

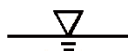
# ANNUAL PROGRESS REPORT

*PAS OSWEGO SUPERFUND SITE*

*OSWEGO, NEW YORK*

July 2018

Submitted By:



*de maximis, inc.*

*450 Montbrook Lane  
Knoxville, TN 37919  
(865) 691-5052*



***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
865-691-5052 phone  
865-691-6485 fax

*Via Fedex*

July 31, 2018

Ms. Patricia Pierre  
Central New York Remedial Section  
New York Remediation Branch  
Emergency and Remedial Response Division  
U.S. Environmental Protection Agency, Region II  
20<sup>th</sup> Floor, 290 Broadway  
New York, New York 10007

***Subject: Annual Progress Report for July 2017 through June 2018  
Operations, Maintenance and Long Term-Monitoring Activities  
Pollution Abatement Services (PAS) Site, Oswego, NY***

Dear Patricia:

This Annual Progress Report (Annual Report) is submitted pursuant to *Consent Decree 98-CV0112-NPMGJD* and details the operation, maintenance, and long-term monitoring activities at the Pollution Abatement Services (PAS) Site (Site) in Oswego, NY (Consent Decree). This Annual Report covers the period July 1, 2017 through June 30, 2018, and is consistent with the requirements of Paragraph 30 of the Consent Decree. Our next annual progress report will be submitted on or before July 31, 2019 and will document work completed between the period July 1, 2018 and June 30, 2019.

The data for this report are presented in three attachments as discussed below. Attachment I presents graphs, figures and tables documenting long-term monitoring trends for the Site. Figures showing the Site, the Long Term Monitoring wells, the groundwater potentiometric surface contours and vertical hydraulic gradients are included in (Section I-A). Graphs showing groundwater elevations at the slurry wall well pairs are presented in (Section I-B). Semi-annual groundwater and leachate sampling results are included in (Section I-C). Tables showing the leachate volume removed from the Site LCW wells, the performance standards and additional Site well sample results are provided in (Section I-D). Attachment II of this report contains a description of the actions completed under the Consent Decree for each quarter of this reporting period. Site maintenance and monitoring records and leachate removal and disposal records for each quarter of the reporting period are also included in Attachment II. The PAS Site Institutional Control Implementation Plan Annual Certification is provided in Section B-6 of Attachment II and documents that the requirements of the Institutional Control Plan were satisfied during this reporting period. Finally, Attachment III of this report provides a description and schedule of the actions planned during the next reporting period (July 2018 - June 2019).



## ***SUMMARY OF LEACHATE REMOVAL ACTIVITIES***

During this reporting period (July 2017 – June 2018) PAS leachate was treated and disposed at the City of Oswego POTW. A total of 179,915 gallons were removed from the containment system and discharged to the City of Oswego POTW. (Attachment I-D, Table 1).

## ***HYDRAULIC CONTROL OF SLURRY WALL CONTAINMENT SYSTEM***

The effectiveness of the hydraulic control of the slurry wall containment system is evaluated based on a review of water level elevations used to determine hydraulic gradients, both horizontal and vertical, around and beneath the containment system. Its effectiveness is also evaluated by determining whether the water level elevations are maintained below the top of the slurry wall at its downgradient extent. Horizontal gradients around the containment system are calculated using quarterly water level elevations recorded at the SWW-series monitoring wells which are located around the perimeter of the slurry wall as shown in Attachment I-B. Vertical gradients beneath the containment system are calculated based on the difference in the water level potentiometric surface in the overburden and the bedrock monitoring wells located in the vicinity of the containment system. Figures showing the potentiometric water surfaces for both the bedrock and overburden monitoring wells for each of the quarterly water level monitoring events are presented in Attachment I-A (Set 3).

The water level data for the SWW wells continue to show that the horizontal gradients at well pairs SWW-5/6 and SWW-11/12 are influenced by both leachate pumping and seasonal regional water level elevations, while horizontal gradients at other SWW well pairs are primarily affected by regional water level elevations outside the containment system. During the reporting period, the water levels at SWW-5 and SWW-11, the two interior SWW wells at the downgradient extent of the slurry wall, remained stable until early 2018 when water level elevations inside rose slightly although remaining well below the top of the slurry wall. As discussed in the 1<sup>st</sup> and 2<sup>nd</sup> quarter reports of 2018, the LCW-2 electrical control box broke off and LCW-2 was not operational until July 2018. LCW-1, LCW-3 and LCW-4 continued to operate during this time. Repair of LCW-2 and upgrading of the LCW well controls was completed on June 21, 2018 and LCW-2 pumping was renewed in July 2018. Generally, the charts indicate that leachate pumping at the rates prescribed effectively maintain hydraulic control to the degree practicable, although seasonal levels outside the containment system influence the gradients.

The vertical gradient figures shown in Attachment I-A indicate that vertical gradients are also seasonally affected by the regional water levels outside the containment system. The vertical hydraulic gradient plots presented show upward gradient trends over most of the Site during the fall, summer and winter periods due to stable water levels inside the containment system, with the plot for the spring of 2018 showing downward gradients in the LCW-2 area due to LCW-2 being inoperable. Vertical gradients typically trend downward during late summer when regional water levels are relatively low. All periods for this report showed upward gradients were present over much of the containment area especially in the area around LCW-4.



The routine elevation monitoring conducted during this reporting period indicates hydraulic control of the slurry wall containment system is maintained through routine operation of the leachate collection system. This observation remains consistent with observations reported in previous annual reports although an upward gradient variance was observed in the LCW -2 area during the 2<sup>nd</sup> quarter 2018 period.

### ***LONG-TERM GROUNDWATER MONITORING RESULTS***

The long-term groundwater quality monitoring results and trends for the downgradient monitoring wells LR-6, LR-8 and M-21 are presented graphically for the period from Nov 1998 to May 2018 in Attachment I-C. The historical VOC concentrations at these wells are also presented in tabular format in Figure 2 in Attachment I-A. Semi-annual groundwater quality monitoring results indicate that VOC-concentrations (mainly chlorobenzene) continue to fluctuate at low part per billion levels at the down-gradient monitoring wells LR-8 and M-21. In accordance with the 2016 annual report, sampling of LR-6 was performed in the fall of 2017. The concentration of 1,1 dichloroethane at well LR-6 in 2017 continued to remain at or near the detection level. The only Consent Decree performance standard constituent (Table 2) above detection level at LR-6 was 1,1 dichloroethane. This concentration remained below the performance standard in the November 2017 sampling event and has not exceeded the performance standard since 1999. Monitoring results at LR-8, the long-term monitoring well located closest to the downgradient extent of the slurry wall, remained low during the 2017-2018 period. Only chlorobenzene concentrations were above the performance standard of 5 ug/L. Monitoring results for downgradient well M-21, which is located south of Mitchell Street and north of the slurry wall containment system, were below the performance standards during the 2017 - 2018 period with the exception of chlorobenzene which fluctuated near the performance standard of 5 ug/L during the period. General trends for VOC constituents in the monitoring wells show a seasonal variation of slightly higher concentrations in the fall versus the spring for LR-6 and LR-8 wells. Well M-21 had slightly higher concentrations of chlorobenzene in the spring versus the fall with concentrations slightly above the performance standard.

Sampling of the bedrock well M-22 was performed in November 2017 and in May 2018. Results for M22 were all below performance standards although 1,1 dichloroethane was detected at 0.30 ug/L. Well OD-3 was sampled for the Consent Decree performance standards in November 2017 and May 2018. OD-3 concentrations were below detection for all performance standards in both events. The current data along with historic data is provided in Table 3.

Graphs showing leachate concentrations at LCW-2 and LCW-4 during the period November 1998 to May 2018 are also included in Attachment I-C. Leachate VOC concentrations in leachate collection well LCW-2, located in the downgradient collection trench, and well LCW-4, located in the central collection trench, showed leachate quality results consistent with historic concentrations. LCW-4 VOC concentrations continued to be higher than VOC concentrations reported at LCW-2. Xylene, which is historically the highest concentration constituent in the LCW-4 location, dropped to historic lows over the past year. Benzene, was the highest concentration constituent in LCW-2 and LCW-4 over the period. Concentrations at both LCW locations, inside the containment area, remain above the concentrations of wells outside the



containment area and the performance standards.

Although chlorobenzene remains near the performance standard in the downgradient wells, the long-term monitoring results continue to support the findings that hydraulic control of the containment system has allowed VOC concentrations down-gradient of the slurry wall containment system to decline over time and that the Site remedies continue to be protective of human health and the environment.

If you have any questions, please call me at (865) 691-5052.

Sincerely,

*de maximis, inc*



Clay McClarnon

CMC/dsr

Attachments

cc: PAS Oswego Steering Committee  
Marla Weider, Esq. USEPA  
Payson Long, NYSDEC, Div. of Hazardous Waste Remediation  
Brian Rogers, NYSDEC Region 7 Office  
Ian Ushe, NYDOH, Office of Public Health

*PAS Oswego Superfund Site – 2018 Annual Report*

**LIST OF ATTACHMENTS**

ATTACHMENT I – FIGURES, TABLES AND GRAPHS

I – A Figure 1 – Existing Site Wells

Figure 2 – Historical VOC Concentrations

Figure Set 3 -

Potentiometric Surfaces and Inferred Vertical Hydraulic Gradient Figures

Figure 2017-Q3-A - Potentiometric Surfaces – 8/8/2016

Figure 2017-Q3-B - Inferred Vertical Hydraulic Gradient – 8/8/2017

Figure 2017-Q4-A - Potentiometric Surfaces – 11/13/2017

Figure 2017-Q4-B - Inferred Vertical Hydraulic Gradient – 11/13/2017

Figure 2018-Q1-A - Potentiometric Surfaces – 2/6/2018

Figure 2018-Q1-B - Inferred Vertical Hydraulic Gradient – 2/6/2018

Figure 2018-Q2-A - Potentiometric Surfaces – 5/7/2018

Figure 2018-Q2-B - Inferred Vertical Hydraulic Gradient – 5/7/2018

I – B Slurry Wall Groundwater Elevation Charts

I – C Long Term Monitoring Groundwater and Leachate Quality Graphs

I – D Table 1 – Historical Leachate Removal Summary

Table 2 – Consent Decree Performance Standards

Table 3 – Additional Bedrock Groundwater Monitoring Results

ATTACHMENT II – ACTIONS COMPLETED

II – A 3<sup>rd</sup> Quarter 2017

A-1 Groundwater Elevation Data

A-2 Site Inspection Checklist

A-3 Leachate Discharge Form

A-4 Quarterly POTW Discharge Reports – 3<sup>rd</sup> Quarter 2017

II – B 4<sup>th</sup> Quarter 2017

B-1 Groundwater Elevation Data

B-2 Site Inspection Checklist

B-3 Leachate Discharge Form

B-4 Semi-Annual Leachate and Groundwater Monitoring Data (November 2017)

B-5 Quarterly POTW Discharge Reports – 4<sup>th</sup> Quarter 2017

B-6 Institutional Controls Certification Memorandum



II – C 1<sup>st</sup> Quarter 2018

- C-1 Groundwater Elevation Data
- C-2 Site Inspection Checklist
- C-3 Leachate Discharge Form
- C-4 Quarterly POTW Discharge Reports – 1<sup>st</sup> Quarter 2018

II – D 2<sup>nd</sup> Quarter 2018

- D-1 Groundwater Elevation Data
- D-2 Site Inspection Checklist
- D-3 Leachate Discharge Form
- D-4 Semi-Annual Leachate and Groundwater Monitoring Data (May 2018)
- D-5 Quarterly POTW Discharge Reports – 2<sup>nd</sup> Quarter 2018

ATTACHMENT III – ACTIONS PLANNED

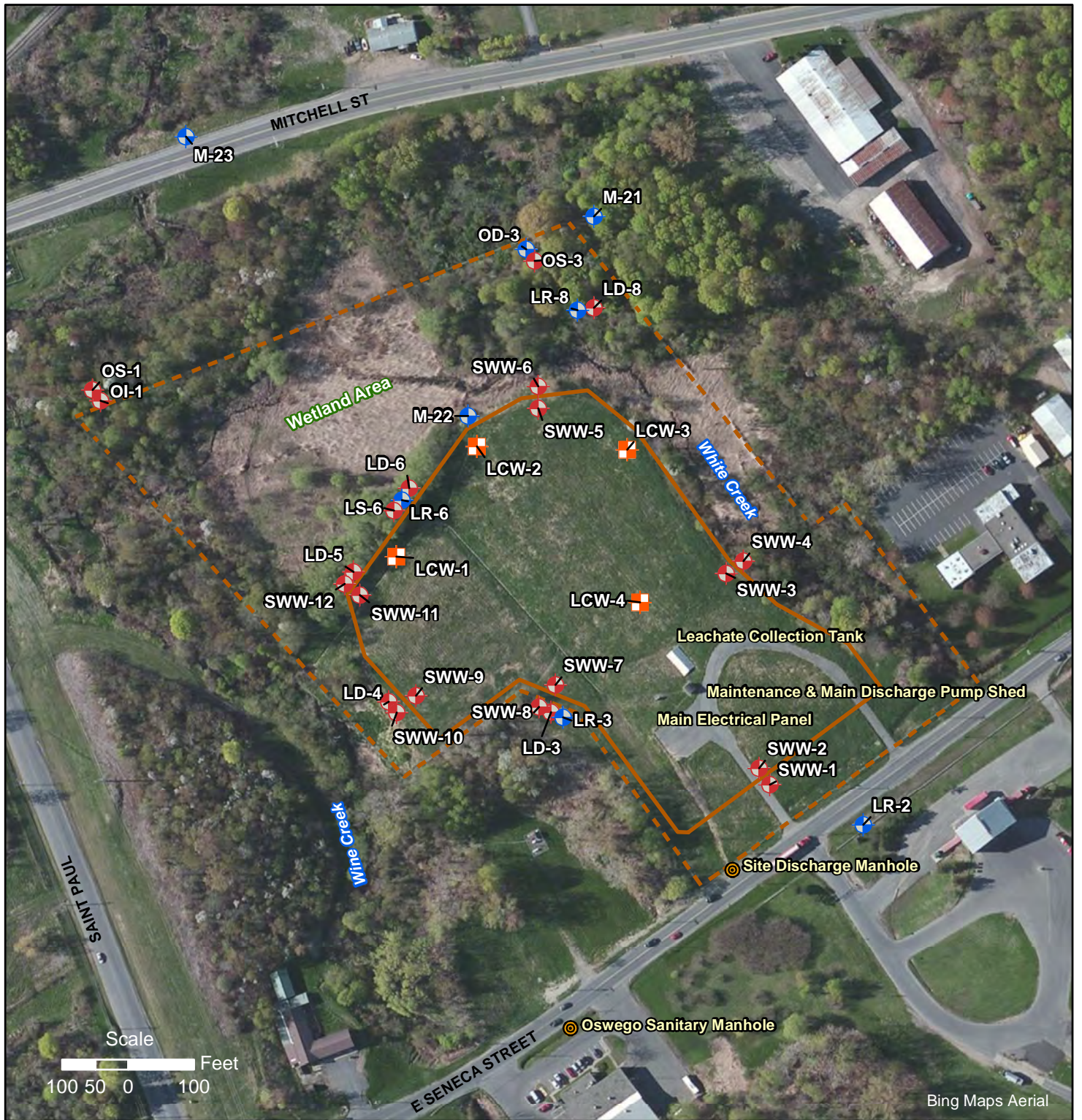
- III – Future Report

# **ATTACHMENT I**

## **FIGURES, TABLES AND GRAPHS**




I-A  
FIGURES



**LEGEND**

**Sample Locations**

-  Bedrock Monitoring Well
-  Leachate Collection Well (Overburden)
-  Overburden Monitoring Well
-  Manhole
-  Fence (Site Boundary)
-  Slurry Wall

**EXISTING SITE WELLS**

PAS Site, Oswego, New York



Project No.: 3131  
 Plot Date: 4 May 2012  
 Arc Operator: BJAR  
 Reviewed by:

**Figure 1**





DDMS Server Path: R:\Projects\DEF\demax-1547\3131-PAS\DataAnalysis\GISData\Projects\Historic\_VOC\_Performance2.mxd


