND	1.00	1.00	U	MS05-2699-5
Trichloroethene	79-01-6	ND	1.00	1.00	U	MS05-2699-5
Trichlorofluoromethane	75-69-4	ND	1.00	1.00	U	MS05-2699-5
Vinyl acetate	108-05-4	ND	1.00	1.00	U	MS05-2699-5
Vinyl chloride	75-01-4	ND	1.00	1.00	U	MS05-2699-5
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%		$\mathbf{Q}^{1}$	File ID
Bromofluorobenzene	460-00-4	114	86.0	-115		MS05-2699-5
Dibromofluoromethane	1868-53-7	99.4		-118		MS05-2699-5
Toluene-d8	2037-26-5	97.5		-110		MS05-2699-5
1,2-Dichloroethane-d4	17060-07-0	98.9	80.0	-120		MS05-2699-5

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



## Quality Control Sample Results Lab Control Sample

NEA Job Number: 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308 Phone: 518.346.4592

Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO07494L)

Lab Sample ID: LCS-57

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

		Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
ı	Analysis 1:	MS05-2699-3	EPA Method 8260B	06/13/2011 10:03	KRM	NA	NA	Restek, Rtx-VMS, 30 m, 0.25 mm ID, 1.40 μm

Analyte Spiked	CAS No.	Added (ug/L)	LCS (ug/L)	LCS % Rec.	Q Limit	S
1,1-Dichloroethene	75-35-4	40.0	39.6	99.0	70.0-13	30
Benzene	71-43-2	40.0	39.3	98.1	70.0-13	30
Chlorobenzene	108-90-7	40.0	39.6	99.0	70.0-13	30
Toluene	108-88-3	40.0	38.5	96.2	70.0-13	30
Trichloroethene	79-01-6	40.0	40.6	101	70.0-13	30

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

			Limits	
Surrogate	CAS No.	% Recovery	(%)	<b>Q</b> <sup>1</sup> File ID
Bromofluorobenzene	460-00-4	103	86.0-115	MS05-2699-3
Dibromofluoromethane	1868-53-7	102	86.0-118	MS05-2699-3
toluene-d8	2037-26-5	102	88.0-110	MS05-2699-3
1,2-Dichloroethane-d4	17060-07-0	101	80.0-120	MS05-2699-3

<sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

### GC/MS Semivolatiles



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: MW-1

**Lab Sample ID:** 11060117-01 (AO07422)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MS04-571-5	EPA Method 8270C	06/13/2011 10:22	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 $\mu m$
Prep 1:	14102	EPA 3520C	06/11/2011 13:00	BJE	1080 mL	1.00 mL	NA
Analyte		CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,2,4-Trichlo	orobenzene	120-82-1	ND	9.26	1.00	U	MS04-571-5
1,2-Dichloro	benzene	95-50-1	ND	9.26	1.00	U	MS04-571-5
1,3-Dichloro		541-73-1	ND	9.26	1.00	U	MS04-571-5
1,4-Dichloro		106-46-7	ND	9.26	1.00	U	MS04-571-5
2,4,5-Trichlo	orophenol	95-95-4	ND	9.26	1.00	U	MS04-571-5
2,4,6-Trichlo	orophenol	88-06-2	ND	9.26	1.00	U	MS04-571-5
2,4-Dichloro	phenol	120-83-2	ND	9.26	1.00	U	MS04-571-5
2,4-Dimethy	lphenol	105-67-9	ND	9.26	1.00	U	MS04-571-5
2,4-Dinitrop	henol	51-28-5	ND	9.26	1.00	U	MS04-571-5
2,4-Dinitroto	oluene	121-14-2	ND	9.26	1.00	U	MS04-571-5
2,6-Dinitroto		606-20-2	ND	9.26	1.00	U	MS04-571-5
2-Chloronap		91-58-7	ND	4.63	1.00	U	MS04-571-5
2-Chlorophe		95-57-8	ND	9.26	1.00	U	MS04-571-5
2-Methylnap		91-57-6	ND	4.63	1.00	U	MS04-571-5
2-Methylphe		95-48-7	ND	9.26	1.00	Ū	MS04-571-5
2-Nitroanilir		88-74-4	ND	9.26	1.00	Ū	MS04-571-5
2-Nitrophen		88-75-5	ND	9.26	1.00	Ü	MS04-571-5
3,3'-Dichloro		91-94-1	ND	9.26	1.00	Ü	MS04-571-5
3-Nitroanilir		99-09-2	ND	9.26	1.00	Ü	MS04-571-5
	2-methylphenol	534-52-1	ND	9.26	1.00	Ü	MS04-571-5
	enyl-phenylether		ND	9.26	1.00	Ü	MS04-571-5
	methylphenol	59-50-7	ND	9.26	1.00	Ü	MS04-571-5
4-Chloroanil		106-47-8	ND	9.26	1.00	Ü	MS04-571-5
	enyl-phenylether		ND	9.26	1.00	Ü	MS04-571-5
4-Methylphe		106-44-5	ND	9.26	1.00	Ü	MS04-571-5
4-Nitroanilir		100-01-6	ND	9.26	1.00	U	MS04-571-5
4-Nitrophen		100-01-0	ND ND	9.26	1.00	U	MS04-571-5
Acenaphther		83-32-9	ND ND	4.63	1.00	U	MS04-571-5
Acenaphthyl		208-96-8	ND ND	4.63	1.00	U	MS04-571-5
Acchaphury i Anthracene	iene	120-12-7	ND ND	4.63	1.00	U	MS04-571-5
Benzo(a)antl	hraaana	56-55-3	ND ND	4.63	1.00	U	MS04-571-5
Benzo(a)anu Benzo(a)pyr		50-32-8	ND ND	4.63	1.00	U	MS04-571-5
		205-99-2	ND ND	4.63	1.00	U	
Benzo(b)fluo Benzo(g,h,i)		191-24-2	ND ND	4.63		U	MS04-571-5
					1.00		MS04-571-5
Benzo(k)fluo		207-08-9	ND ND	4.63	1.00	U	MS04-571-5
*	ethoxy)methane		ND	9.26	1.00	U	MS04-571-5
bis(2-chloro		111-44-4	ND	9.26	1.00	U	MS04-571-5
	oisopropyl)ether	39638-32-9	ND	9.26	1.00	U	MS04-571-5
	exyl)phthalate	117-81-7	ND	9.26	1.00	U	MS04-571-5
Butylbenzyl	pnthalate	85-68-7	ND	9.26	1.00	U	MS04-571-5
Carbazole		86-74-8	ND	4.63	1.00	U	MS04-571-5
Chrysene	d	218-01-9	ND	4.63	1.00	U	MS04-571-5
Dibenz(a,h)a		53-70-3	ND	4.63	1.00	U	MS04-571-5
Dibenzofura		132-64-9	ND	4.63	1.00	U	MS04-571-5
Diethylphtha		84-66-2	ND	9.26	1.00	U	MS04-571-5
Dimethylpht		131-11-3	ND	9.26	1.00	U	MS04-571-5
Di-n-butylph	nthalate	84-74-2	ND	9.26	1.00	U	MS04-571-5

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**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW-1

**Lab Sample ID:** 11060117-01 (AO07422)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS04-571-5	EPA Method 8270C	06/13/2011 10:22	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 $\mu m$
Prep 1: 14102	EPA 3520C	06/11/2011 13:00	BJE	1080 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Di-n-octylphthalate	117-84-0	ND	9.26	1.00	U	MS04-571-5
Fluoranthene	206-44-0	ND	4.63	1.00	U	MS04-571-5
Fluorene	86-73-7	ND	4.63	1.00	U	MS04-571-5
Hexachlorobenzene	118-74-1	ND	9.26	1.00	U	MS04-571-5
Hexachlorobutadiene	87-68-3	ND	9.26	1.00	U	MS04-571-5
Hexachlorocyclopentadiene	77-47-4	ND	9.26	1.00	U	MS04-571-5
Hexachloroethane	67-72-1	ND	9.26	1.00	U	MS04-571-5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	4.63	1.00	U	MS04-571-5
Isophorone	78-59-1	ND	9.26	1.00	U	MS04-571-5
Naphthalene	91-20-3	ND	4.63	1.00	U	MS04-571-5
Nitrobenzene	98-95-3	ND	9.26	1.00	U	MS04-571-5
N-Nitroso-di-n-propylamine	621-64-7	ND	9.26	1.00	U	MS04-571-5
N-Nitrosodiphenylamine	86-30-6	ND	9.26	1.00	U	MS04-571-5
Pentachlorophenol	87-86-5	ND	9.26	1.00	U	MS04-571-5
Phenanthrene	85-01-8	ND	4.63	1.00	U	MS04-571-5
Phenol	108-95-2	ND	9.26	1.00	U	MS04-571-5
Pyrene	129-00-0	ND	4.63	1.00	U	MS04-571-5
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%		$\mathbf{Q}^1$	File ID
2,4,6-Tribromophenol	118-79-6	108	19.0	-122		MS04-571-5
2-Fluorobiphenyl	321-60-8	102	30.0	-115		MS04-571-5
2-Fluorophenol	367-12-4	104	25.0	-121		MS04-571-5
Terphenyl-d14	1718-51-0	65.1	18.0			MS04-571-5
Nitrobenzene-d5	4165-60-0	75.5	23.0			MS04-571-5
Phenol-d6	13127-88-3	80.4	24.0	-113		MS04-571-5