LR-8	May 1998	Nov 1998	May 1999	Nov 1999	May 2000	Nov 2000	May 2001	Nov 2001	May 2002	Nov 2002	May 2003	Nov 2003	May 2004	Nov 2004	May 2005	Nov 2005	May 2006	Nov 2006	May 2007	Nov 2007	May 2008	Nov 2008	May 2009	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012	May 2013	Nov 2013	May 2014	Nov 2014	May 2015	Nov 2015	May 2016	Nov 2016	May 2017	Nov 2017	May 2018
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.9	0.15J	0.10J	ND	0.10J	0.10J	ND	ND	ND	0.10J	ND	ND	0.14J	0.16J	ND	ND	1.55	0.33J	ND	0.11J	0.9	ND	0.46J	ND	0.15J	ND	0.13J	ND	0.14J	ND	0.17J	ND	ND	ND	ND	
Benzene	30	23	29	34	22	33	21	8.8	14	16	21	0.33J	0.3J	10	ND	9	0.31J	2.21	14.2	4.39	4.83	0.12J	12.6	6.65	12.5	1.53	5.88	ND	5.6	3.24	2.65	0.78	4.31	1.51	1.51	0.39J	2.95	0.33J	0.26J	0.48J	
Chlorobenzene	6.4	6	7	8	7	8.2	7.3	6.3	6.5	4.9	7.5	9.7	ND	ND	12	ND	7.87	ND	5.35	14.6	12.5	7.82	ND	15.8	9.64	18	12.6	18.3	ND	21.2	13.1	19.9	12.9	17.6	13.2	11.9	4.1	17.3	8.48	12.1	11.6J+
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12J	ND	ND	ND	ND	0.12J	ND	ND	ND	0.14J	ND	0.16J	ND	0.15J	ND	ND	ND	0.26J	ND	ND	ND	ND	ND	
Toluene	0.51J	ND	ND	ND	ND	ND	0.35J	0.41J	0.25J	0.35J	0.44J	0.47J	ND	ND	0.36J	ND	0.32J	ND	0.23J	0.49J	0.35J	0.29J	ND	0.61	0.39J	0.76	0.37J	0.88	ND	0.78	0.44J	0.61	0.35J	ND	0.32J	0.37J	0.17J	0.42J	0.18J	0.26J	0.28J
Xylenes (total)	1.4J	ND	1J	ND	ND	1.1	0.96	1.2	0.18J	1.2	40J	1.4	ND	ND	0.41J	ND	0.35J	ND	0.16J	1.31	ND	ND	ND	0.34J	ND	ND	ND	0.58J	0.40J	0.40J	0.36J	0.34J	0.41J	0.39J	1.52	0.5J	ND	0.35J	ND	ND	

M-21	May 1998	Nov 1998	May 1999	Nov 1999	May 2000	Nov 2000	May 2001	Nov 2001	May 2002	Nov 2002	May 2003	Nov 2003	May 2004	Nov 2004	May 2005	Nov 2005	May 2006	Nov 2006	May 2007	Nov 2007	May 2008	Nov 2008	May 2009	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012	May 2013	Nov 2013	May 2014	Nov 2014	May 2015	Nov 2015	May 2016	Nov 2016	May 2017	Nov 2017	May 2018	
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	1.3	0.19J	0.32J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13J	0.13J	0.10J	ND	0.11J	ND	ND	ND	0.10J	ND	ND	ND	ND
Benzene	8.1	10	27	19	21	26	14	18	18	13	9.9	4.2	5.5	4	4.7	2.9	0.31J	2.1	3.2	0.63	0.68	0.89	0.43J	0.13J	0.20J	ND	0.22J	ND	ND	ND	0.20J	ND	0.24J	ND	0.19J	ND	0.15J	ND	0.27J	0.22J	0.17J	
Chlorobenzene	3.4J	3J	9	6	8	9.8	4.2	6.1	6.5	4.3	3.1	1.8	2.1	1.2	2.2	1	0.53	1.5	7.9	4.4	7.13	6.69	7.94	2.91	8.07	3.75	8.08	1.77	3.38	1.57	6.9	4.15	7.94	1.98	5.64	1.7	4.49	1.4	7.47	5.68	5.75J+	
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	0.36J	0.48J	0.43J	0.34J	0.25J	0.14J	0.27J	ND	ND	ND	ND	ND	ND	0.44J	0.26J	0.34J	0.36J	0.36J	0.11J	0.39J	ND	0.37J	ND	0.13J	ND	0.33J	0.15J	0.34J	ND	0.25J	ND	0.19J	ND	0.26J	0.21J	0.21J
Xylenes (total)	0.6J	ND	1J	ND	ND	ND	0.47J	0.91	0.3J	0.33J	0.17J	0.15J	ND	ND	ND	ND	ND	ND	0.31J	0.35J	ND	ND	ND	ND	ND	ND	ND	ND	0.58J	0.40J	0.40J	0.36J	0.34J	0.41J	0.39J	1.52	0.5J	ND	0.35J	ND	ND	

LR-6	May 1998	Nov 1998	May 1999	Nov 1999	May 2000	Nov 2000	May 2001	Nov 2001	May 2002	Nov 2002	May 2003	Nov 2003	May 2004	Nov 2004	May 2005	Nov 2005	May 2006	Nov 2006	May 2007	Nov 2007	May 2008	Nov 2008	May 2009	Nov 2009	May 2010	Nov 2010	May 2011	Nov 2011	May 2012	Nov 2012	May 2013	Nov 2013	May 2014	Nov 2014	May 2015	Nov 2015	May 2016	Nov 2016	May 2017	Nov 2017	May 2018		
1,1-Dichloroethane	4.2J	6	3	9	2	4.2	ND	4.1	1.6	0.16J	1.6	2.1	2.1	2.9	2.2	2.66	3.28	2.83	1.88	11.4	2.26	3.21	2.09	3.43	1.65	2.2	1.66	2.55	1.83	3.19	0.95	1.98	1.1	1.75	0.68	1.21	0.6	1.35	NS	0.85	NS		
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12J	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS		
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS		
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS	
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.12J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS	NS	NS	NS	NS			

**Map Legend:**

- ◆ Bedrock Monitoring Well
- ◆ Leachate Collection Well (Overburden)
- ◆ Overburden Monitoring Well
- Fence (Site Boundary)
- Slurry Wall



**Notes:**  
 VOC concentration values displayed in tables are measured in ug/L.

**Data Qualifier Definitions:**  
 ND = Not detected  
 NS = Not Sampled  
 J = Estimated concentration (less than sample quantitation limit)  
 J+ = Estimated, may be biased high

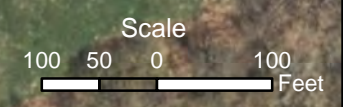
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 Units: Meters  
 Datum: NAD83

**Plot Info:**  
 Created For: PAS  
 Project No.: 1547-3131  
 Plot Date: 7/17/2018  
 Arc Operator: DR  
 Reviewed by: BJR

**Figure 2**  
**Historical Concentrations of VOCs of Concern Detected in Consent Decree Wells (1998-2018)**

Pollution Abatement Services Site  
 Oswego, New York





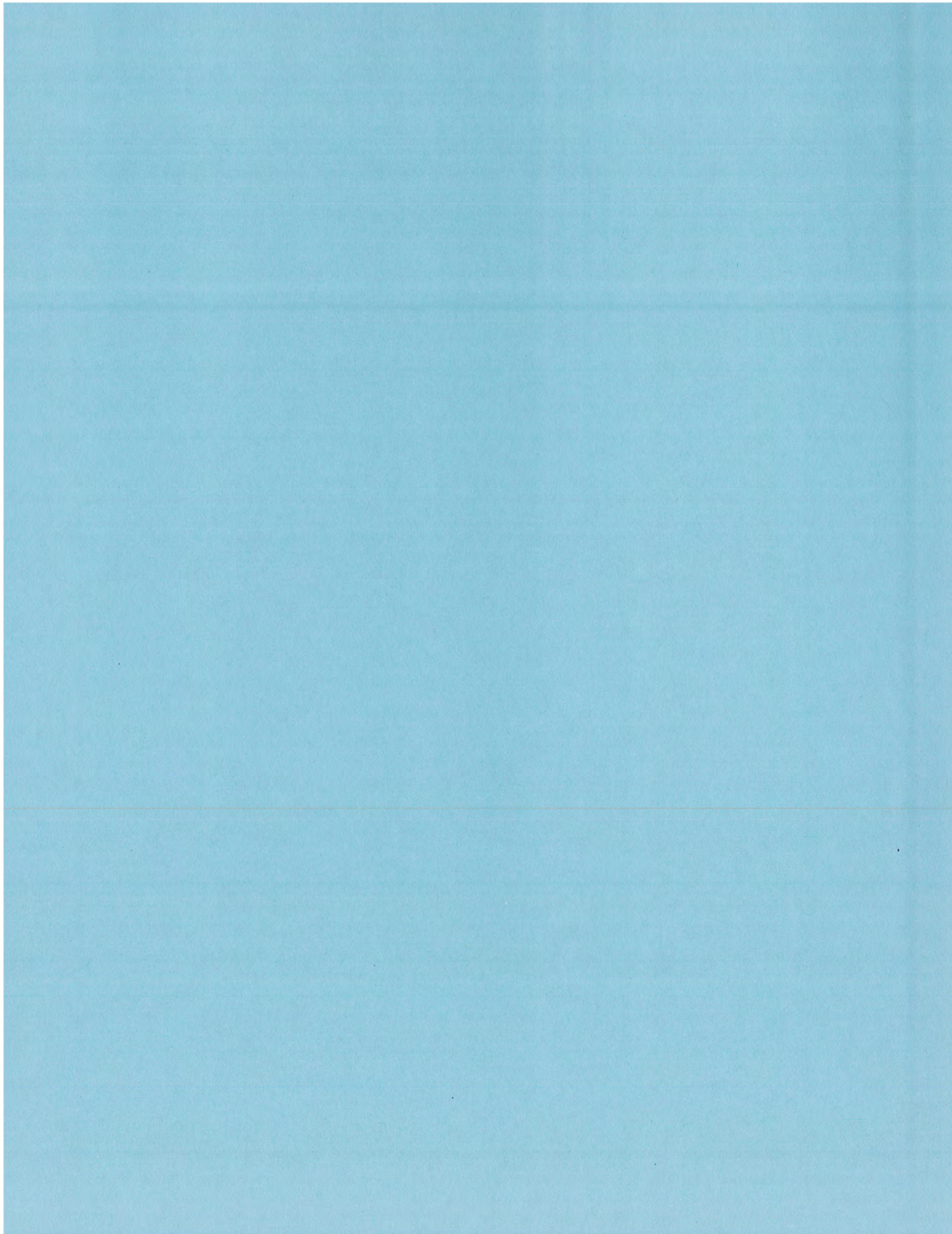
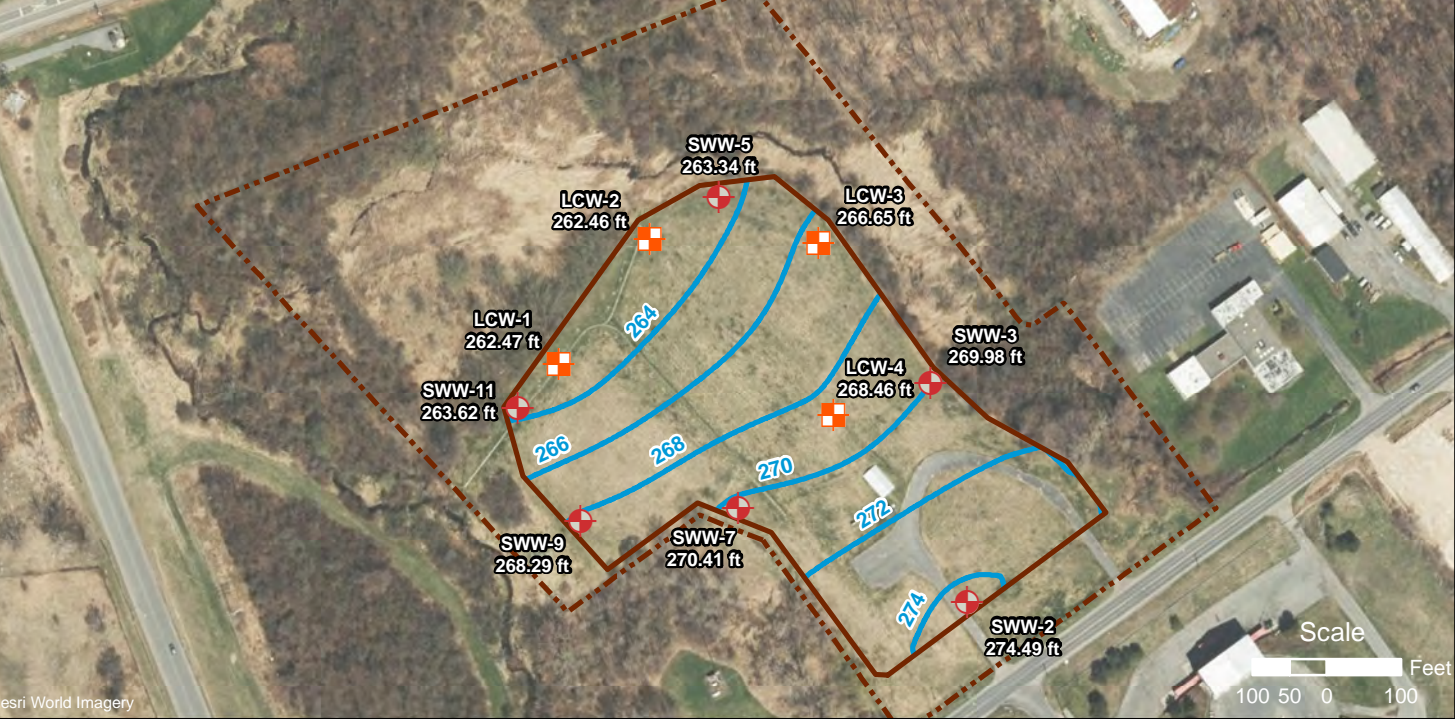


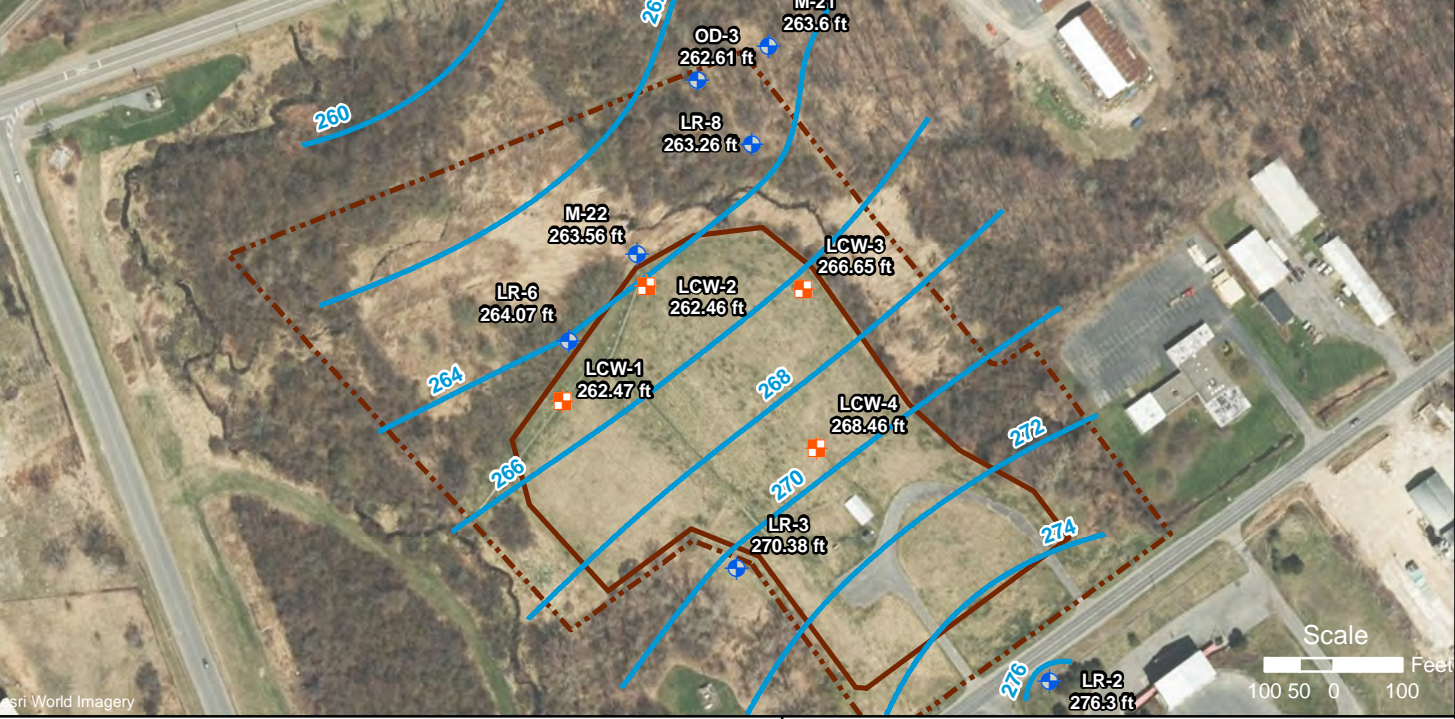


Figure Set 3  
Hydraulic Gradient

Overburden Water Surface



Bedrock Water Surface



LEGEND

- Bedrock Monitoring Well
- Leachate Collection Well (Overburden)
- Overburden Monitoring Well
- Potentiometric Surface Contours (ft)
- Fence (Site Boundary)
- Slurry Wall

Notes: LCW wells labeled on Bedrock Water Surface map for reference only and were not used in creation of the potentiometric surface.