<sup>1</sup> Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS04-571-6	EPA Method 8270C	06/13/2011 10:44		NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1: 14102	EPA 3520C	06/11/2011 13:00	BJE	1080 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,2,4-Trichlorobenzene	120-82-1	ND	9.26	1.00	U	MS04-571-6
1,2-Dichlorobenzene	95-50-1	ND	9.26	1.00	U	MS04-571-6
1,3-Dichlorobenzene	541-73-1	ND	9.26	1.00	U	MS04-571-6
1,4-Dichlorobenzene	106-46-7	ND	9.26	1.00	U	MS04-571-6
2,4,5-Trichlorophenol	95-95-4	ND	9.26	1.00	U	MS04-571-6
2,4,6-Trichlorophenol	88-06-2	ND	9.26	1.00	U	MS04-571-6
2,4-Dichlorophenol	120-83-2	ND	9.26	1.00	U	MS04-571-6
2,4-Dimethylphenol	105-67-9	ND	9.26	1.00	U	MS04-571-6
2,4-Dinitrophenol	51-28-5	ND	9.26	1.00	U	MS04-571-6
2,4-Dinitrotoluene	121-14-2	ND	9.26	1.00	U	MS04-571-6
2,6-Dinitrotoluene	606-20-2	ND	9.26	1.00	U	MS04-571-6
2-Chloronaphthalene	91-58-7	ND	4.63	1.00	U	MS04-571-6
2-Chlorophenol	95-57-8	ND	9.26	1.00	U	MS04-571-6
2-Methylnaphthalene	91-57-6	ND	4.63	1.00	Ü	MS04-571-6
2-Methylphenol	95-48-7	ND	9.26	1.00	Ü	MS04-571-6
2-Nitroaniline	88-74-4	ND	9.26	1.00	Ü	MS04-571-6
2-Nitrophenol	88-75-5	ND	9.26	1.00	Ü	MS04-571-6
3,3'-Dichlorobenzidine	91-94-1	ND	9.26	1.00	Ü	MS04-571-6
3-Nitroaniline	99-09-2	ND	9.26	1.00	U	MS04-571-6
4,6-Dinitro-2-methylpheno		ND ND	9.26	1.00	U	MS04-571-6
4-Bromophenyl-phenyleth		ND ND	9.26	1.00	U	MS04-571-6
4-Chloro-3-methylphenol	59-50-7	ND ND	9.26	1.00	U	MS04-571-6
4-Chloroaniline	106-47-8	ND ND	9.26	1.00	U	MS04-571-6
4-Chlorophenyl-phenyleth		ND ND	9.26	1.00	U	MS04-571-6
	106-44-5	ND ND	9.26	1.00	U	
4-Methylphenol	100-44-3	ND ND	9.26	1.00	U	MS04-571-6
4-Nitroaniline	100-01-6	ND ND	9.26	1.00	U	MS04-571-6
4-Nitrophenol					U	MS04-571-6
Acenaphthene	83-32-9	ND	4.63	1.00		MS04-571-6
Acenaphthylene	208-96-8	ND	4.63	1.00	U	MS04-571-6
Anthracene	120-12-7	ND	4.63	1.00	U	MS04-571-6
Benzo(a)anthracene	56-55-3	ND	4.63	1.00	U	MS04-571-6
Benzo(a)pyrene	50-32-8	ND	4.63	1.00	U	MS04-571-6
Benzo(b)fluoranthene	205-99-2	ND	4.63	1.00	U	MS04-571-6
Benzo(g,h,i)perylene	191-24-2	ND	4.63	1.00	U	MS04-571-6
Benzo(k)fluoranthene	207-08-9	ND	4.63	1.00	U	MS04-571-6
bis(2-chloroethoxy)methan		ND	9.26	1.00	U	MS04-571-6
bis(2-chloroethyl)ether	111-44-4	ND	9.26	1.00	U	MS04-571-6
bis(2-Chloroisopropyl)ethe	er 39638-32-9	ND	9.26	1.00	U	MS04-571-6
bis(2-Ethylhexyl)phthalate		99.1	9.26	1.00		MS04-571-6
Butylbenzylphthalate	85-68-7	ND	9.26	1.00	U	MS04-571-6
Carbazole	86-74-8	ND	4.63	1.00	U	MS04-571-6
Chrysene	218-01-9	ND	4.63	1.00	U	MS04-571-6
Dibenz(a,h)anthracene	53-70-3	ND	4.63	1.00	U	MS04-571-6
Dibenzofuran	132-64-9	ND	4.63	1.00	U	MS04-571-6
Diethylphthalate	84-66-2	ND	9.26	1.00	U	MS04-571-6
Dimethylphthalate	131-11-3	ND	9.26	1.00	U	MS04-571-6
Di-n-butylphthalate	84-74-2	ND	9.26	1.00	U	MS04-571-6

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**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS04-571-6	EPA Method 8270C	06/13/2011 10:44	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1: 14102	EPA 3520C	06/11/2011 13:00	BJE	1080 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Di-n-octylphthalate	117-84-0	ND	9.26	1.00	U	MS04-571-6
Fluoranthene	206-44-0	ND	4.63	1.00	U	MS04-571-6
Fluorene	86-73-7	ND	4.63	1.00	U	MS04-571-6
Hexachlorobenzene	118-74-1	ND	9.26	1.00	U	MS04-571-6
Hexachlorobutadiene	87-68-3	ND	9.26	1.00	U	MS04-571-6
Hexachlorocyclopentadiene	77-47-4	ND	9.26	1.00	U	MS04-571-6
Hexachloroethane	67-72-1	ND	9.26	1.00	U	MS04-571-6
Indeno(1,2,3-cd)pyrene	193-39-5	ND	4.63	1.00	U	MS04-571-6
Isophorone	78-59-1	ND	9.26	1.00	U	MS04-571-6
Naphthalene	91-20-3	ND	4.63	1.00	U	MS04-571-6
Nitrobenzene	98-95-3	ND	9.26	1.00	U	MS04-571-6
N-Nitroso-di-n-propylamine	621-64-7	ND	9.26	1.00	U	MS04-571-6
N-Nitrosodiphenylamine	86-30-6	ND	9.26	1.00	U	MS04-571-6
Pentachlorophenol	87-86-5	ND	9.26	1.00	U	MS04-571-6
Phenanthrene	85-01-8	ND	4.63	1.00	U	MS04-571-6
Phenol	108-95-2	ND	9.26	1.00	U	MS04-571-6
Pyrene	129-00-0	ND	4.63	1.00	U	MS04-571-6
			Lin	nite		
Surrogate	CAS No.	% Recovery	(%		${\bf Q}^1$	File ID
2,4,6-Tribromophenol	118-79-6	99.2	19.0	-122		MS04-571-6
2-Fluorobiphenyl	321-60-8	97.5	30.0	-115		MS04-571-6
2-Fluorophenol	367-12-4	101	25.0	-121		MS04-571-6
Terphenyl-d14	1718-51-0	73.4		-137		MS04-571-6
Nitrobenzene-d5	4165-60-0	74.1		-120		MS04-571-6
Phenol-d6	13127-88-3	82.0	24.0	-113		MS04-571-6

 $<sup>{}^{1}\</sup>overline{\text{Qualifier column where '*'}} \text{ denotes value outside the control limits or 'D' denotes value was diluted out.}$ 