Linear kriging was used to determine both potentiometric surfaces. Bedrock contours within the containment system are inferred from the identified bedrock wells.

POTENTIOMETRIC SURFACES  
August 8th, 2017  
PAS Site, Oswego, New York

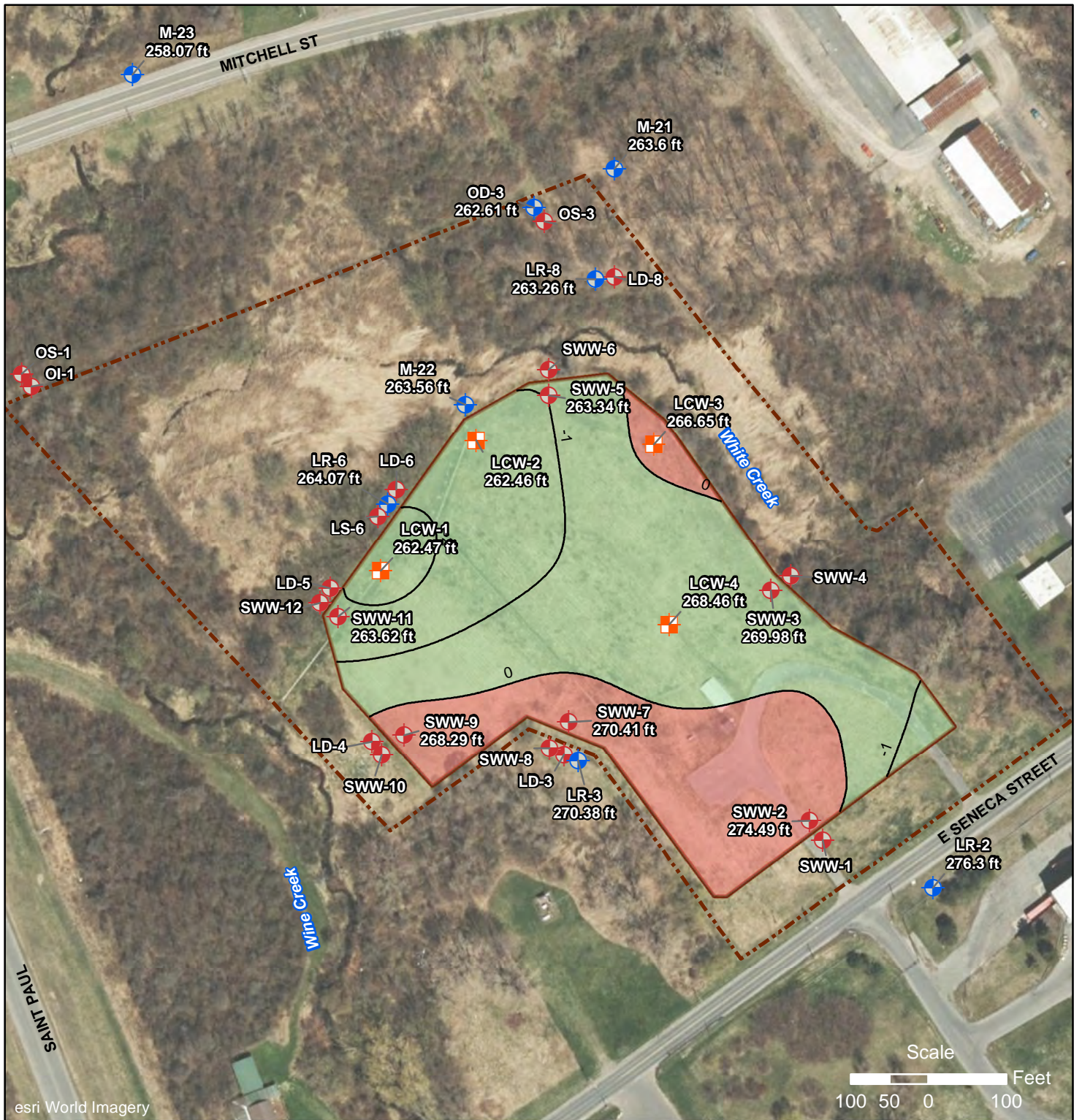


Project No.: 3131  
Plot Date: 6 Nov 2017  
Arc Operator: JNR  
Reviewed by: BJR









Figure 2017-Q3-A







**LEGEND**

-  Bedrock Monitoring Well
-  Leachate Collection Well (Overburden)
-  Overburden Monitoring Well
-  Fence (Site Boundary)
-  Line of Potentiometric Surface Difference (ft)
-  Upward Vertical Hydraulic Gradient
-  Downward Vertical Hydraulic Gradient
-  Slurry Wall

**Notes:**  
 Overburden wells within the slurry wall were used to calculate the overburden potentiometric surface. Bedrock wells outside the slurry wall were used to calculate bedrock potentiometric surface. The bedrock potentiometric surface was subtracted from the overburden surface to produce the inferred vertical hydraulic gradient.

Negative gradient values indicate an upward hydraulic gradient.

**INFERRED VERTICAL HYDRAULIC GRADIENT - August 8, 2017**

PAS Site, Oswego, New York



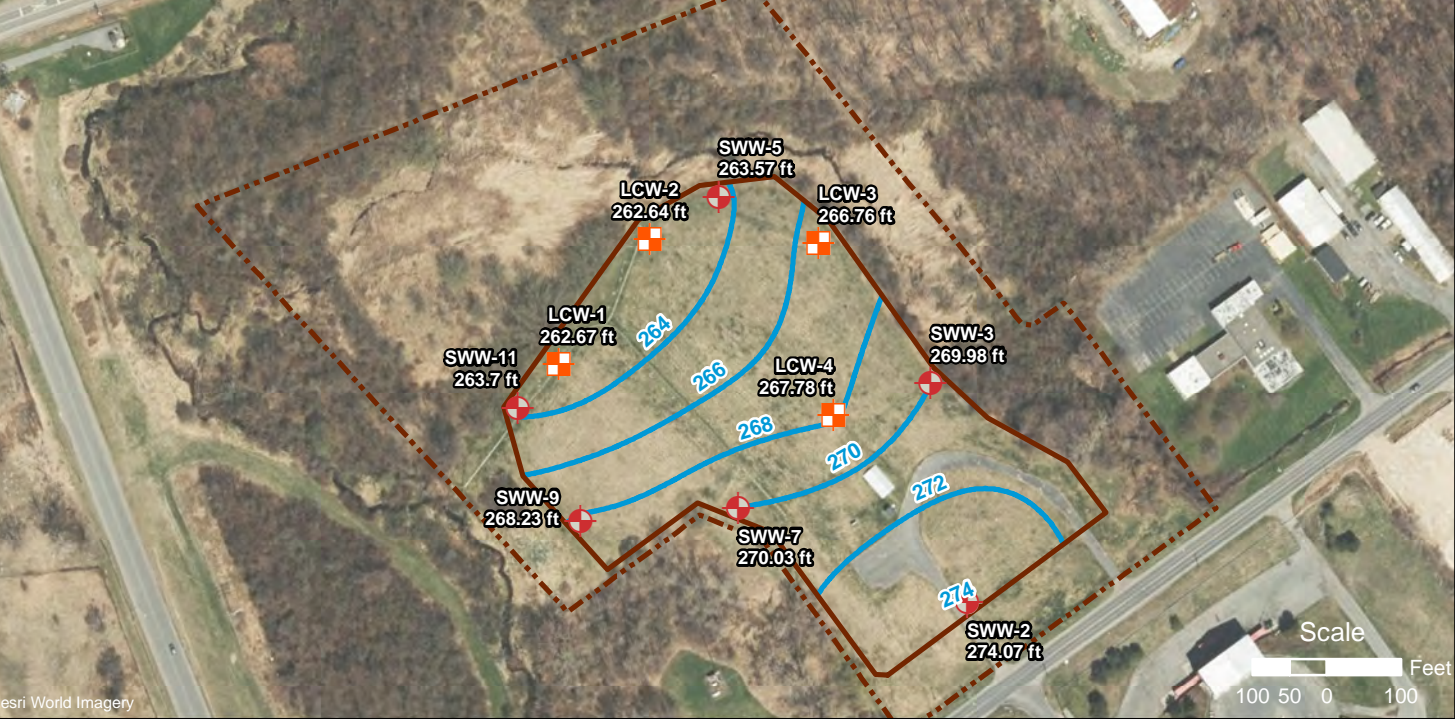
Project No.: 3131  
 Plot Date: 6 Nov 2017  
 Arc Operator: JNR  
 Reviewed by: BJR

**Figure 2017-Q3-B**

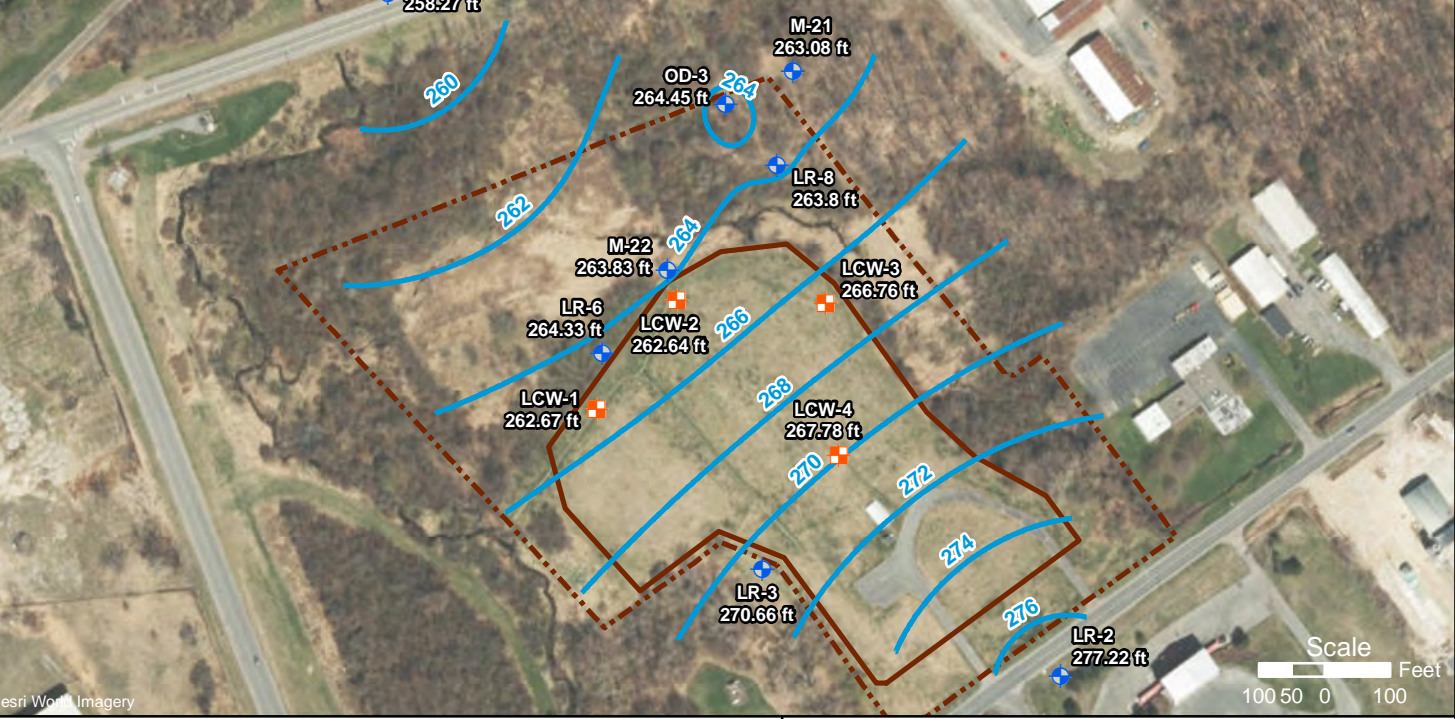




**Overburden Water Surface**



**Bedrock Water Surface**



**LEGEND**

- Bedrock Monitoring Well
- Leachate Collection Well (Overburden)
- Overburden Monitoring Well
- Potentiometric Surface Contours (ft)
- Fence (Site Boundary)
- Slurry Wall

Notes: LCW wells labeled on Bedrock Water Surface map for reference only and were not used in creation of the potentiometric surface.

Linear kriging was used to determine both potentiometric surfaces. Bedrock contours within the containment system are inferred from the identified bedrock wells.

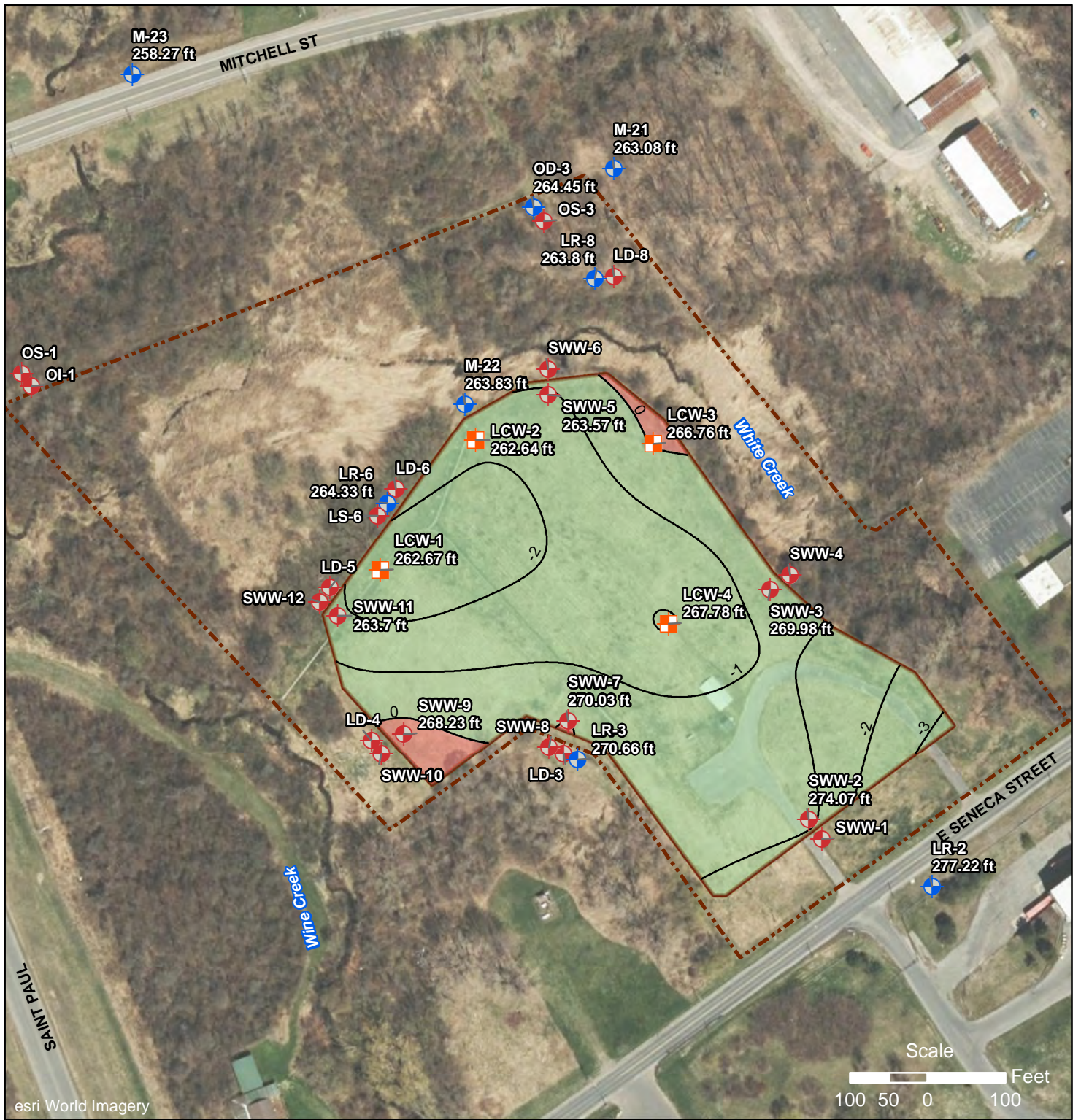
**POTENTIOMETRIC SURFACES**  
**November 13, 2017**  
 PAS Site, Oswego, New York

Project No.: 3131  
 Plot Date: 1 May 2018  
 Arc Operator: DR  
 Reviewed by: BJR

**Figure 2017-Q4-A**

**ddms**  
 60 Plato Boulevard East, Suite 150  
 Saint Paul, Minnesota 55107  
 Main Phone: (651) 842-4224  
 www.ddmsinc.com





**LEGEND**

- Bedrock Monitoring Well
- Leachate Collection Well (Overburden)
- Overburden Monitoring Well
- Fence (Site Boundary)
- Line of Potentiometric Surface Difference (ft)
- Upward Vertical Hydraulic Gradient
- Downward Vertical Hydraulic Gradient
- Slurry Wall

**Notes:**  
 Overburden wells within the slurry wall were used to calculate the overburden potentiometric surface. Bedrock wells outside the slurry wall were used to calculate bedrock potentiometric surface. The bedrock potentiometric surface was subtracted from the overburden surface to produce the inferred vertical hydraulic gradient.  
 Negative gradient values indicate an upward hydraulic gradient.