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

## GC/MS Semivolatiles QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07422B)

Lab Sample ID: SBLK-57

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.		Column
Analysis 1:	MS04-571-3	EPA Method 8270C	06/13/2011 09:38		NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1:	14102	EPA 3520C	06/11/2011 13:00	BJE	1000 mL	1.00 mL	NA
Analyte		CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,2,4-Trichl		120-82-1	ND	10.0	1.00	U	MS04-571-3
1,2-Dichlor		95-50-1	ND	10.0	1.00	U	MS04-571-3
1,3-Dichlor	obenzene	541-73-1	ND	10.0	1.00	U	MS04-571-3
1,4-Dichlor		106-46-7	ND	10.0	1.00	U	MS04-571-3
2,4,5-Trichl		95-95-4	ND	10.0	1.00	U	MS04-571-3
2,4,6-Trichl		88-06-2	ND	10.0	1.00	U	MS04-571-3
2,4-Dichlor	ophenol	120-83-2	ND	10.0	1.00	U	MS04-571-3
2,4-Dimeth	ylphenol	105-67-9	ND	10.0	1.00	U	MS04-571-3
2,4-Dinitrop	ohenol	51-28-5	ND	10.0	1.00	U	MS04-571-3
2,4-Dinitrot	toluene	121-14-2	ND	10.0	1.00	U	MS04-571-3
2,6-Dinitrot	toluene	606-20-2	ND	10.0	1.00	U	MS04-571-3
2-Chlorona	phthalene	91-58-7	ND	5.00	1.00	U	MS04-571-3
2-Chloroph		95-57-8	ND	10.0	1.00	U	MS04-571-3
2-Methylna		91-57-6	ND	5.00	1.00	U	MS04-571-3
2-Methylph		95-48-7	ND	10.0	1.00	U	MS04-571-3
2-Nitroanili		88-74-4	ND	10.0	1.00	U	MS04-571-3
2-Nitropher	nol	88-75-5	ND	10.0	1.00	U	MS04-571-3
3,3'-Dichlor		91-94-1	ND	10.0	1.00	U	MS04-571-3
3-Nitroanili		99-09-2	ND	10.0	1.00	U	MS04-571-3
	-2-methylphenol	534-52-1	ND	10.0	1.00	Ü	MS04-571-3
	enyl-phenylether		ND	10.0	1.00	Ü	MS04-571-3
	methylphenol	59-50-7	ND	10.0	1.00	Ü	MS04-571-3
4-Chloroani		106-47-8	ND	10.0	1.00	Ü	MS04-571-3
	enyl-phenylether		ND	10.0	1.00	Ü	MS04-571-3
4-Methylph		106-44-5	ND	10.0	1.00	Ü	MS04-571-3
4-Nitroanili		100-01-6	ND	10.0	1.00	Ü	MS04-571-3
4-Nitropher		100-02-7	ND	10.0	1.00	Ü	MS04-571-3
Acenaphthe		83-32-9	ND	5.00	1.00	Ü	MS04-571-3
Acenaphthy		208-96-8	ND	5.00	1.00	Ü	MS04-571-3
Anthracene		120-12-7	ND	5.00	1.00	Ü	MS04-571-3
Benzo(a)an		56-55-3	ND	5.00	1.00	Ü	MS04-571-3
Benzo(a)py		50-32-8	ND	5.00	1.00	Ü	MS04-571-3
Benzo(b)flu		205-99-2	ND	5.00	1.00	Ü	MS04-571-3
Benzo(g,h,i		191-24-2	ND	5.00	1.00	Ü	MS04-571-3
Benzo(k)flu		207-08-9	ND	5.00	1.00	Ü	MS04-571-3
	ethoxy)methane		ND	10.0	1.00	Ü	MS04-571-3
bis(2-chlore		111-44-4	ND	10.0	1.00	U	MS04-571-3
	oisopropyl)ether		ND	10.0	1.00	U	MS04-571-3
	hexyl)phthalate	117-81-7	ND ND	10.0	1.00	U	MS04-571-3
Butylbenzy		85-68-7	ND ND	10.0	1.00	U	MS04-571-3
Carbazole	гришатак	86-74-8	ND ND	5.00	1.00	U	MS04-571-3 MS04-571-3
		218-01-9		5.00	1.00	U	
Chrysene	onthrooms		ND ND				MS04-571-3
Dibenz(a,h)		53-70-3	ND ND	5.00	1.00	U	MS04-571-3
Dibenzofura		132-64-9	ND ND	5.00	1.00	U	MS04-571-3
Diethylphth		84-66-2	ND ND	10.0	1.00	U	MS04-571-3
Dimethylph		131-11-3	ND	10.0	1.00	U	MS04-571-3
Di-n-butylp	ntnalate	84-74-2	ND	10.0	1.00	U	MS04-571-3

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#### Quality Control Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07422B)

**Lab Sample ID:** SBLK-57

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS04-571-3	EPA Method 8270C	06/13/2011 09:38	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1: 14102	EPA 3520C	06/11/2011 13:00	BJE	1000 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Di-n-octylphthalate	117-84-0	ND	10.0	1.00	U	MS04-571-3
Fluoranthene	206-44-0	ND	5.00	1.00	U	MS04-571-3
Fluorene	86-73-7	ND	5.00	1.00	U	MS04-571-3
Hexachlorobenzene	118-74-1	ND	10.0	1.00	U	MS04-571-3
Hexachlorobutadiene	87-68-3	ND	10.0	1.00	U	MS04-571-3
Hexachlorocyclopentadier	ne 77-47-4	ND	10.0	1.00	U	MS04-571-3
Hexachloroethane	67-72-1	ND	10.0	1.00	U	MS04-571-3
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5.00	1.00	U	MS04-571-3
Isophorone	78-59-1	ND	10.0	1.00	U	MS04-571-3
Naphthalene	91-20-3	ND	5.00	1.00	U	MS04-571-3
Nitrobenzene	98-95-3	ND	10.0	1.00	U	MS04-571-3
N-Nitroso-di-n-propylami	ne 621-64-7	ND	10.0	1.00	U	MS04-571-3
N-Nitrosodiphenylamine	86-30-6	ND	10.0	1.00	U	MS04-571-3
Pentachlorophenol	87-86-5	ND	10.0	1.00	U	MS04-571-3
Phenanthrene	85-01-8	ND	5.00	1.00	U	MS04-571-3
Phenol	108-95-2	ND	10.0	1.00	U	MS04-571-3
Pyrene	129-00-0	ND	5.00	1.00	U	MS04-571-3
			Lin	nits		
Surrogate	CAS No.	% Recovery	(%	<b>6</b> )	$\mathbf{Q}^{^{1}}$	File ID
2,4,6-Tribromophenol	118-79-6	79.4		)-122	-	MS04-571-3
2-Fluorobiphenyl	321-60-8	87.2	30.0	-115		MS04-571-3
2-Fluorophenol	367-12-4	98.2	25.0	-121		MS04-571-3
Terphenyl-d14	1718-51-0	93.0	18.0	-137		MS04-571-3
Nitrobenzene-d5	4165-60-0	75.3		-120		MS04-571-3
Phenol-d6	13127-88-3	86.9	24.0	<b>)-113</b>		MS04-571-3

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



#### Quality Control Results Lab Control Sample

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO07422L)

Lab Sample ID: LCS-57

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

		Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
	Analysis 1:	MS04-571-4	EPA Method 8270C	06/13/2011 10:00	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
l	Prep 1:	14102	EPA 3520C	06/11/2011 13:00	BJE	1000 mL	1.00 mL	NA
•								

		Added	LCS	LCS	Limits	
Analyte Spiked	CAS No.	(ug/L)	(ug/L)	% Rec.	<b>Q</b> <sup>1</sup> (%)	
1,2,4-Trichlorobenzene	120-82-1	50.0	31.0	61.9	32.0-116	
1,4-Dichlorobenzene	106-46-7	50.0	24.9	49.9	27.0-123	
2,4-Dinitrotoluene	121-14-2	50.0	47.7	95.4	37.0-121	
2-Chlorophenol	95-57-8	100	78.7	78.7	25.0-130	
4-Chloro-3-methylphenol	59-50-7	100	95.8	95.8	46.0-112	
4-Nitrophenol	100-02-7	100	85.6	85.6	22.0-123	
Acenaphthene	83-32-9	50.0	47.9	95.9	33.0-117	
N-Nitroso-di-n-propylamine	621-64-7	50.0	34.6	69.2	29.0-132	
Pentachlorophenol	87-86-5	100	27.7	27.7	4.00-113	
Phenol	108-95-2	100	85.1	85.1	35.0-128	
Pyrene	129-00-0	50.0	42.1	84.2	42.0-122	

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

			Limits	1
Surrogate	CAS No.	% Recovery	(%)	Q <sup>1</sup> File ID
2,4,6-Tribromophenol	118-79-6	98.6	19.0-122	MS04-571-4
2-Fluorobiphenyl	321-60-8	101	30.0-115	MS04-571-4
2-Fluorophenol	367-12-4	80.8	25.0-121	MS04-571-4
Terphenyl-d14	1718-51-0	89.8	18.0-137	MS04-571-4
Nitrobenzene-d5	4165-60-0	79.4	23.0-120	MS04-571-4
Phenol-d6	13127-88-3	86.3	24.0-113	MS04-571-4

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

 $RL: \mbox{\sc Denotes}$  the reporting limit for the sample.

## Mercury



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-2

**Lab Sample ID:** 11060117-03 (AO07424)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-14	SW-846 7470A	06/15/2011 11:31	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-14

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**Quality Control Results Matrix Spike Sample** 

NEA Job Number: 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C.
Project: CONEY ISLAND AVE
Client Sample ID: MW-2 MS

**Lab Sample ID:** 11060117-03M (AO07424M)

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-16	SW-846 7470A	06/15/2011 11:35	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID	
Mercury	7439-97-6	0.00484	0.000200	1.00		MER1-911-16	

		Sample	Added	MS	MS	1	Limits	
Analyte Spiked	CAS No.	(mg/L)	(mg/L)	(mg/L)	% Rec.	Q'	(%)	
Mercury	7439-97-6		0.00500	0.00484	96.8		75.0-125	

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



#### **Quality Control Results Duplicate Sample**

**NEA Job Number:** 11060117

**NEA Laboratory, Division of** Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. **Project: CONEY ISLAND AVE** Client Sample ID: MW-2 DUP

**Lab Sample ID:** 11060117-03D (AO07424D)

Collection Date: N/A Sample Matrix: WATER Received Date: N/A Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-15	SW-846 7470A	06/15/2011 11:33	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	$\mathbf{RL}$	DF	Flags	File ID	
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-15	
						Precision	

			Г	recision	
Analyte	CAS No.	Duplicate (mg/L)	Sample (mg/L) RP	$\mathbf{PD}  \mathbf{Q}^1$	Limits (%)
Mercury	7439-97-6	ND	ND 0.00	0	20

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C.
Project: CONEY ISLAND AVE

Client Sample ID: MW-2 FILTERED

**Lab Sample ID:** 11060117-04 (AO07425)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-17	SW-846 7470A	06/15/2011 11:36	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-17

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

_	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-18	SW-846 7470A	06/15/2011 11:38	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	CJH	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-18

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW-3 FILTERED

**Lab Sample ID:** 11060117-06 (AO07427)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-19	SW-846 7470A	06/15/2011 11:40	СЈН	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-19

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

# Mercury QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07424B)

**Lab Sample ID:** PBW-70

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

]	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: N	MER1-911-12	SW-846 7470A	06/15/2011 11:28	СЈН	NA	NA	NA
Prep 1: 2	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-911-12

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



### **Quality Control Results Lab Control Sample**

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO07424L)

Lab Sample ID: LCS-70

Collection Date: N/A
Sample Matrix: WATER
Received Date: N/A
Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-911-13	SW-846 7470A	06/15/2011 11:30	CJH	NA	NA	NA
Prep 1:	2458	EPA 7470A	06/14/2011 11:30	СЈН	40.0 mL	40.0 mL	NA

		Added	LCS	LCS	, L	imits
Analyte Spiked	CAS No.	(mg/L)	(mg/L)	% Rec.	$\mathbf{Q}^{'}$ (	(%)
Mercury	7439-97-6	0.00500	0.00519	104	85	5.0-115

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

### Metals - ICP



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-2

**Lab Sample ID:** 11060117-03 (AO07424)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-32	EPA 200.7	06/16/2011 14:28	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-73-32
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-73-32
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-73-32
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-73-32
Chromium		7440-47-3	0.0111	0.00500	1.00		ICP2-73-32
Copper		7440-50-8	0.0116	0.00500	1.00		ICP2-73-32
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-73-32
Nickel		7440-02-0	0.0631	0.00500	1.00		ICP2-73-32
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-73-32
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-73-32
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-73-32
Zinc		7440-66-6	0.0549	0.00500	1.00		ICP2-73-32

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW-2 FILTERED

**Lab Sample ID:** 11060117-04 (AO07425)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-33	EPA 200.7	06/16/2011 14:30	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-73-33
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-73-33
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-73-33
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-73-33
Chromium		7440-47-3	ND	0.00500	1.00	U	ICP2-73-33
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-73-33
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-73-33
Nickel		7440-02-0	0.0181	0.00500	1.00		ICP2-73-33
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-73-33
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-73-33
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-73-33
Zinc		7440-66-6	ND	0.00500	1.00	U	ICP2-73-33

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

**Client Sample ID:** MW-3

**Lab Sample ID:** 11060117-05 (AO07426)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-34	EPA 200.7	06/16/2011 14:33	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-73-34
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-73-34
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-73-34
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-73-34
Chromium		7440-47-3	ND	0.00500	1.00	U	ICP2-73-34
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-73-34
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-73-34
Nickel		7440-02-0	0.0111	0.00500	1.00		ICP2-73-34
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-73-34
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-73-34
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-73-34
Zinc		7440-66-6	0.0840	0.00500	1.00		ICP2-73-34

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



#### **Analytical Sample Results**

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

**Client Sample ID:** MW-3 FILTERED

**Lab Sample ID:** 11060117-06 (AO07427)

Collection Date: 06/09/2011 Sample Matrix: WATER

**Received Date:** 06/09/2011 16:55

**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-35	EPA 200.7	06/16/2011 14:35	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-73-35
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-73-35
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-73-35
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-73-35
Chromium		7440-47-3	ND	0.00500	1.00	U	ICP2-73-35
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-73-35
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-73-35
Nickel		7440-02-0	0.00976	0.00500	1.00		ICP2-73-35
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-73-35
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-73-35
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-73-35
Zinc		7440-66-6	ND	0.00500	1.00	U	ICP2-73-35

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

# Metals - ICP QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO07273B)

**Lab Sample ID:** PBW-71

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-19	EPA 200.7	06/16/2011 13:58	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-73-19
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-73-19
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-73-19
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-73-19
Chromium		7440-47-3	ND	0.00500	1.00	U	ICP2-73-19
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-73-19
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-73-19
Nickel		7440-02-0	ND	0.00500	1.00	U	ICP2-73-19
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-73-19
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-73-19
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-73-19
Zinc		7440-66-6	ND	0.00500	1.00	U	ICP2-73-19

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



## **Quality Control Results Lab Control Sample**

**NEA Job Number:** 11060117

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO07273L)

Lab Sample ID: LCS-71

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-73-20	EPA 200.7	06/16/2011 14:01	СЈН	NA	NA	NA
Prep 1:	2457	EPA 3005A	06/15/2011 14:40	СЈН	50.0 mL	50.0 mL	NA

Andrea Carlland	CACNI	Added	LCS	LCS	Limits
Analyte Spiked	CAS No.	(mg/L)	(mg/L)	% Rec.	Q (%)
Antimony	7440-36-0	0.400	0.412	103	85.0-11
Arsenic	7440-38-2	0.400	0.407	102	85.0-11
Beryllium	7440-41-7	0.400	0.411	103	85.0-11
Cadmium	7440-43-9	0.400	0.390	97.6	85.0-11
Chromium	7440-47-3	0.400	0.381	95.2	85.0-11
Copper	7440-50-8	0.400	0.381	95.2	85.0-11
Lead	7439-92-1	0.400	0.382	95.4	85.0-11
Nickel	7440-02-0	0.400	0.376	94.1	85.0-11
Selenium	7782-49-2	0.400	0.424	106	85.0-11
Silver	7440-22-4	0.100	0.100	100	85.0-11
Thallium	7440-28-0	0.400	0.381	95.3	85.0-11
Zinc	7440-66-6	0.400	0.389	97.4	85.0-11

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



Date: June 20, 2011

#### NEA Analytical e-Report

Report prepared for:

GALLI ENGINEERING, P.C. 734 WALT WHITMAN ROAD SUITE 402A

MELVILLE, NY 11747

CONTACT: FRANK GEHRLING

Project ID: CONEY ISLAND AVE Sampling Date(s): June 16, 2011 NEA Report ID: 11060225 Report Date: June 20, 2011

Client Service Contact: Judith Minholz (518) 346-4592

\_\_\_\_\_

Analysis Included: SVOCs by GCMS Mercury Analysis Metals by ICP (Priority Pollutants)

Test results meet all National Environmental Laboratory Accreditation Conference (NELAC) requirements unless noted in the case narrative. This report shall not be reproduced, except in full, without the written consent of Northeast Analytical, Inc.