**INFERRED VERTICAL HYDRAULIC GRADIENT - November 13, 2017**

PAS Site, Oswego, New York



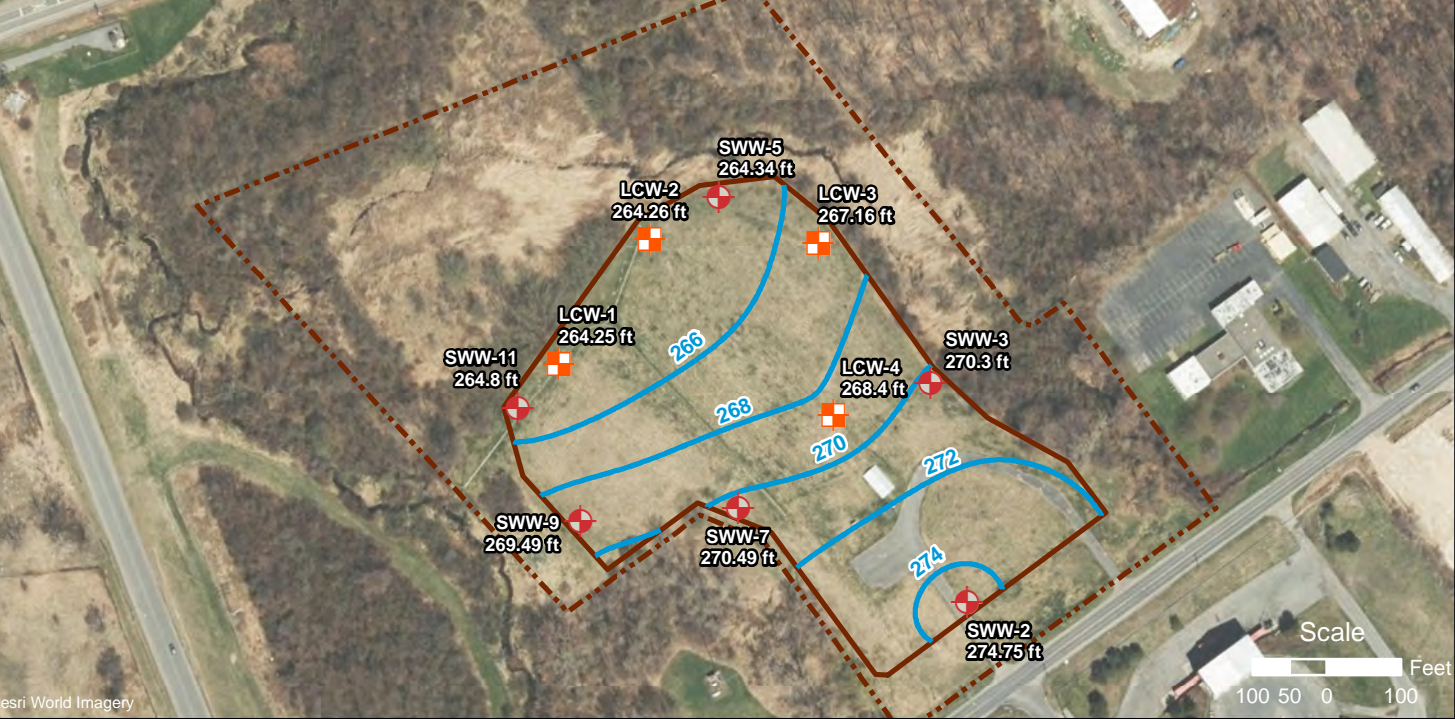
Project No.: 3131  
 Plot Date: 1 May 2018  
 Arc Operator: DR  
 Reviewed by: BJR

**Figure 2017-Q4-B**

**ddms**  
 60 Plato Boulevard East, Suite 150  
 Saint Paul, Minnesota 55107  
 Main Phone: (651) 842-4224  
 www.ddmsinc.com



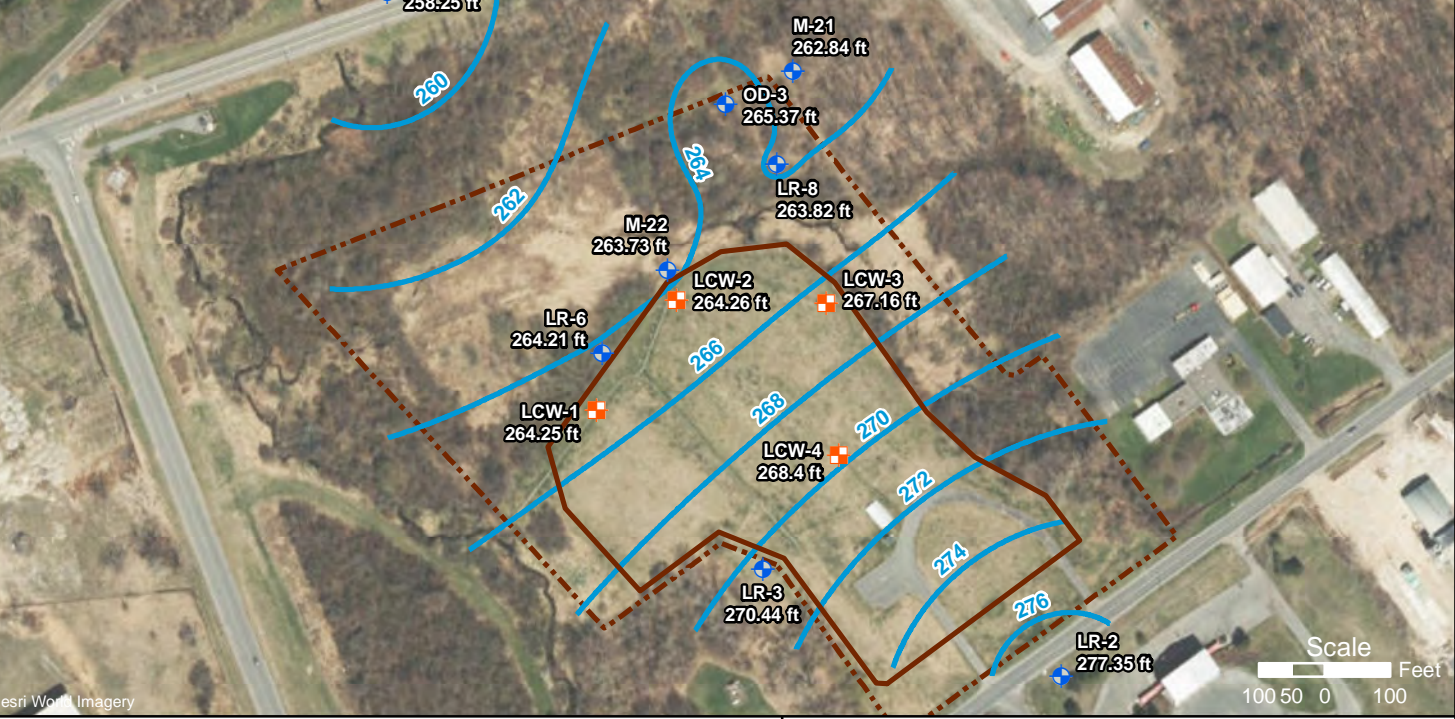
**Overburden Water Surface**



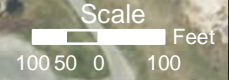
esri World Imagery



**Bedrock Water Surface**



esri World Imagery



**LEGEND**

- Bedrock Monitoring Well
- Leachate Collection Well (Overburden)
- Overburden Monitoring Well
- Potentiometric Surface Contours (ft)
- Fence (Site Boundary)
- Slurry Wall

Notes: LCW wells labeled on Bedrock Water Surface map for reference only and were not used in creation of the potentiometric surface.

Linear kriging was used to determine both potentiometric surfaces. Bedrock contours within the containment system are inferred from the identified bedrock wells.

**POTENTIOMETRIC SURFACES**  
**February 6, 2018**  
 PAS Site, Oswego, New York

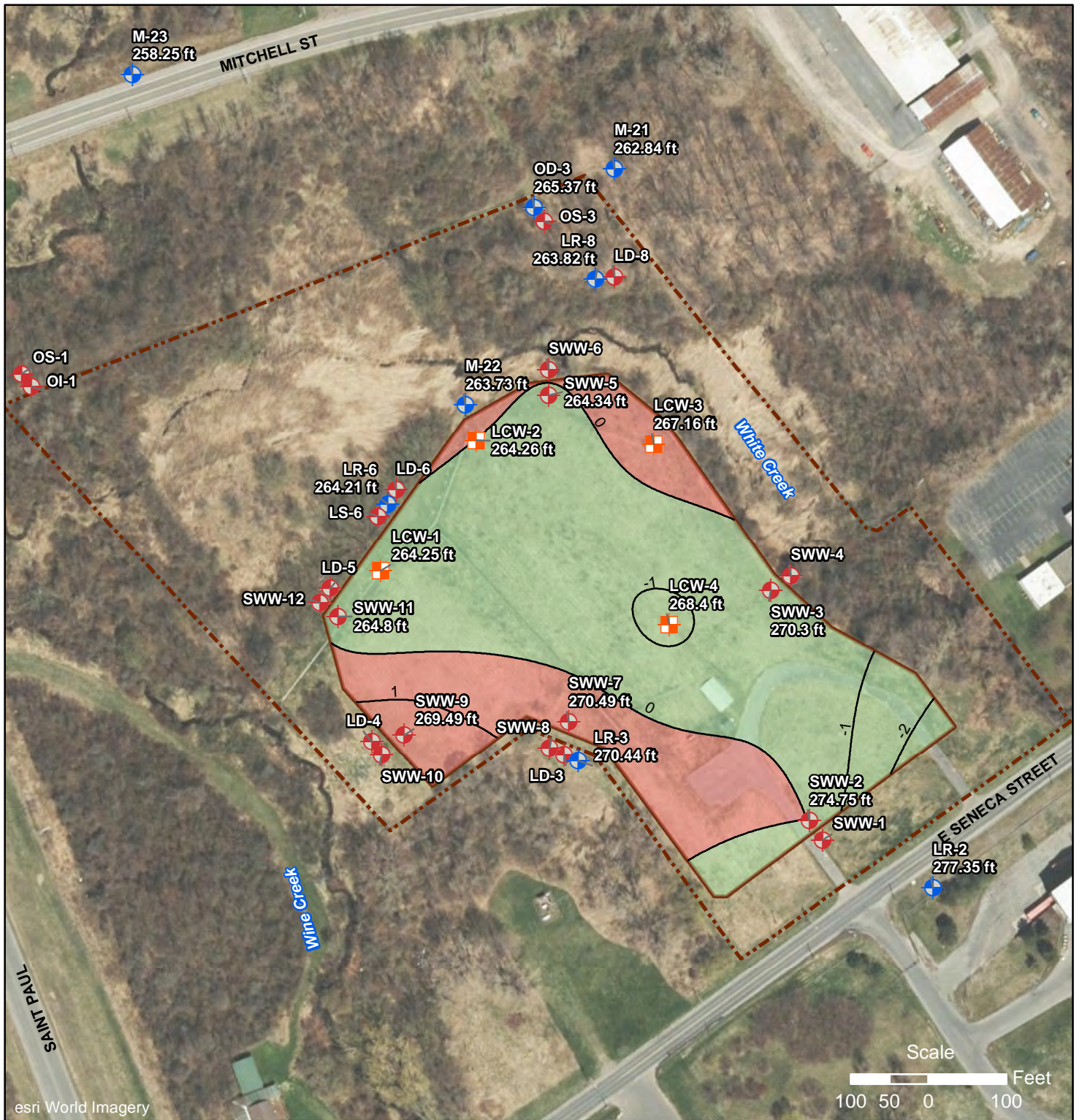


Project No.: 3131  
 Plot Date: 1 May 2018  
 Arc Operator: DR  
 Reviewed by: BJR









**Figure 2018-Q1-A**







**LEGEND**

-  Bedrock Monitoring Well
-  Leachate Collection Well (Overburden)
-  Overburden Monitoring Well
-  Fence (Site Boundary)
-  Line of Potentiometric Surface Difference (ft)
-  Upward Vertical Hydraulic Gradient
-  Downward Vertical Hydraulic Gradient
-  Slurry Wall

**Notes:**  
 Overburden wells within the slurry wall were used to calculate the overburden potentiometric surface. Bedrock wells outside the slurry wall were used to calculate bedrock potentiometric surface. The bedrock potentiometric surface was subtracted from the overburden surface to produce the inferred vertical hydraulic gradient.

Negative gradient values indicate an upward hydraulic gradient.

**INFERRED VERTICAL HYDRAULIC GRADIENT - February 6, 2018**

PAS Site, Oswego, New York

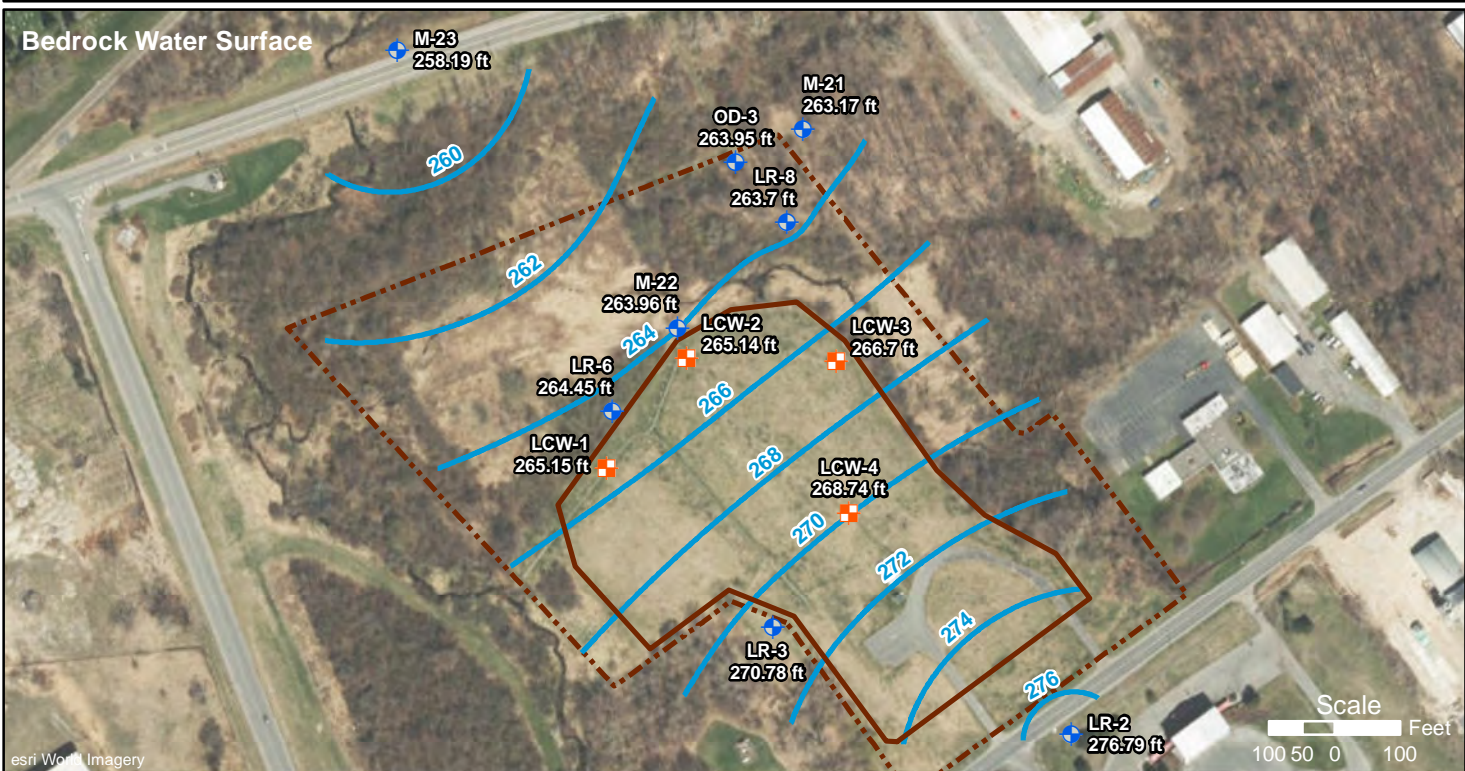
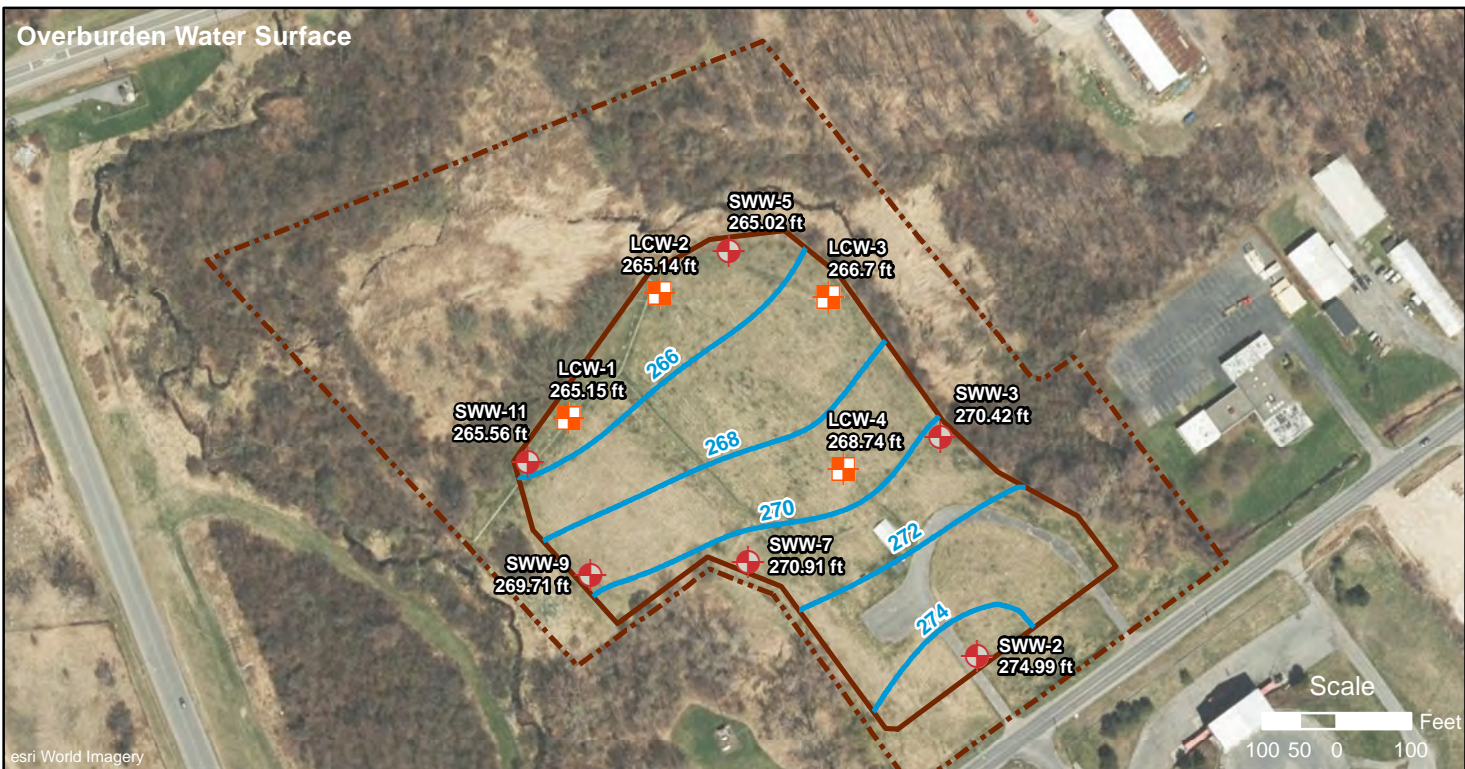