Robert E. Wagner Laboratory Director

Robert E. Wagn

TNI

Certifications: NYS (NY00906), NJ (NY026), CT (PH-0337), MA(M-NY906), NC (668)

NEA - A Division of Pace Analytical Services 2190 Technology Drive | Schenectady, NY 12308 Phone: 518.346.4592 | internet: www.nealab.com | Email: information@nealab.com

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## **CASE NARRATIVE**

#### CASE NARRATIVE

This data package (NEA SDG ID: 11060225) consists of 3 water samples received on 06/16/2011. The samples are from Project Name: CONEY ISLAND AVE.

This sample delivery group consists of the following samples:

<u>Lab Sample ID</u>	Client ID	Collection Date
AO08423	MW 2	06/16/2011 09:00
AO08424	MW 1	06/16/2011 09:30
AO08425	MW 1 FIELD FILTERED	06/16/2011 09:30

#### Sample Delivery and Receipt Conditions

- (1.) All samples were delivered to the laboratory via DROP OFF delivery service on 06/16/2011.
- (2.) All samples were received at the laboratory intact and within holding times.
- (3.) The following cooler temperature was recorded at sample receipt (Control limits are between 0-6 Degrees Celsius): 3.0 degrees Celsius. Please see Chain of Custody for details.

#### Semivolatile Organics Analysis

Analysis for Semivolatile Organics was performed by method SW-846 8270C. Samples were extracted by Continuous Liquid/Liquid Extraction (EPA - Method 3520C). The following technical and administrative items were noted for the analysis:

- (1.) Sample AO08423B was re-analyzed to verify surrogate recoveries. Results for the re-analysis are provided with an RR1 sample ID suffix.
- (2.) The percent recovery for 2,4,6-Tribromophenol surrogate was above the quality control acceptance limits for sample AO08423BRR1. The alternate surrogates were within limits for this sample.
- (3.) The percent recovery for Phenol-d6 surrogate was above the quality control acceptance limits for sample AO08423. The alternate surrogates were within limits for this sample.

#### Mercury Analysis

Analysis for mercury was performed by method SW-846 7470A. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

#### Metals Analysis by ICP

Analysis for metals was performed by EPA Method 200.7. The following technical and administrative items were noted for the analysis:

(1.) All quality assurance parameters were met for the analysis.

Respectfully submitted,

William A. Kotas

Client Services Manager

# **QUALIFIERS**



#### **Organic Laboratory Qualifiers Defined**

- B Denotes analyte observed in associated method blank or extraction blank. Analyte concentration should be considered as estimated.
- D Surrogate was diluted out. The analysis of the sample required a dilution such that the surrogate concentration was diluted below the laboratory acceptance criteria.
- E Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.
- J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).
- P Indicates relative percent difference (RPD) between primary and secondary GC column analysis exceeds 40 % or indicates percent difference (PD) between primary and secondary GC column analysis exceeds 25 %.
- U Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.
- Z Chromatographic interference due to PCB co-elution.
- \* Value not within control limits.

#### **Inorganic Laboratory Qualifiers Defined**

- B Denotes analyte observed in associated method blank or digestion blank. Analyte concentration should be considered as estimated.
- E Denotes analyte concentration exceeded calibration range of instrument. Sample could not be re-analyzed at secondary dilution due to insufficient sample amount, quick turn-around request, sample matrix interference or hold time excursion. Concentration result should be considered as estimated.
- J Denotes an estimated concentration. The concentration result is greater than or equal to the Method Detection Limit (MDL) but less than the Reporting Limit (RL).
- U Denotes analyte not detected at concentration greater than or equal to the RL. RL's are adjusted for sample weight/volume and dilution factors.
- \* Value not within control limits.

## SAMPLE CHAIN OF CUSTODY

# Pace Analytical\*



#### **CHAIN-OF-CUSTODY / Analytical Request Document**

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A	Section								Sec	tion C												P	age:			of	···
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## GC/MS Semivolatiles



#### **Analytical Sample Results**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: MW 2

**Lab Sample ID:** 11060225-01 (AO08423)

**Collection Date:** 06/16/2011 09:00

Sample Matrix: WATER

**Received Date:** 06/16/2011 20:30

Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS07-830-10	EPA Method 8270C	06/20/2011 10:58	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 $\mu m$
Prep 1: 14176	EPA 3520C	06/17/2011 12:45	SNC	1080 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,2,4-Trichlorobenzene	120-82-1	ND	9.26	1.00	U	MS07-830-10
1,2-Dichlorobenzene	95-50-1	ND	9.26	1.00	U	MS07-830-10
1,3-Dichlorobenzene	541-73-1	ND	9.26	1.00	U	MS07-830-10
1,4-Dichlorobenzene	106-46-7	ND	9.26	1.00	U	MS07-830-10
2,4,5-Trichlorophenol	95-95-4	ND	9.26	1.00	U	MS07-830-10
2,4,6-Trichlorophenol	88-06-2	ND	9.26	1.00	U	MS07-830-10
2,4-Dichlorophenol	120-83-2	ND	9.26	1.00	U	MS07-830-10
2,4-Dimethylphenol	105-67-9	ND	9.26	1.00	U	MS07-830-10
2,4-Dinitrophenol	51-28-5	ND	9.26	1.00	U	MS07-830-10
2,4-Dinitrotoluene	121-14-2	ND	9.26	1.00	U	MS07-830-10
2,6-Dinitrotoluene	606-20-2	ND	9.26	1.00	U	MS07-830-10
2-Chloronaphthalene	91-58-7	ND	4.63	1.00	U	MS07-830-10
2-Chlorophenol	95-57-8	ND	9.26	1.00	U	MS07-830-10
2-Methylnaphthalene	91-57-6	ND	4.63	1.00	U	MS07-830-10
2-Methylphenol	95-48-7	ND	9.26	1.00	U	MS07-830-10
2-Nitroaniline	88-74-4	ND	9.26	1.00	U	MS07-830-10
2-Nitrophenol	88-75-5	ND	9.26	1.00	U	MS07-830-10
3,3'-Dichlorobenzidine	91-94-1	ND	9.26	1.00	U	MS07-830-10
3-Nitroaniline	99-09-2	ND	9.26	1.00	Ü	MS07-830-10
4,6-Dinitro-2-methylpheno		ND	9.26	1.00	Ü	MS07-830-10
4-Bromophenyl-phenyleth		ND	9.26	1.00	Ü	MS07-830-10
4-Chloro-3-methylphenol	59-50-7	ND	9.26	1.00	Ü	MS07-830-10
4-Chloroaniline	106-47-8	ND	9.26	1.00	Ü	MS07-830-10
4-Chlorophenyl-phenyleth		ND	9.26	1.00	U	MS07-830-10
4-Methylphenol	106-44-5	ND	9.26	1.00	U	MS07-830-10
4-Nitroaniline	100-01-6	ND	9.26	1.00	U	MS07-830-10
4-Nitrophenol	100-02-7	ND	9.26	1.00	U	MS07-830-10
Acenaphthene	83-32-9	ND	4.63	1.00	U	MS07-830-10
Acenaphthylene	208-96-8	ND	4.63	1.00	U	MS07-830-10
Anthracene	120-12-7	ND	4.63	1.00	U	MS07-830-10
Benzo(a)anthracene	56-55-3	ND ND	4.63	1.00	U	MS07-830-10
Benzo(a)pyrene	50-32-8	ND ND	4.63	1.00	U	MS07-830-10
Benzo(b)fluoranthene	205-99-2	ND ND	4.63	1.00	U	MS07-830-10
Benzo(g,h,i)perylene	191-24-2	ND ND	4.63	1.00	U	MS07-830-10 MS07-830-10
Benzo(k)fluoranthene	207-08-9	ND ND	4.63	1.00	U	MS07-830-10 MS07-830-10
bis(2-chloroethoxy)methan		ND ND	9.26	1.00	U	MS07-830-10 MS07-830-10
bis(2-chloroethyl)ether	111-44-4	ND ND	9.26	1.00	U	MS07-830-10 MS07-830-10
		ND ND		1.00		
bis(2-Chloroisopropyl)ethe			9.26		U U	MS07-830-10
bis(2-Ethylhexyl)phthalate Butylbenzylphthalate		ND ND	9.26	1.00 1.00	U	MS07-830-10
3 3 1	85-68-7		9.26			MS07-830-10
Carbazole	86-74-8	ND ND	4.63	1.00	U	MS07-830-10
Chrysene	218-01-9	ND ND	4.63	1.00	U	MS07-830-10
Dibenz(a,h)anthracene	53-70-3	ND	4.63	1.00	U	MS07-830-10
Dibenzofuran	132-64-9	ND	4.63	1.00	U	MS07-830-10
Diethylphthalate	84-66-2	ND	9.26	1.00	U	MS07-830-10
Dimethylphthalate	131-11-3	ND	9.26	1.00	U	MS07-830-10
Di-n-butylphthalate	84-74-2	ND	9.26	1.00	U	MS07-830-10