Project No.: 3131  
 Plot Date: 1 May 2018  
 Arc Operator: DR  
 Reviewed by: BJR

**Figure 2018-Q1-B**







**LEGEND**

- Bedrock Monitoring Well
- Leachate Collection Well (Overburden)
- Overburden Monitoring Well
- Potentiometric Surface Contours (ft)
- Fence (Site Boundary)
- Slurry Wall

Notes: LCW wells labeled on Bedrock Water Surface map for reference only and were not used in creation of the potentiometric surface.

Linear kriging was used to determine both potentiometric surfaces. Bedrock contours within the containment system are inferred from the identified bedrock wells.

**POTENTIOMETRIC SURFACES**  
**May 7, 2018**  
 PAS Site, Oswego, New York

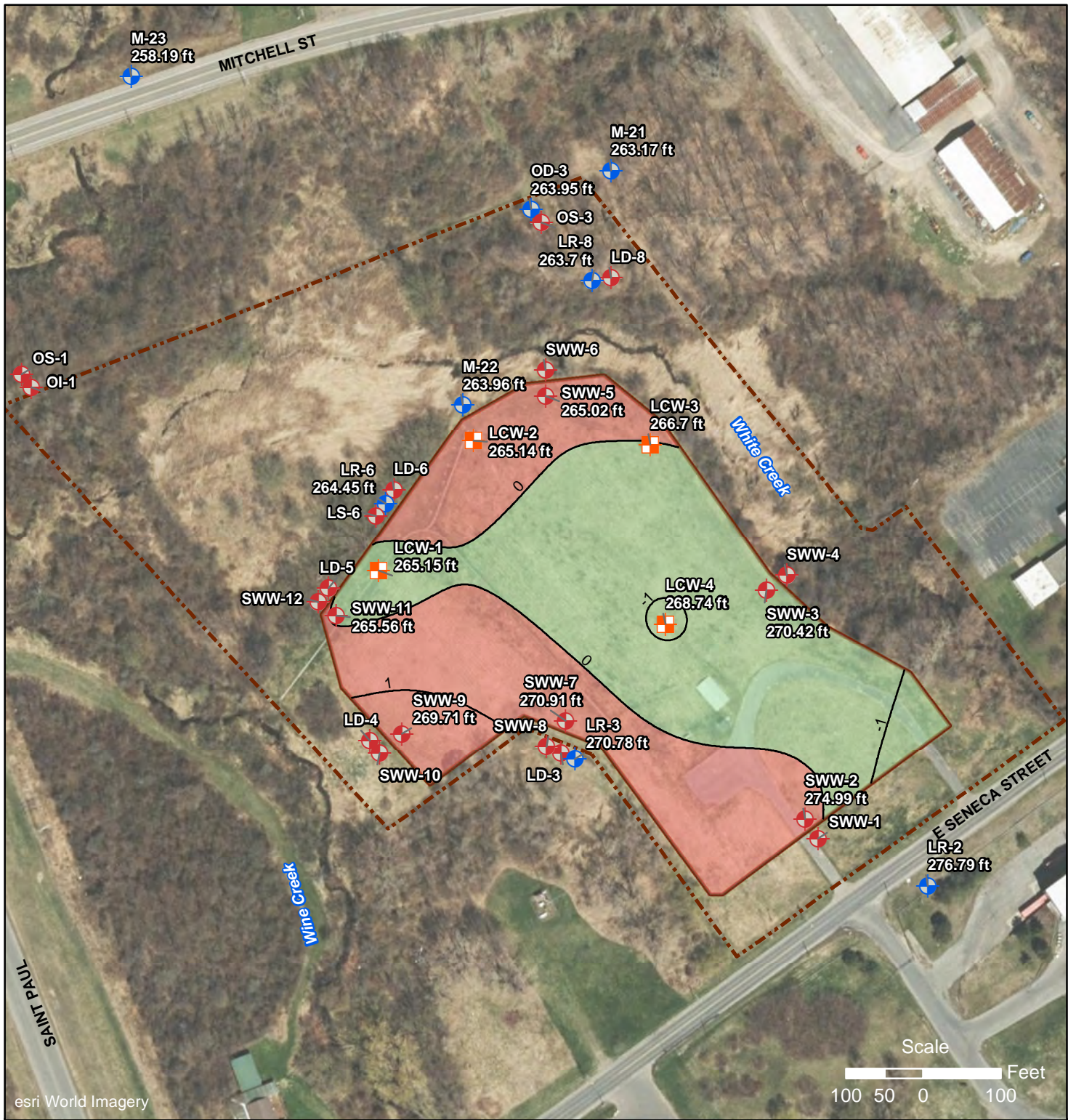


Project No.: 3131  
 Plot Date: 29 June 2018  
 Arc Operator: DR  
 Reviewed by: BJR









**Figure 2018-Q2-A**







**LEGEND**

-  Bedrock Monitoring Well
-  Leachate Collection Well (Overburden)
-  Overburden Monitoring Well
-  Fence (Site Boundary)
-  Line of Potentiometric Surface Difference (ft)
-  Upward Vertical Hydraulic Gradient
-  Downward Vertical Hydraulic Gradient
-  Slurry Wall

**Notes:**  
 Overburden wells within the slurry wall were used to calculate the overburden potentiometric surface. Bedrock wells outside the slurry wall were used to calculate bedrock potentiometric surface. The bedrock potentiometric surface was subtracted from the overburden surface to produce the inferred vertical hydraulic gradient.

Negative gradient values indicate an upward hydraulic gradient.

**INFERRED VERTICAL HYDRAULIC GRADIENT - May 7, 2018**

PAS Site, Oswego, New York



Project No.: 3131  
 Plot Date: 29 June 2018  
 Arc Operator: DR  
 Reviewed by: BJR