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#### **Analytical Sample Results**

**NEA Job Number:** 11060225

**NEA Laboratory, Division of** Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: MW 2

**Lab Sample ID:** 11060225-01 (AO08423)

**Collection Date:** 06/16/2011 09:00

Sample Matrix: WATER

**Received Date:** 06/16/2011 20:30

Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS07-830-10	EPA Method 8270C	06/20/2011 10:58	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1: 14176	EPA 3520C	06/17/2011 12:45	SNC	1080 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Di-n-octylphthalate	117-84-0	ND	9.26	1.00	U	MS07-830-10
Fluoranthene	206-44-0	ND	4.63	1.00	U	MS07-830-10
Fluorene	86-73-7	ND	4.63	1.00	U	MS07-830-10
Hexachlorobenzene	118-74-1	ND	9.26	1.00	U	MS07-830-10
Hexachlorobutadiene	87-68-3	ND	9.26	1.00	U	MS07-830-10
Hexachlorocyclopentadie	ne 77-47-4	ND	9.26	1.00	U	MS07-830-10
Hexachloroethane	67-72-1	ND	9.26	1.00	U	MS07-830-10
Indeno(1,2,3-cd)pyrene	193-39-5	ND	4.63	1.00	U	MS07-830-10
Isophorone	78-59-1	ND	9.26	1.00	U	MS07-830-10
Naphthalene	91-20-3	ND	4.63	1.00	U	MS07-830-10
Nitrobenzene	98-95-3	ND	9.26	1.00	U	MS07-830-10
N-Nitroso-di-n-propylami	ne 621-64-7	ND	9.26	1.00	U	MS07-830-10
N-Nitrosodiphenylamine	86-30-6	ND	9.26	1.00	U	MS07-830-10
Pentachlorophenol	87-86-5	ND	9.26	1.00	U	MS07-830-10
Phenanthrene	85-01-8	ND	4.63	1.00	U	MS07-830-10
Phenol	108-95-2	ND	9.26	1.00	U	MS07-830-10
Pyrene	129-00-0	ND	4.63	1.00	U	MS07-830-10
			Lin		1	
Surrogate	CAS No.	% Recovery	(%	(o)	$\mathbf{Q}^1$	File ID
2,4,6-Tribromophenol	118-79-6	122	-,	-122		MS07-830-10
2-Fluorobiphenyl	321-60-8	101		-115		MS07-830-10
2-Fluorophenol	367-12-4	101	25.0			MS07-830-10
Terphenyl-d14	1718-51-0	102		-137		MS07-830-10
Nitrobenzene-d5	4165-60-0	94.7	23.0			MS07-830-10
Phenol-d6	13127-88-3	116	24.0	-113	*	MS07-830-10

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

# GC/MS Semivolatiles QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: Method Blank (AO08423BRR1)

Lab Sample ID: SBLK-66

Collection Date: N/A Sample Matrix: WATER Received Date: N/A Percent Solid: N/A

Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: MS07-830-11	EPA Method 8270C	06/20/2011 11:20	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
Prep 1: 14176	EPA 3520C	06/17/2011 12:45	SNC	1000 mL	1.00 mL	NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
1,2,4-Trichlorobenzene	120-82-1	ND	10.0	1.00	U	MS07-830-11
1,2-Dichlorobenzene	95-50-1	ND	10.0	1.00	U	MS07-830-11
1,3-Dichlorobenzene	541-73-1	ND	10.0	1.00	U	MS07-830-11
1,4-Dichlorobenzene	106-46-7	ND	10.0	1.00	U	MS07-830-11
2,4,5-Trichlorophenol	95-95-4	ND	10.0	1.00	U	MS07-830-11
2,4,6-Trichlorophenol	88-06-2	ND	10.0	1.00	U	MS07-830-11
2,4-Dichlorophenol	120-83-2	ND	10.0	1.00	U	MS07-830-11
2,4-Dimethylphenol	105-67-9	ND	10.0	1.00	U	MS07-830-11
2,4-Dinitrophenol	51-28-5	ND	10.0	1.00	U	MS07-830-11
2,4-Dinitrotoluene	121-14-2	ND	10.0	1.00	U	MS07-830-11
2,6-Dinitrotoluene	606-20-2	ND	10.0	1.00	U	MS07-830-11
2-Chloronaphthalene	91-58-7	ND	5.00	1.00	U	MS07-830-11
2-Chlorophenol	95-57-8	ND	10.0	1.00	U	MS07-830-11
2-Methylnaphthalene	91-57-6	ND	5.00	1.00	U	MS07-830-11
2-Methylphenol	95-48-7	ND	10.0	1.00	U	MS07-830-11
2-Nitroaniline	88-74-4	ND	10.0	1.00	U	MS07-830-11
2-Nitrophenol	88-75-5	ND	10.0	1.00	U	MS07-830-11
3,3'-Dichlorobenzidine	91-94-1	ND	10.0	1.00	U	MS07-830-11
3-Nitroaniline	99-09-2	ND	10.0	1.00	U	MS07-830-11
4,6-Dinitro-2-methylphenol	534-52-1	ND	10.0	1.00	U	MS07-830-11
4-Bromophenyl-phenylethe	r 101-55-3	ND	10.0	1.00	U	MS07-830-11
4-Chloro-3-methylphenol	59-50-7	ND	10.0	1.00	U	MS07-830-11
4-Chloroaniline	106-47-8	ND	10.0	1.00	U	MS07-830-11
4-Chlorophenyl-phenylethe	r 7005-72-3	ND	10.0	1.00	U	MS07-830-11
4-Methylphenol	106-44-5	ND	10.0	1.00	U	MS07-830-11
4-Nitroaniline	100-01-6	ND	10.0	1.00	U	MS07-830-11
4-Nitrophenol	100-02-7	ND	10.0	1.00	U	MS07-830-11
Acenaphthene	83-32-9	ND	5.00	1.00	U	MS07-830-11
Acenaphthylene	208-96-8	ND	5.00	1.00	U	MS07-830-11
Anthracene	120-12-7	ND	5.00	1.00	U	MS07-830-11
Benzo(a)anthracene	56-55-3	ND	5.00	1.00	U	MS07-830-11
Benzo(a)pyrene	50-32-8	ND	5.00	1.00	U	MS07-830-11
Benzo(b)fluoranthene	205-99-2	ND	5.00	1.00	U	MS07-830-11
Benzo(g,h,i)perylene	191-24-2	ND	5.00	1.00	U	MS07-830-11
Benzo(k)fluoranthene	207-08-9	ND	5.00	1.00	U	MS07-830-11
bis(2-chloroethoxy)methan	e 111-91-1	ND	10.0	1.00	U	MS07-830-11
bis(2-chloroethyl)ether	111-44-4	ND	10.0	1.00	U	MS07-830-11
bis(2-Chloroisopropyl)ether	r 39638-32-9	ND	10.0	1.00	U	MS07-830-11
bis(2-Ethylhexyl)phthalate	117-81-7	ND	10.0	1.00	U	MS07-830-11
Butylbenzylphthalate	85-68-7	ND	10.0	1.00	U	MS07-830-11
Carbazole	86-74-8	ND	5.00	1.00	U	MS07-830-11
Chrysene	218-01-9	ND	5.00	1.00	U	MS07-830-11
Dibenz(a,h)anthracene	53-70-3	ND	5.00	1.00	U	MS07-830-11
Dibenzofuran	132-64-9	ND	5.00	1.00	U	MS07-830-11
Diethylphthalate	84-66-2	ND	10.0	1.00	U	MS07-830-11
Dimethylphthalate	131-11-3	ND	10.0	1.00	U	MS07-830-11
Di-n-butylphthalate	84-74-2	ND	10.0	1.00	U	MS07-830-11

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#### Quality Control Results Method Blank

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO08423BRR1)

Lab Sample ID: SBLK-66

Batch ID Analysis 1: MS07-830-11	Method EPA Method 8270C	Date 06/20/2011 11:20	Analyst RMS	Init Wt./Vol.	Final Vol.	Column
•	EPA Method 82/0C EPA 3520C	06/20/2011 11:20 06/17/2011 12:45	SNC	NA 1000 mL	NA 1.00 mL	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm NA
Analyte	CAS No.	Result (ug/L)	RL	DF	Flags	File ID
Di-n-octylphthalate	117-84-0	ND	10.0	1.00	U	MS07-830-11
Fluoranthene	206-44-0	ND	5.00	1.00	U	MS07-830-11
Fluorene	86-73-7	ND	5.00	1.00	U	MS07-830-11
Hexachlorobenzene	118-74-1	ND	10.0	1.00	U	MS07-830-11
Hexachlorobutadiene	87-68-3	ND	10.0	1.00	U	MS07-830-11
Hexachlorocyclopentadiene	77-47-4	ND	10.0	1.00	U	MS07-830-11
Hexachloroethane	67-72-1	ND	10.0	1.00	U	MS07-830-11
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5.00	1.00	U	MS07-830-11
Isophorone	78-59-1	ND	10.0	1.00	U	MS07-830-11
Naphthalene	91-20-3	ND	5.00	1.00	U	MS07-830-11
Nitrobenzene	98-95-3	ND	10.0	1.00	U	MS07-830-11
N-Nitroso-di-n-propylamine	621-64-7	ND	10.0	1.00	U	MS07-830-11
N-Nitrosodiphenylamine	86-30-6	ND	10.0	1.00	U	MS07-830-11
Pentachlorophenol	87-86-5	ND	10.0	1.00	U	MS07-830-11
Phenanthrene	85-01-8	ND	5.00	1.00	U	MS07-830-11
Phenol	108-95-2	ND	10.0	1.00	U	MS07-830-11
Pyrene	129-00-0	ND	5.00	1.00	U	MS07-830-11
			Lin	nite		
Surrogate	CAS No.	% Recovery	(%		${\bf Q}^1$	File ID
2,4,6-Tribromophenol	118-79-6	128	19.0	-122	*	MS07-830-11
2-Fluorobiphenyl	321-60-8	102	30.0	-115		MS07-830-11
2-Fluorophenol	367-12-4	104	25.0	-121		MS07-830-11
Terphenyl-d14	1718-51-0	109	18.0	-137		MS07-830-11
Nitrobenzene-d5	4165-60-0	90.5	23.0	-120		MS07-830-11
Phenol-d6	13127-88-3	111	24.0	-113		MS07-830-11

<sup>1</sup> Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



## **Quality Control Results Lab Control Sample**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO08423L)

Lab Sample ID: LCS-66

		Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
	Analysis 1:	MS07-830-9	EPA Method 8270C	06/20/2011 10:35	RMS	NA	NA	Varian, VF-5MS,30 m, 0.25 mm ID, 0.25 μm
l	Prep 1:	14176	EPA 3520C	06/17/2011 12:45	SNC	1000 mL	1.00 mL	NA

		Added	LCS	LCS	1	Limits
Analyte Spiked	CAS No.	(ug/L)	(ug/L)	% Rec.	Q	(%)
1,2,4-Trichlorobenzene	120-82-1	50.0	30.7	61.3		32.0-116
1,4-Dichlorobenzene	106-46-7	50.0	27.8	55.6		27.0-123
2,4-Dinitrotoluene	121-14-2	50.0	48.9	97.8		37.0-121
2-Chlorophenol	95-57-8	100	89.1	89.1		25.0-130
4-Chloro-3-methylphenol	59-50-7	100	85.5	85.5		46.0-112
4-Nitrophenol	100-02-7	100	101	101		22.0-123
Acenaphthene	83-32-9	50.0	40.5	80.9		33.0-117
N-Nitroso-di-n-propylamine	621-64-7	50.0	32.5	65.1		29.0-132
Pentachlorophenol	87-86-5	100	86.8	86.8		4.00-113
Phenol	108-95-2	100	93.6	93.6		35.0-128
Pyrene	129-00-0	50.0	43.1	86.1		42.0-122

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

			Limits	
Surrogate	CAS No.	% Recovery	(%)	Q¹ File ID
2,4,6-Tribromophenol	118-79-6	106	19.0-122	MS07-830-9
2-Fluorobiphenyl	321-60-8	90.9	30.0-115	MS07-830-9
2-Fluorophenol	367-12-4	92.4	25.0-121	MS07-830-9
Terphenyl-d14	1718-51-0	93.0	18.0-137	MS07-830-9
Nitrobenzene-d5	4165-60-0	85.8	23.0-120	MS07-830-9
Phenol-d6	13127-88-3	95.2	24.0-113	MS07-830-9

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits or 'D' denotes value was diluted out.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

## Mercury



#### **Analytical Sample Results**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C.

**Project:** CONEY ISLAND AVE **Client Sample ID:** MW 1

**Lab Sample ID:** 11060225-02 (AO08424)

**Collection Date:** 06/16/2011 09:30

**Sample Matrix:** WATER

**Received Date:** 06/16/2011 20:30

**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-915-14	SW-846 7470A	06/20/2011 14:49	СЈН	NA	NA	NA
Prep 1:	2468	EPA 7470A	06/20/2011 09:10	CJH	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID	
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-915-14	

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**Quality Control Results Matrix Spike Sample** 

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C.
Project: CONEY ISLAND AVE
Client Sample ID: MW 1 MS

**Lab Sample ID:** 11060225-02M (AO08424M)

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-915-16	SW-846 7470A	06/20/2011 14:53	СЈН	NA	NA	NA
Prep 1:	2468	EPA 7470A	06/20/2011 09:10	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID	
Mercury	7439-97-6	0.00504	0.000200	1.00		MER1-915-16	

		Sample	Added	MS	MS	1	Limits	
Analyte Spiked	CAS No.	(mg/L)	(mg/L)	(mg/L)	% Rec.	Q'	(%)	
Mercury	7439-97-6		0.00500	0.00504	101		75.0-125	

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



## **Quality Control Results Duplicate Sample**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE Client Sample ID: MW 1 DUP

**Lab Sample ID:** 11060225-02D (AO08424D)

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-915-15	SW-846 7470A	06/20/2011 14:51	СЈН	NA	NA	NA
Prep 1:	2468	EPA 7470A	06/20/2011 09:10	СЈН	40.0 mL	40.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury		7439-97-6	ND	0.000200	1.00	U	MER1-915-15

			Precision	
Analyte	CAS No.	Duplicate (mg/L)	Sample (mg/L) RPD Q <sup>1</sup>	Limits (%)
Mercury	7439-97-6	ND	ND 0.00	20

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



#### **Analytical Sample Results**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW 1 FIELD FILTERED

**Lab Sample ID:** 11060225-03 (AO08425)

**Collection Date:** 06/16/2011 09:30

**Sample Matrix:** WATER

**Received Date:** 06/16/2011 20:30

Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-915-17	SW-846 7470A	06/20/2011 14:54	СЈН	NA	NA	NA
Prep 1:	2468	EPA 7470A	06/20/2011 09:10	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-915-17

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

# Mercury QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO08424B)

**Lab Sample ID:** PBW-75

E	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1: M	MER1-915-12	SW-846 7470A	06/20/2011 14:46	СЈН	NA	NA	NA
Prep 1: 24	468	EPA 7470A	06/20/2011 09:10	СЈН	40.0 mL	40.0 mL	NA

Analyte	CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Mercury	7439-97-6	ND	0.000200	1.00	U	MER1-915-12

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



## **Quality Control Results Lab Control Sample**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO08424L)

Lab Sample ID: LCS-75

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	MER1-915-13	SW-846 7470A	06/20/2011 14:48	СЈН	NA	NA	NA
Prep 1:	2468	EPA 7470A	06/20/2011 09:10	CJH	40.0 mL	40.0 mL	NA

		Added	LCS	LCS	Limit
Analyte Spiked	CAS No.	(mg/L)	(mg/L)	% Rec.	Q' (%)
Mercury	7439-97-6	0.00500	0.00503	101	85.0-11

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

## Metals - ICP



#### **Analytical Sample Results**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

**Client:** GALLI ENGINEERING, P.C. **Project:** CONEY ISLAND AVE

Client Sample ID: MW 1

**Lab Sample ID:** 11060225-02 (AO08424)

**Collection Date:** 06/16/2011 09:30

**Sample Matrix:** WATER

**Received Date:** 06/16/2011 20:30

**Percent Solid:** N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-75-67	EPA 200.7	06/20/2011 14:40	СЈН	NA	NA	NA
Prep 1:	2466	EPA 3005A	06/17/2011 11:20	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-75-67
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-75-67
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-75-67
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-75-67
Chromium		7440-47-3	0.00606	0.00500	1.00		ICP2-75-67
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-75-67
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-75-67
Nickel		7440-02-0	0.0273	0.00500	1.00		ICP2-75-67
Selenium		7782-49-2	0.0116	0.00500	1.00		ICP2-75-67
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-75-67
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-75-67
Zinc		7440-66-6	0.0131	0.00500	1.00		ICP2-75-67