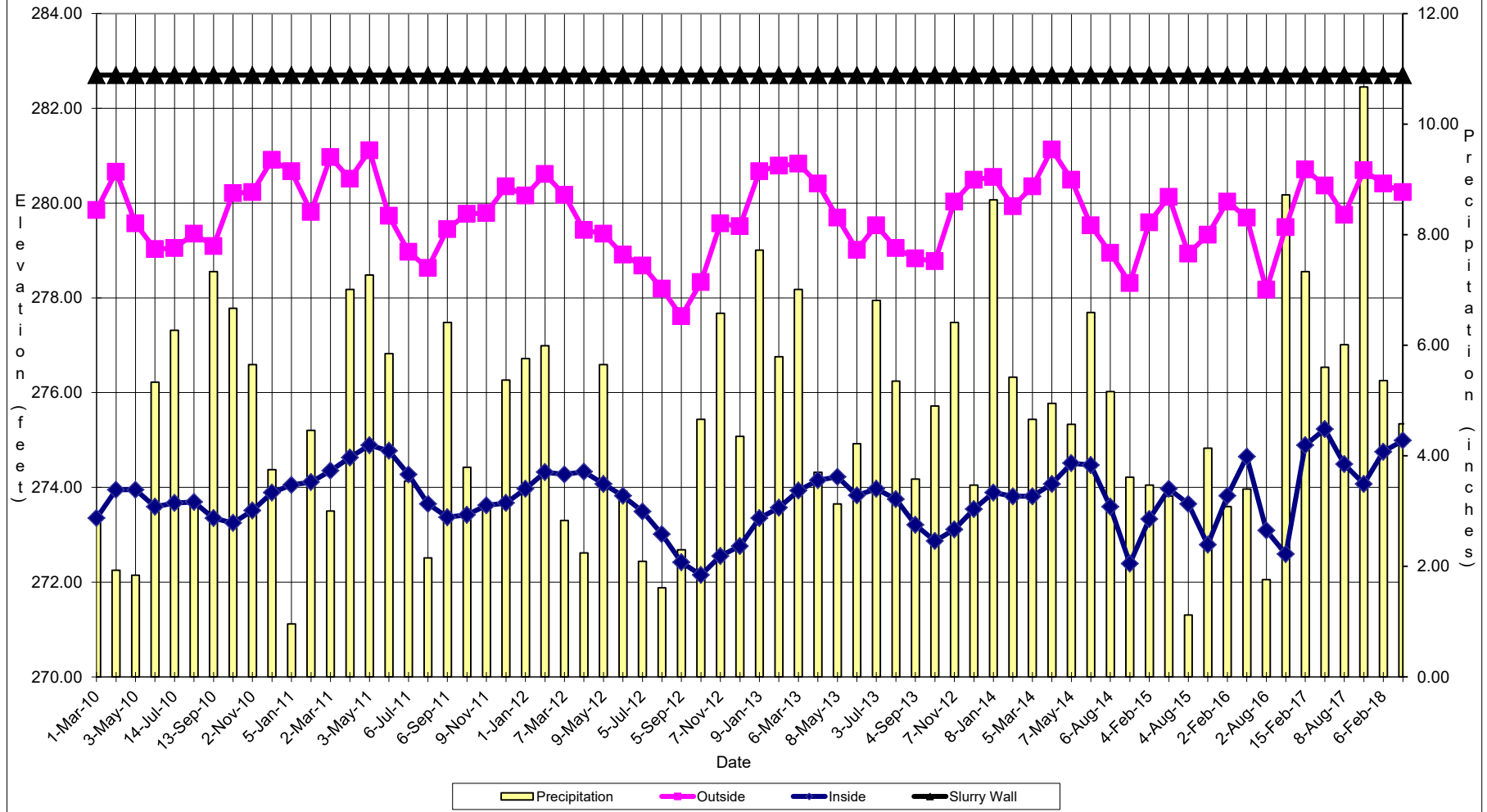
**Figure 2018-Q2-B**



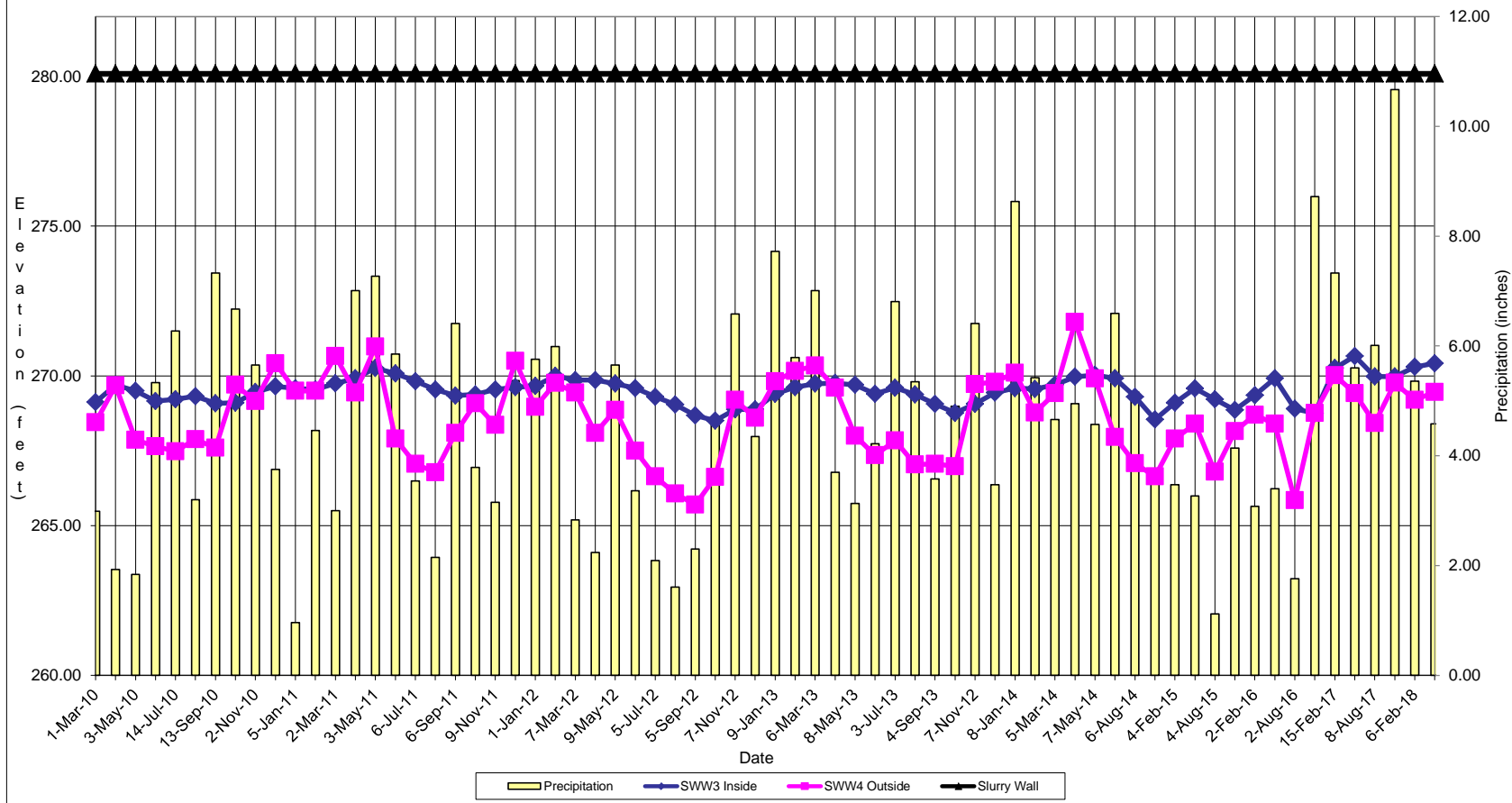
I – B  
Slurry Wall



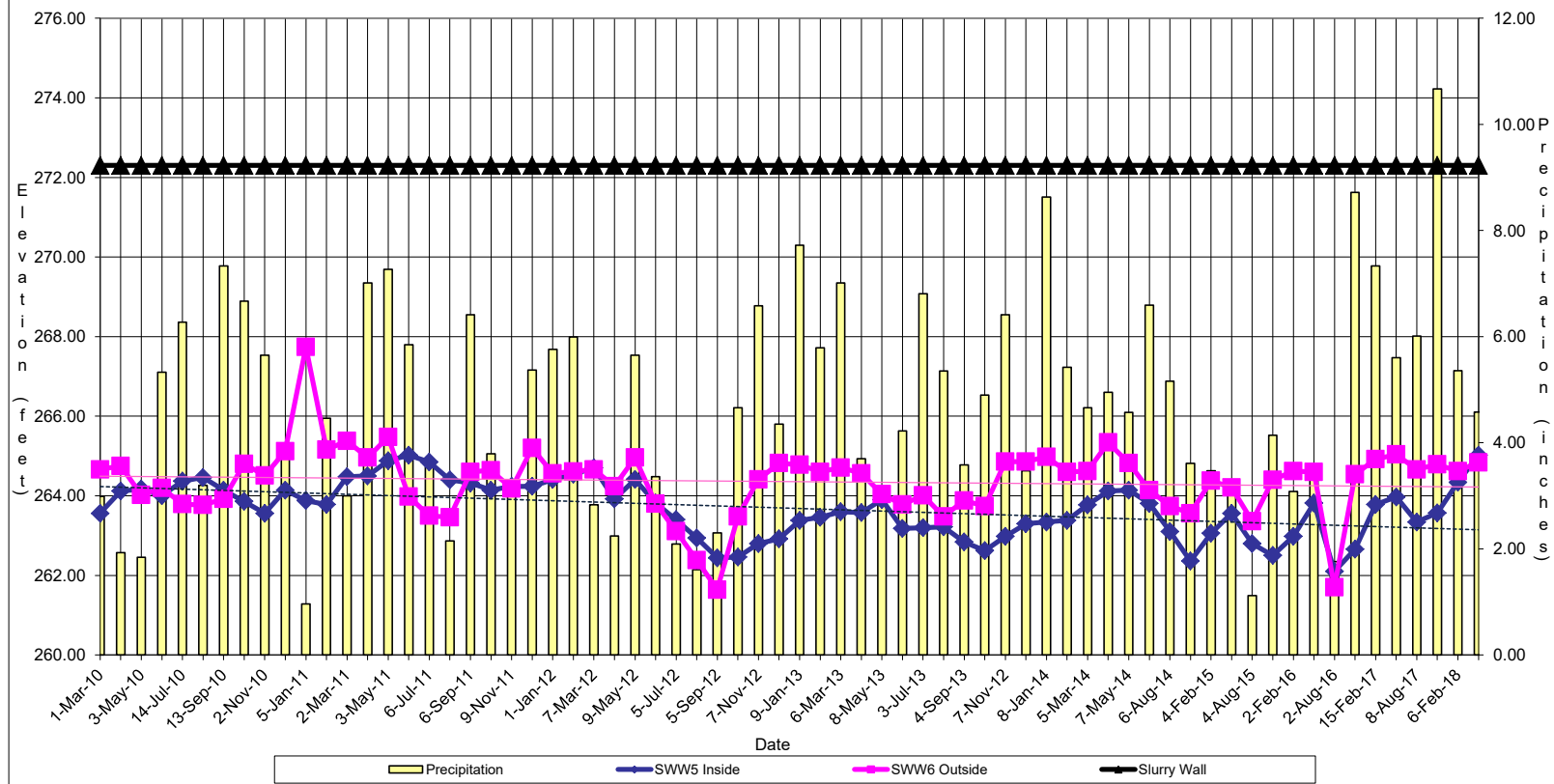
### PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW1 and SWW2)



### PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW3 and SWW4)

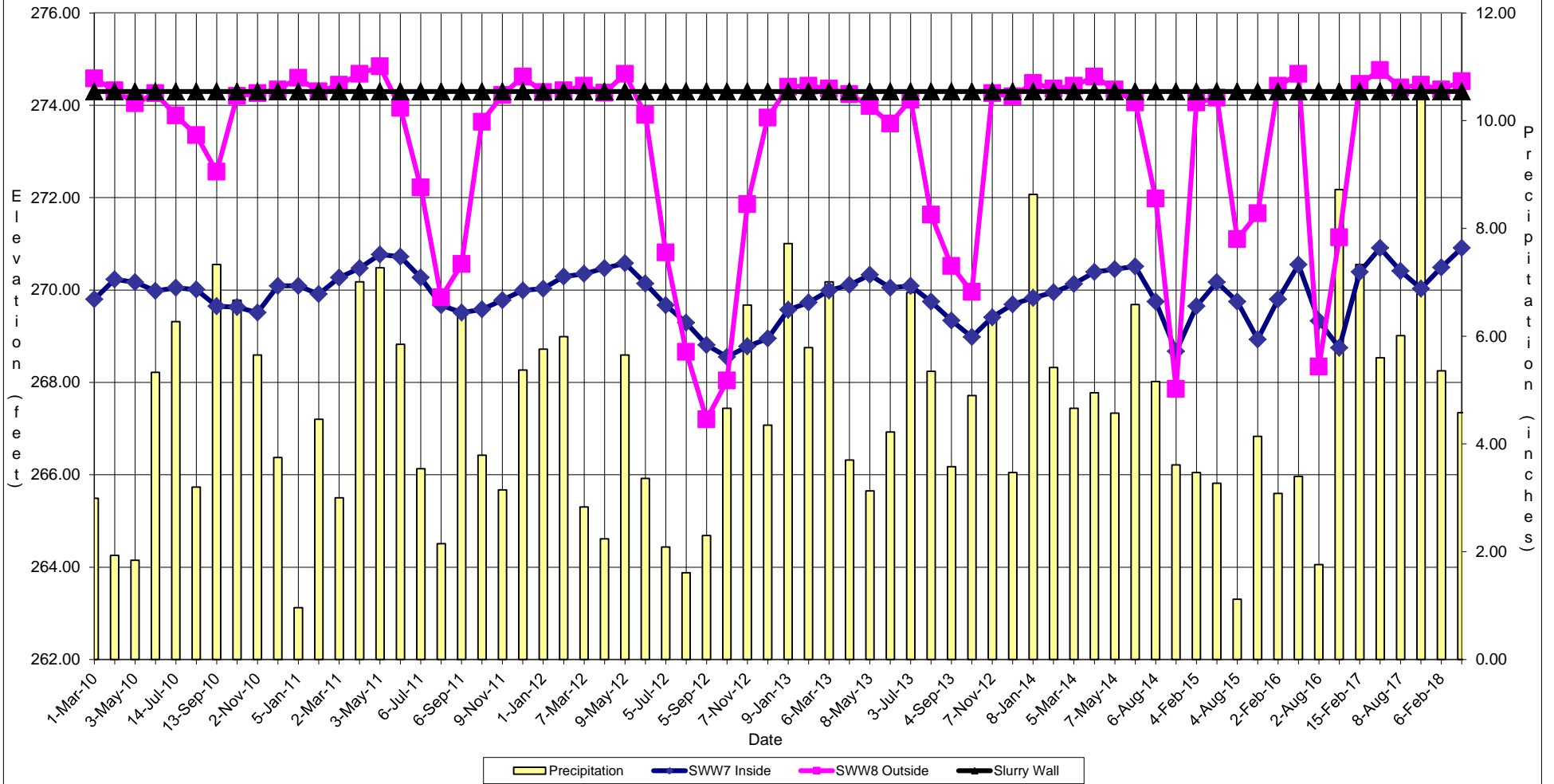


### PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW5 & SWW6)

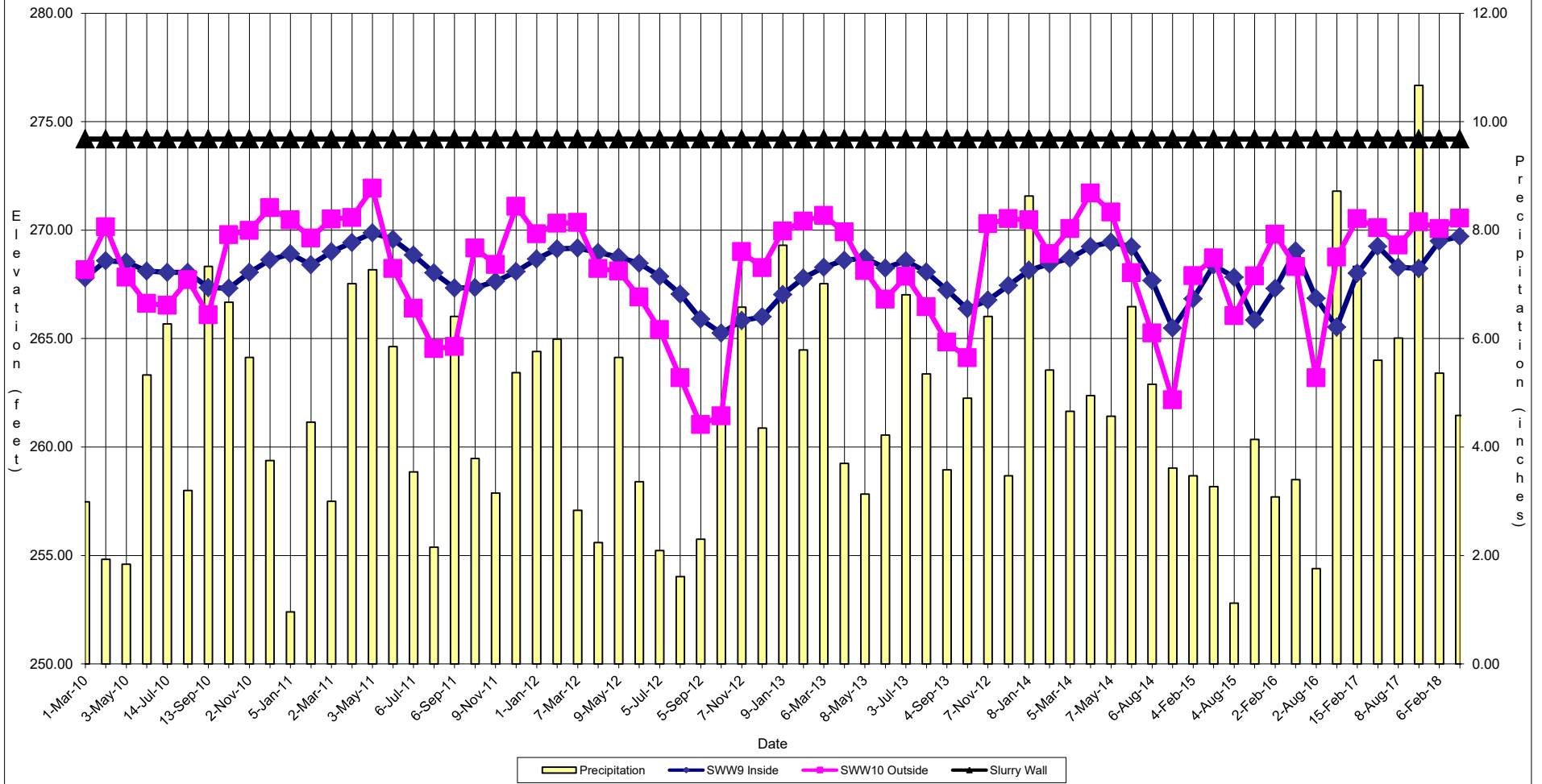




## PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW7 and SWW8)

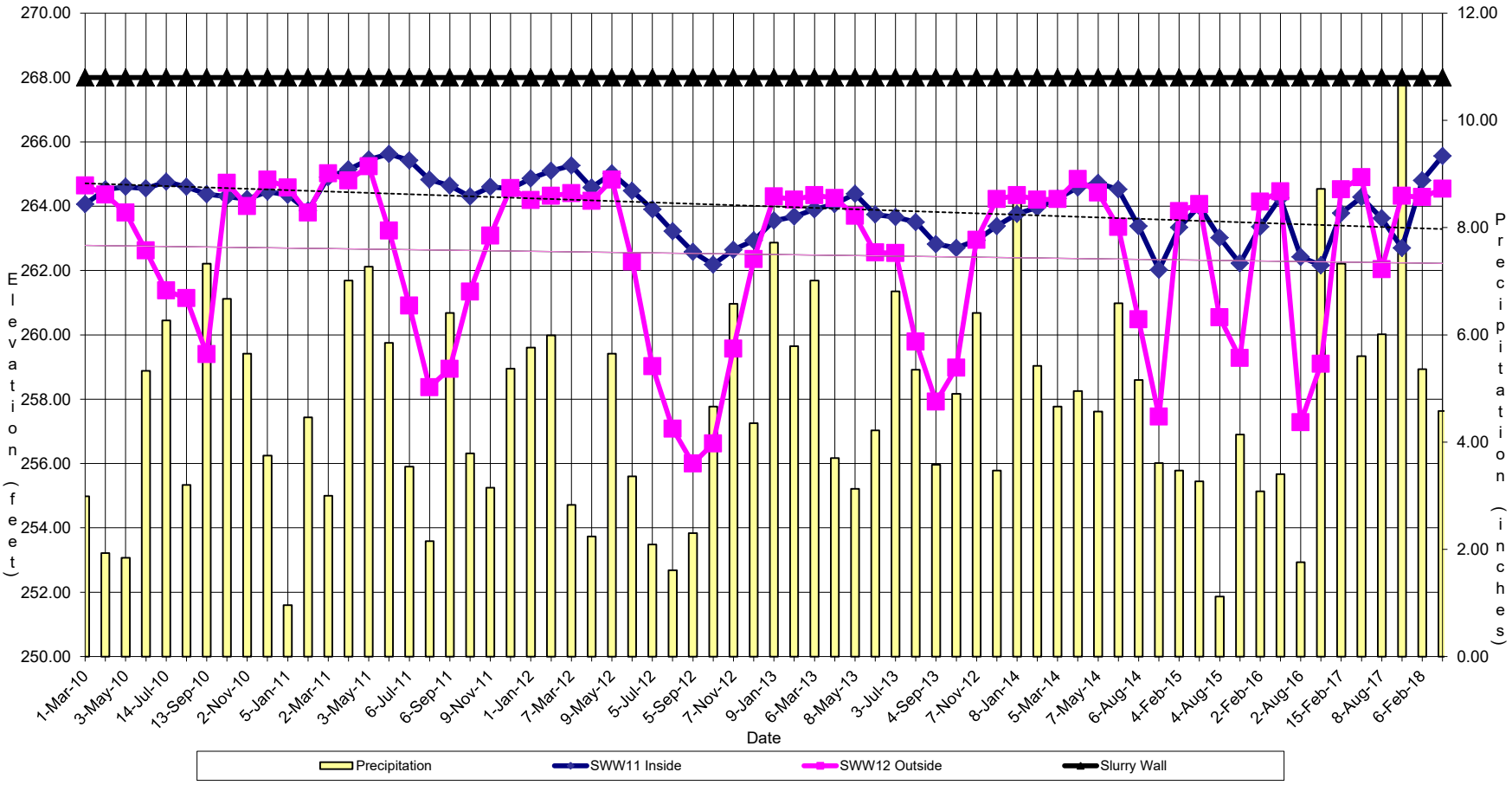


## PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW9 and SWW10)

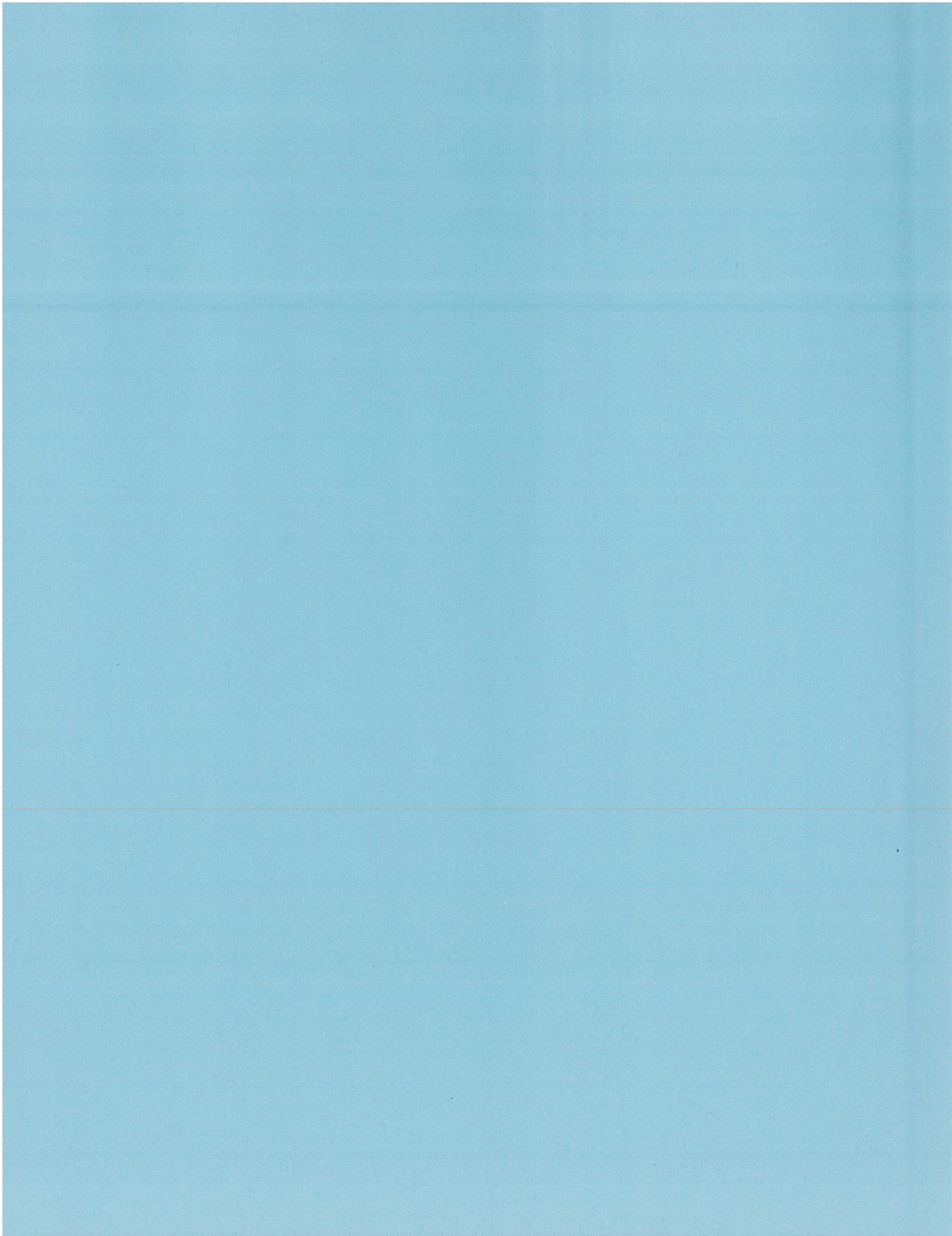




## PAS - OSWEGO GROUNDWATER ELEVATIONS (SWW11 & SWW12)



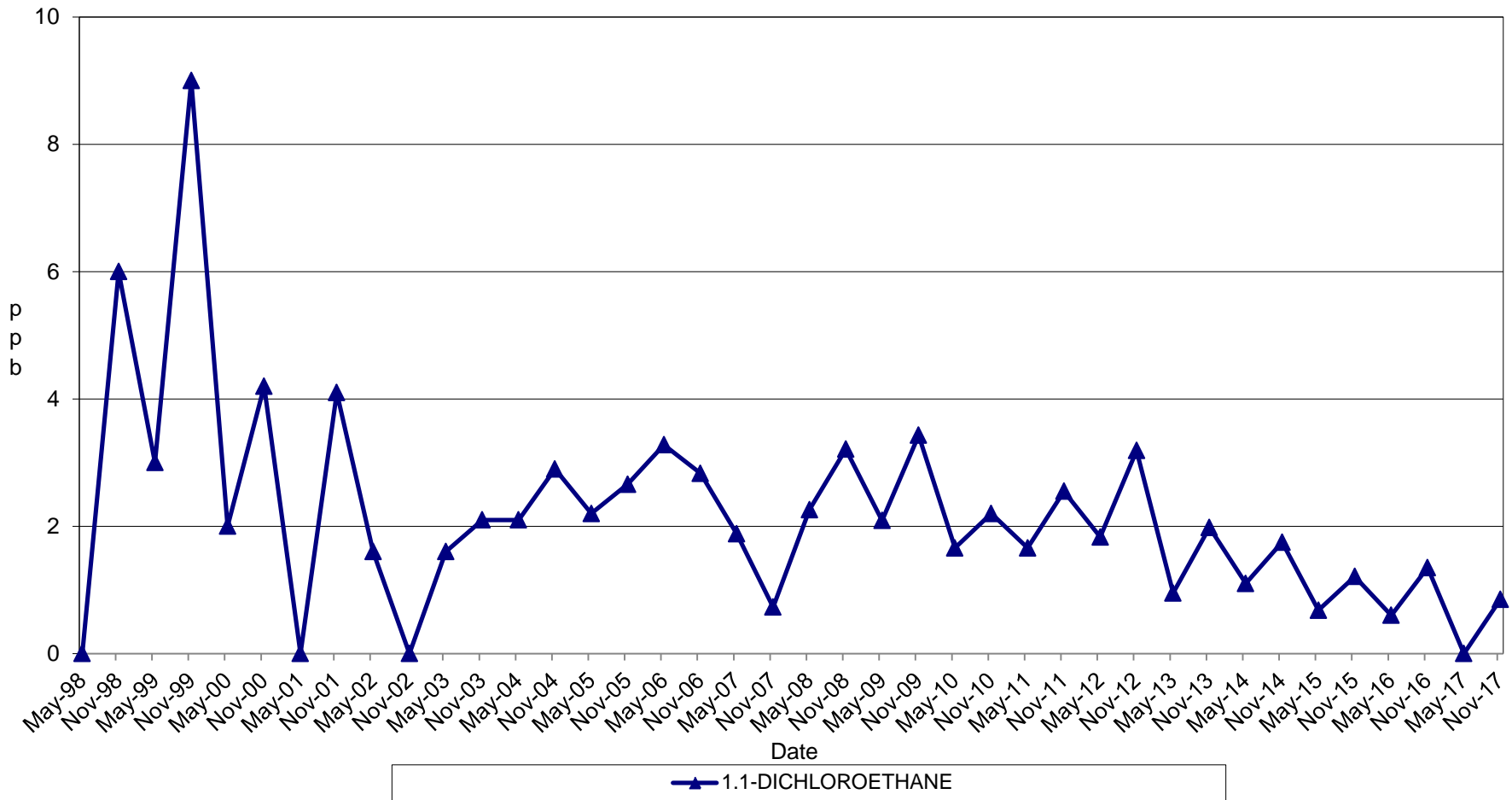






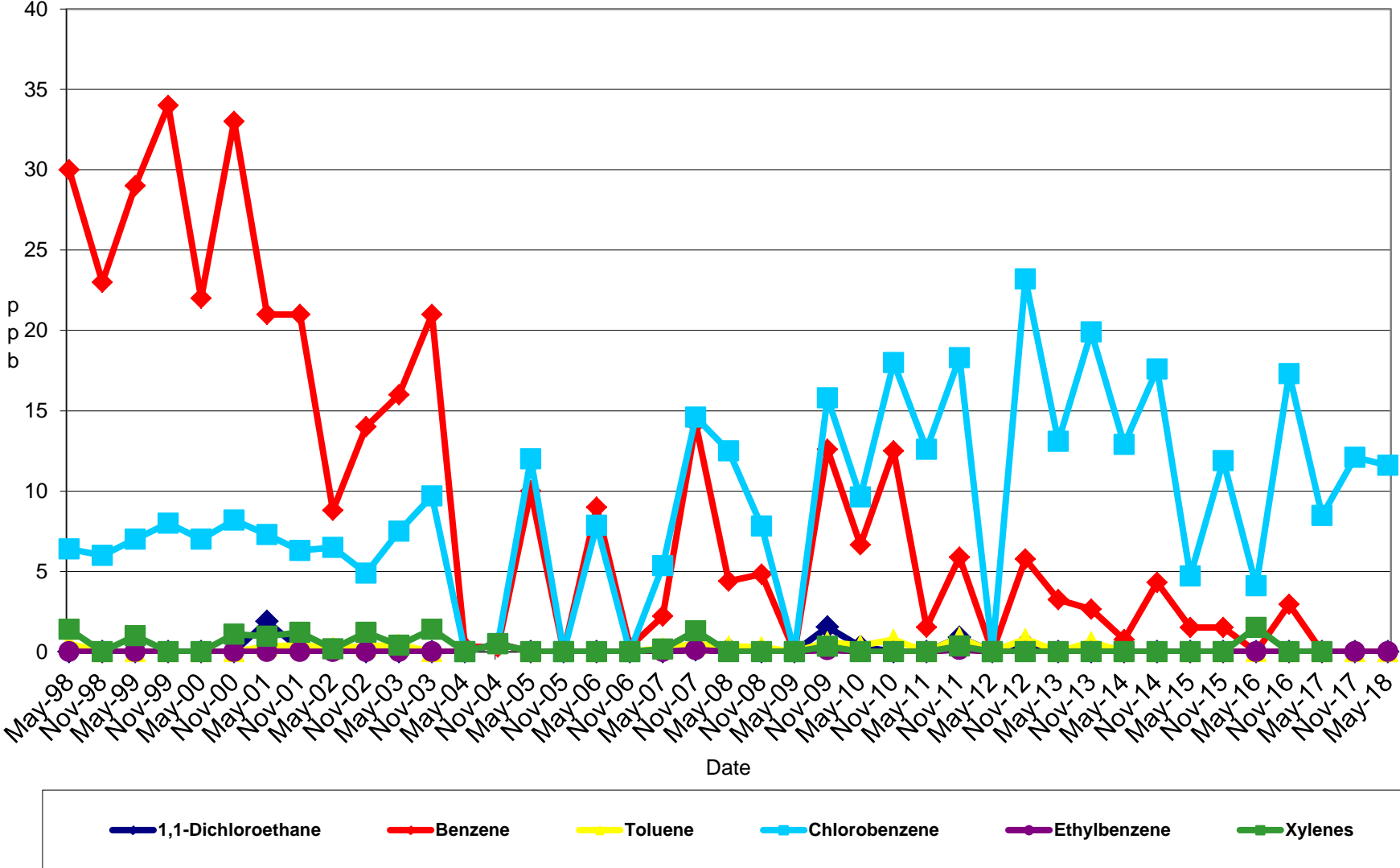
I – C  
Graphs

**Long Term Groundwater Monitoring at LR-6  
PAS Oswego Superfund Site Groundwater  
1998 - 2017**

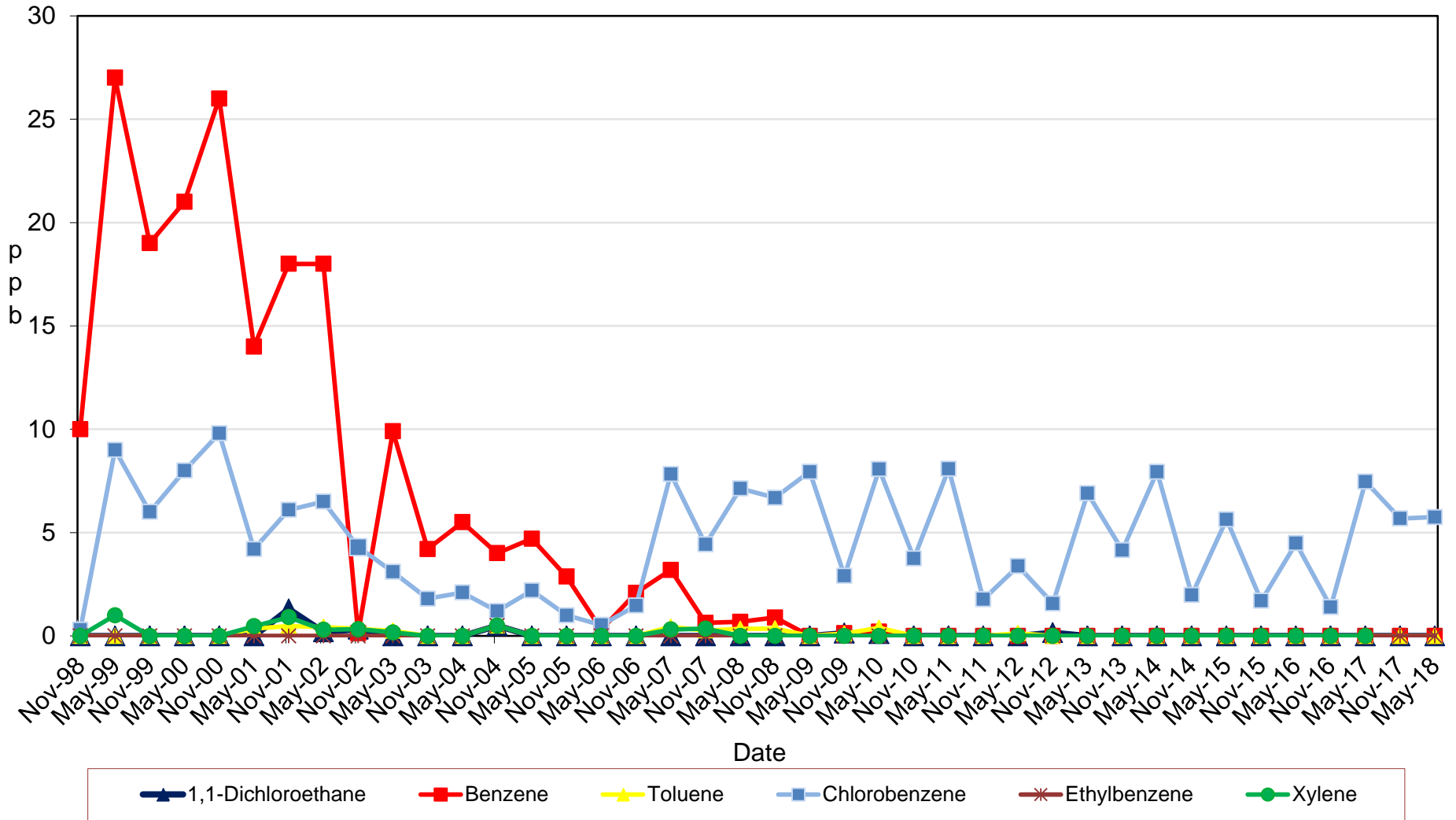




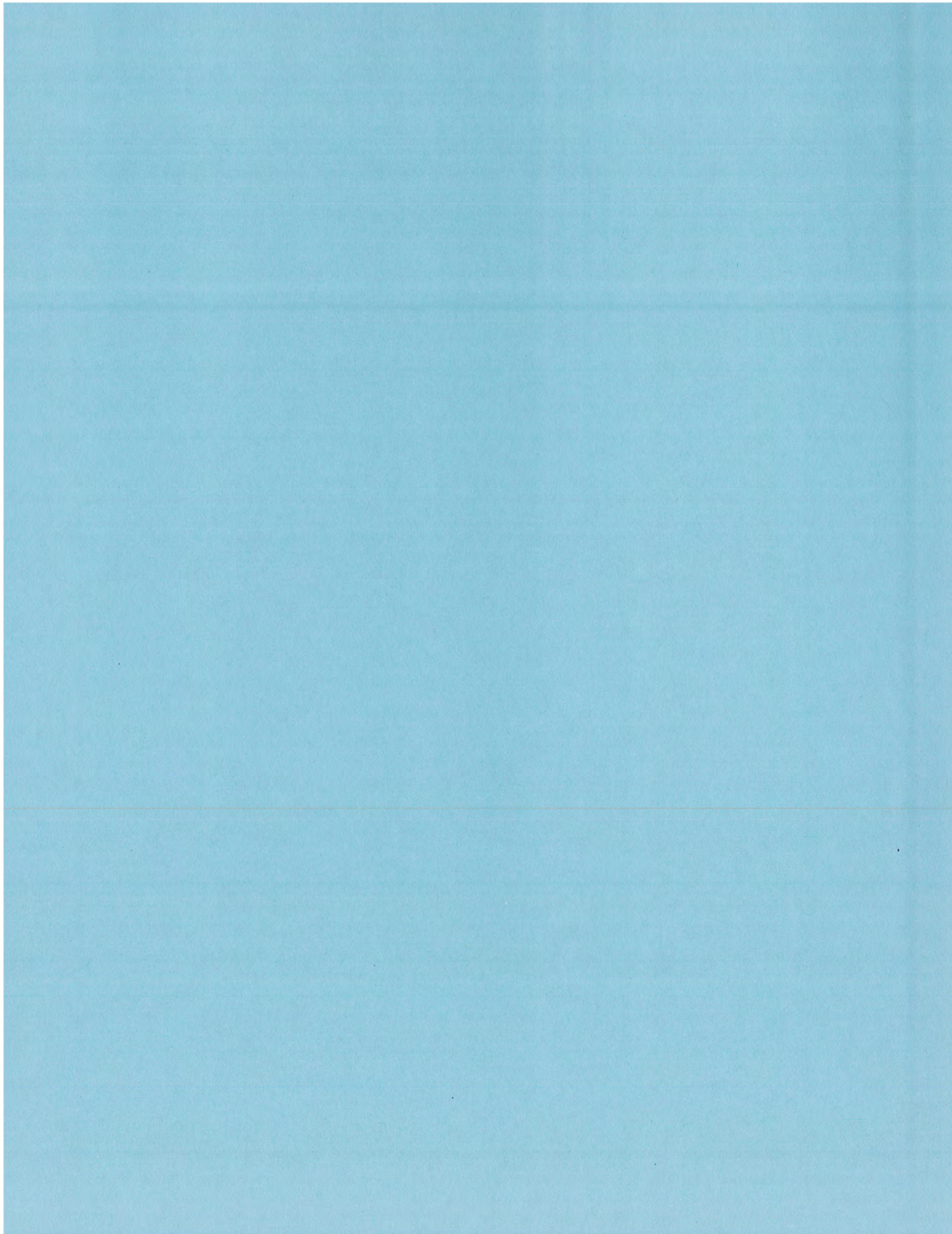
# Long Term Groundwater Monitoring at LR-8 PAS Oswego Superfund Site Groundwater 1998 - 2018