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



#### **Analytical Sample Results**

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: MW 1 FIELD FILTERED

**Lab Sample ID:** 11060225-03 (AO08425)

**Collection Date:** 06/16/2011 09:30

Sample Matrix: WATER

**Received Date:** 06/16/2011 20:30

Percent Solid: N/A

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-75-68	EPA 200.7	06/20/2011 14:42	СЈН	NA	NA	NA
Prep 1:	2466	EPA 3005A	06/17/2011 11:20	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-75-68
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-75-68
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-75-68
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-75-68
Chromium		7440-47-3	0.00604	0.00500	1.00		ICP2-75-68
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-75-68
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-75-68
Nickel		7440-02-0	0.0241	0.00500	1.00		ICP2-75-68
Selenium		7782-49-2	0.0128	0.00500	1.00		ICP2-75-68
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-75-68
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-75-68
Zinc		7440-66-6	0.00667	0.00500	1.00		ICP2-75-68

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

## Metals - ICP QC



#### Quality Control Results Method Blank

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Method Blank (AO08487B)

**Lab Sample ID:** PBW-73

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-75-56	EPA 200.7	06/20/2011 14:15	СЈН	NA	NA	NA
Prep 1:	2466	EPA 3005A	06/17/2011 11:20	СЈН	50.0 mL	50.0 mL	NA
Analyte		CAS No.	Result (mg/L)	RL	DF	Flags	File ID
Antimony		7440-36-0	ND	0.00500	1.00	U	ICP2-75-56
Arsenic		7440-38-2	ND	0.00500	1.00	U	ICP2-75-56
Beryllium		7440-41-7	ND	0.00500	1.00	U	ICP2-75-56
Cadmium		7440-43-9	ND	0.00500	1.00	U	ICP2-75-56
Chromium		7440-47-3	ND	0.00500	1.00	U	ICP2-75-56
Copper		7440-50-8	ND	0.00500	1.00	U	ICP2-75-56
Lead		7439-92-1	ND	0.00500	1.00	U	ICP2-75-56
Nickel		7440-02-0	ND	0.00500	1.00	U	ICP2-75-56
Selenium		7782-49-2	ND	0.00500	1.00	U	ICP2-75-56
Silver		7440-22-4	ND	0.0125	1.00	U	ICP2-75-56
Thallium		7440-28-0	ND	0.00500	1.00	U	ICP2-75-56
Zinc		7440-66-6	ND	0.00500	1.00	U	ICP2-75-56

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.



**Quality Control Results Lab Control Sample** 

**NEA Job Number:** 11060225

NEA Laboratory, Division of Pace Analytical Services, Inc. 2190 Technology Drive Schenectady, NY 12308

Phone: 518.346.4592 Fax: 518.381.6055

Client: GALLI ENGINEERING, P.C. Project: CONEY ISLAND AVE

Client Sample ID: Lab Control Sample (AO08487L)

Lab Sample ID: LCS-73

	Batch ID	Method	Date	Analyst	Init Wt./Vol.	Final Vol.	Column
Analysis 1:	ICP2-75-57	EPA 200.7	06/20/2011 14:18	СЈН	NA	NA	NA
Prep 1:	2466	EPA 3005A	06/17/2011 11:20	СЈН	50.0 mL	50.0 mL	NA

Analyte Spiked	CAS No.	Added (mg/L)	LCS (mg/L)	LCS % Rec.	$\mathbf{Q}^1$	Limits (%)
Antimony	7440-36-0	0.400	0.436	109	8	35.0-115
Arsenic	7440-38-2	0.400	0.436	109	8	5.0-115
Beryllium	7440-41-7	0.400	0.442	111	8	35.0-115
Cadmium	7440-43-9	0.400	0.408	102	8	35.0-115
Chromium	7440-47-3	0.400	0.407	102	8	35.0-115
Copper	7440-50-8	0.400	0.404	101	8	5.0-115
Lead	7439-92-1	0.400	0.393	98.3	8	5.0-115
Nickel	7440-02-0	0.400	0.400	99.9	8	35.0-115
Selenium	7782-49-2	0.400	0.442	110	8	35.0-115
Silver	7440-22-4	0.100	0.106	106	8	35.0-115
Thallium	7440-28-0	0.400	0.393	98.2	8	35.0-115
Zinc	7440-66-6	0.400	0.415	104	8	35.0-115

<sup>&</sup>lt;sup>1</sup>Qualifier column where '\*' denotes value outside the control limits.

ND: Denotes analyte not detected at a concentration greater than the RL.

RL: Denotes the reporting limit for the sample.

### **APPENDIX B**

Clayton Group 2006 Phase II Results

Summary of Groundwater Sample Analytical Results SWC of Coney Island Avenue and Avenue W Proposed Walgreen Store # 10441 Table 2

	10 Co							
Sample ID	Groundwater	SB-1 GW	SB-2 GW	SB-3 GW	SB-4 GW	WD 2-8S	SB-6 GW	Trip Blank
Laboratory ID	Quality Standard	06070690-007	900-06902090	600-06902090	010-06902090	06070690-011	06070690-012	06070690-013A
Volatile Organic Compounds (VOCs): EPA Method 8260B	(VOCs): EPA Method	8260B						
Benzene	0.7	< 0.70	11	< 310	< 63	< 0.70	× 1.8	<0.70
2-Butanone	50	<25	40 )	<310	< 63	<25	69	<25
Chloromethane	5	0.71 J	<17	<13	<2.5	<1.0	< 2.5	<1.0
Ethylbenzene	5	< 1.0	31	< 13	<2.5	< 1.0	<2.5	<1.0
4-Methyl-2-Pentanone	50	< 50	290 J	× 630	< 130	< 50	< 230	<50
Methyl tert-butyl ether	10	130	1,400	959	130	180	230	<5.0
Naphthalene	10	< 5.0	36 J	×63	< 13	< 5.0	< 13	<5.0
Tetrachloroethene	5	1.3	28	< 13	<del>\$</del>	<1.0	< 2.5	<1.0
1,2,4-Trimethylbenzene	5	< 1.0	47	< I3	<2.5	<1.0	<2.5	<1.0
Total Xylenes	5	< 3.0	1.10	< 38	39.1	< 3.0	<7.5	3.0
Total Volatile TICs	NS	ND	QN	Q.	ND	QN	ND	ND
Semi-Volatile Organic Compounds (SVOCs): EPA Method 8270C	nunds (SVOCs): EPA N	Acthod 8270C						
Anthracene	\$	< 5.0	0.24 J	< 5.0	< 5.0	< 5.0	< 5.0	A'N
2-Methylnaphthalene	5	0.13 J	5.0	< 5.0	< 5.0	< 5.0	0.44 J	NA NA
Phenanthrene	NS	0.12 J	0.61 J	< 5.0	< 5.0	< 5.0	< 5.0	NA NA
Bis(2-ethylhexyl) phthalate	5	3.6 J	4.4 J	4.1.3	431	3.6.1	2.8 J	NA
Butyl benzyl phthalate	5	< 5.0	1.5.1	< 5.0	< 5.0	< 5.0	< 5.0	NA
Di-n-butyi phthalate	50	< 5.0	1.4.1	1.1 J	< 5.0	< 5.0	< 5.0	NA
N-nitrosodiphenylamine	NS	< 5.0	1.8.1	1.2 J	< 5.0	< 5.0	< 5.0	NA
Benzoic acid	NS	< 20	8.5 J	< 20	<20	<20	< 20	NA
2,4-Dimethylphenol	** I	< 5.0	19.0	< 5.0	< 5.0	< 5.0	< 5.0	NA
2-Methylphenol	**	< 5.0	21	< 5.0	< 5.0	< 5.0	< 5.0	NA NA
4-Methylphenol	**	< 5.0	21	< 5.0	< 5.0	< 5.0	< 5.0	NA
Phenoi	1 **	< 5.0	0'6	< 5.0	< 5.0	< 5.0	< 5.0	NA
Total Semi-Volatile TICs	NS	98.3	494.0	758.8	N Q	40	11	NA
PCBs	0.09	NA	WA	NA AN	<0.10	NA	NA	AN.

Analytical data and standards provided in units of micrograms per kilogram (ug/L) / parts per billion (ppb) J - Analyte detected below the laboratory reporting limit
TICs - Tentatively identifiable compounds
NS - No Standard
Bold values indicate an exceedance of the groundwater quality standard.

\*\* Total phenolic compounds ND - None Detected NA - Not Analyzed