## Long Term Groundwater Monitoring at M-21 PAS Oswego Superfund Site Groundwater 1998 - 2018



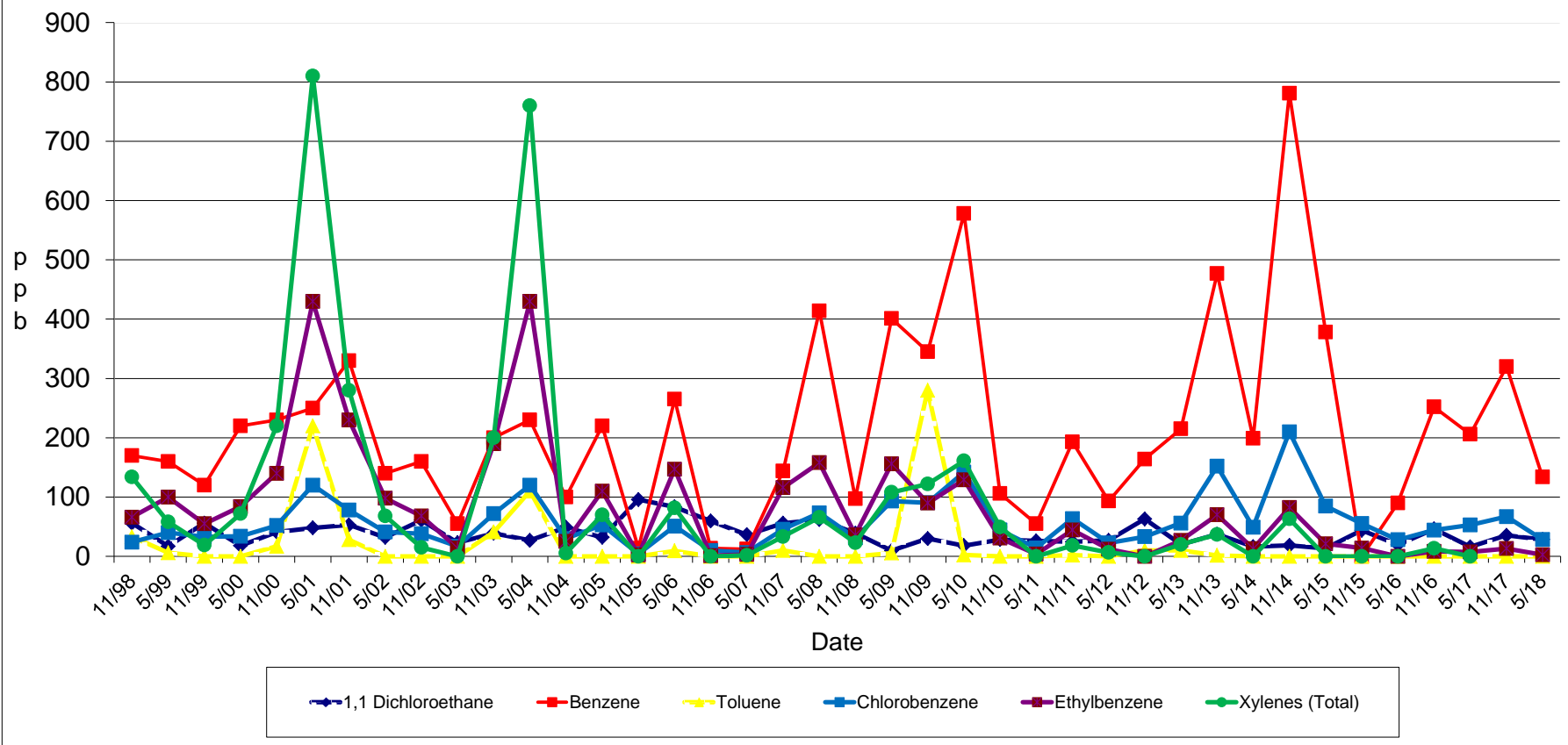




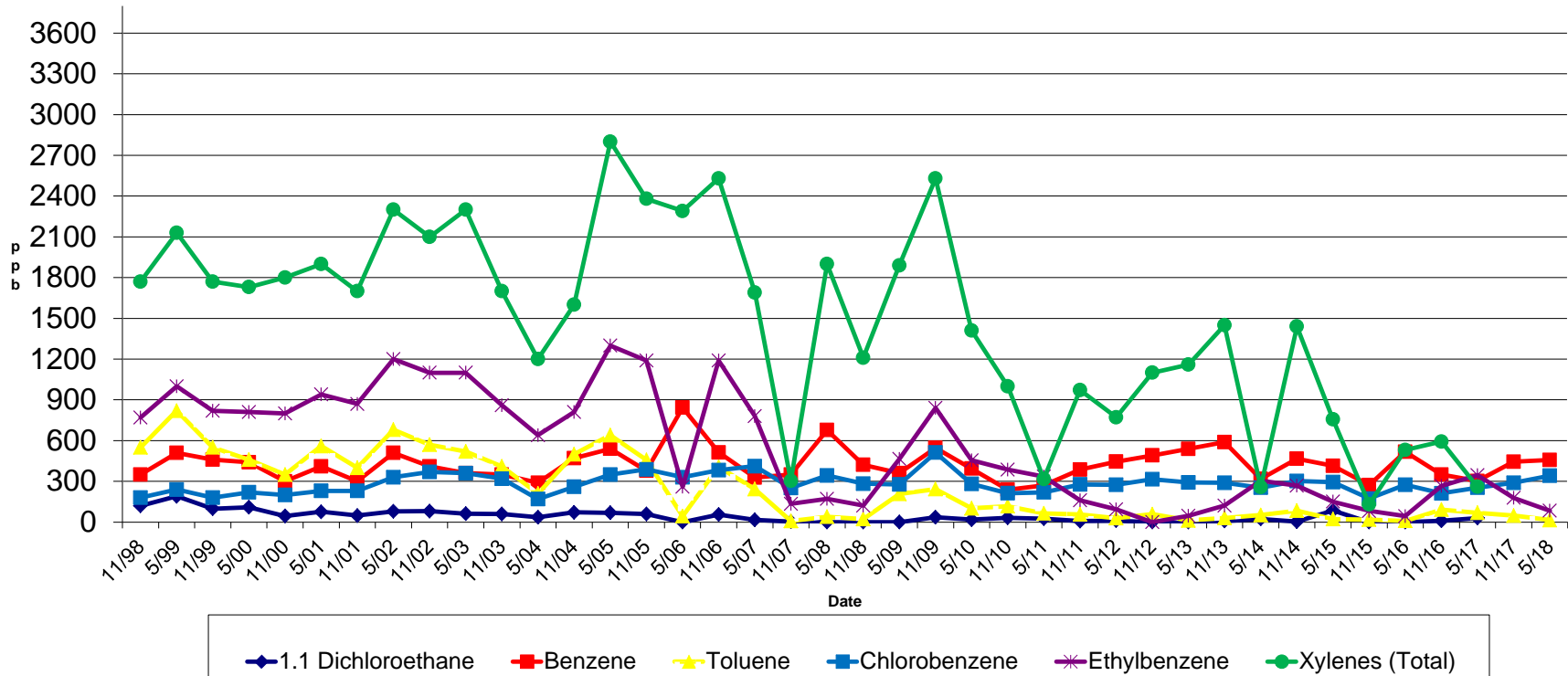
# LCW Graphs



**LCW2**  
**PAS Oswego Superfund Site Leachate Concentrations (ppb)**  
**1998 - 2018**



**LCW4**  
**PAS Oswego Superfund Site Leachate Concentrations (ppb)**  
**1998 - 2018**





1 – D  
Tables

TABLE 1

HISTORICAL LEACHATE REMOVAL SUMMARY (Gallons)  
 Pollution Abatement Services Superfund Site  
 Oswego, New York

Month	91 IGR Order			94 IGR Order					98 Consent Decree																											
	1992	1993	1994	1994	1995	1996	1997	1998	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018							
Jan		20,170	30,067		25,445	25,441	25,972	21,485		9,979	15,706	10,506	9,751	10,537	9,962	10,472	9,972	9,683	9,503	20,184	10,918	10,000	10,005	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000					
Feb	18,937	20,283	29,661		25,830	23,457	22,316	12,924		16,056	9,687	10,294	10,444	9,904	9,899	10,300	10,030	9,620	9,656	11,200	11,293	10,010	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000					
Mar	20,314	20,347	29,602		24,852	25,098	24,257	25,455		15,785	8,927	10,484	10,307	9,896	10,573	10,149	9,812	0	9,500	20,125	11,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000					
Apr	20,140	30,403	29,051		22,815	22,187	26,793	26,009		28,110	9,352	19,609	8,463	10,211	9,765	9,947	9,795	10,058	8,575	19,600	10,995	10,010	10,000	10,000	10,000	10,125	10,000	10,000	10,000	10,000						
May	20,620	30,803	29,199		23,690	23,718	24,840	23,935		13,566	26,160	10,158	8,868	10,117	10,503	10,215	9,743	9,693	7,712	20,047	11,000	10,020	20,000	20,000	20,000	20,000	20,200	20,000	20,000	20,000						
Jun	20,030	30,244	20,481		24,586	23,924	23,830	20,052		20,685	25,292	10,055	9,822	10,518	10,105	10,193	9,885	10,110	9,474	19,000	10,950	10,005	20,000	20,000	20,000	20,000	20,400	20,000	20,000	20,000						
Jul	20,270	31,069	20,655		23,450	25,402	25,340	20,411		10,121	20,416	10,470	10,255	10,197	10,292	10,100	9,902	9,472	10,144	18,873	0	10,000	20,000	20,000	20,000	20,130	20,700	20,000	20,005							
Aug	20,363	31,404	25,690		24,188	25,129	19,677	20,292		21,832	23,597	9,368	10,254	10,403	10,306	10,025	9,839	9,781	10,200	19,600	19,000	10,020	20,000	20,000	20,000	20,200	20,200	20,130	20,005							
Sep	20,807	31,232	25,677		18,343	21,514	20,417	20,520		10,255	20,407	10,473	9,907	10,566	10,456	9,672	9,499	9,616	10,000	19,000	12,800	20,005	20,000	20,000	20,000	20,700	20,000	19,895								
Oct	19,421	31,114	14,815	0	23,288	24,541	17,867	16,458		10,255	17,563	10,226	10,400	8,196	10,717	9,773	9,802	0	10,871	18,806	20,000	20,005	20,000	20,000	20,000	20,000	20,000	20,000	20,005							
Nov	20,409	30,239		25,562	20,133	20,589	18,564		8,185	10,250	9,042	9,355	10,435	9,908	10,486	9,987	9,692	9,497	10,750	19,068	20,000	20,005	10,000	10,000	10,000	10,100	10,000	10,005								
Dec	20,497	30,311		25,121	22,544	22,347	19,498		10,238	10,816	10,463	9,214	9,686	10,130	10,359	9,833	9,779	9,603	10,900	11,009	20,000	10,010	10,000	10,000	10,000	10,000	10,000	10,000	10,000							
<b>Totals</b>	<b>221,808</b>	<b>337,619</b>	<b>254,898</b>	<b>50,683</b>	<b>279,164</b>	<b>283,347</b>	<b>269,371</b>	<b>207,541</b>	<b>18,423</b>	<b>177,710</b>	<b>196,613</b>	<b>130,212</b>	<b>118,592</b>	<b>120,583</b>	<b>123,423</b>	<b>120,666</b>	<b>117,750</b>	<b>97,133</b>	<b>117,285</b>	<b>216,512</b>	<b>157,956</b>	<b>150,090</b>	<b>180,005</b>	<b>180,000</b>	<b>180,130</b>	<b>182,425</b>	<b>180,130</b>	<b>179,915</b>	<b>80,000</b>							
<b>Average Removal Per Month</b>	<b>20,164</b>	<b>28,135</b>	<b>25,490</b>	<b>16,894</b>	<b>23,264</b>	<b>23,612</b>	<b>22,448</b>	<b>20,754</b>	<b>9,212</b>	<b>14,809</b>	<b>16,384</b>	<b>10,851</b>	<b>9,883</b>	<b>10,049</b>	<b>10,285</b>	<b>10,056</b>	<b>9,813</b>	<b>8,094</b>	<b>9,774</b>	<b>18,043</b>	<b>13,163</b>	<b>12,508</b>	<b>15,000</b>	<b>15,000</b>	<b>15,011</b>	<b>15,202</b>	<b>15,011</b>	<b>14,993</b>	<b>13,333</b>							

<u>SUMMARY:</u>	<u>TOTALS (GAL)</u>	<u>AVG RATE (GAL/MO)</u>	
1991 IGR Order:	814,325	23,951	
1994 IGR Order:	1,090,106	22,710	
1998 C D:	3,025,553	12,534	(11/98 to present)
<b>Total (To Date):</b>	<b>4,929,984</b>		

- 1) Used CECOS - Niagara Falls for leachate treatment/disposal beginning in May 1996 - DuPont Deepwater used for treatment/disposal prior to May 1996.
- 2) BBLES completed removal work at the end of July 2000; OBG began in Aug 2000.
- 3) Leachate collection well LCW4 pumped per 11/15/99 LCW4 pumping protocol as approved by EPA.
- 4) Leachate disposed at Clean Harbors facilities at Bristol CT from Mar 2005 to Oct 2007 and Baltimore MD from Nov 2007 to Jun 2007.
- 5) Leachate disposed at the Auburn Wastewater Treatment Plant in Auburn, NY starting July 2008 to Oct 2010.
- 6) Leachate disposed at the City of Oswego Wastewater Treatment Plant in Oswego, NY starting Oct 2010 to Mar 2015.
- 7) Leachate disposed at the Auburn Wastewater Treatment Plant in Auburn, NY starting Mar 2015 to Dec 2015.
- 8) Leachate disposed at the City of Oswego Wastewater Treatment Plant in Oswego, NY restarted Jan 2017.



**Table 2**

PAS Site  
Oswego, New York

Consent Decree  
Performance Standards

<b>Volatile Organic Compounds in Ground Water and Leachate</b>		
<b>Constituent</b>	<b>Analysis</b>	<b>Performance Standard ug/L</b>
Benzene	8260B	0.7
Chlorobenzene	8260B	5
1,1-Dichloroethane	8260B	5
Ethylbenzene	8260B	5
Toluene	8260B	5
Xylenes	8260B	5

**Notes:**

1. ug/L = micrograms per liter which equates to parts per billion (ppb).

**TABLE 3**  
**PAS OSWEGO SUPERFUND SITE**  
**ADDITIONAL BEDROCK GROUNDWATER MONITORING RESULTS**

LTM CONSTITUENT	Perf Std (ug/l)	Additional monitoring well MW-22											Additional mon well MW-23			Additional monitoring well OD-3										
		Apr 06	May 06	May 09	May 14	Nov 14	May 15	Nov 15	May 16	Nov 16	Nov 17	Apr 18	Apr 06	May 06	May 09	Apr 06	May 06	May 14	Nov 14	May 15	Nov 15	May 16	Nov 16	May 17	Apr 17	Nov 17
Benzene	0.7	0.12J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	1.25	ND	0.85	ND	ND	ND	ND
Chlorobenzene	5	1J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11J	ND	ND	26.3	ND	19.2	ND	16.5	ND	ND	ND	ND
1,1-Dichloroethane	5	ND	0.14J	ND	1.27	ND	0.12J	0.30J	0.30J	0.30J	0.30J	0.30J	0.86	0.9	0.82	ND	ND	ND	ND	0.13J	ND	0.5	ND	ND	ND	ND
Ethylbenzene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.16J	ND	ND	ND	0.31	ND	0.26J	ND	ND	ND	ND
Xylenes	5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11J	ND	0.31J	ND	0.39J	ND	ND	ND	ND	ND	ND

NOTES:  
1. Additional downgradient bedrock wells M-22, M-23 and OD-3 monitored during April and May 2006 pursuant to January 25, 2006 letter to EPA and EPA approval letter dated February 2, 2006. M-22 and OD-3 sampled in 2014 and 2015 pursuant to March 21, 2014 letter and EPA approval. Sampling of MW-22 and OD-3 continued based on 2015 Annual Report.  
2. All results ug/L.



**ATTACHMENT II**

**ACTIONS COMPLETED**

II – A  
3<sup>rd</sup> QUARTER REPORT 2017



**QUARTERLY PROGRESS REPORT – 3rd QUARTER 2017**  
***Operation, Maintenance and Long-term Monitoring Activities***

**PROJECT NAME:**      *Pollution Abatement Services Site*  
   *Oswego, New York*

**PERIOD COVERED:**    July – September (3rd Quarter) 2017

**ACTIONS TAKEN DURING QUARTER:**

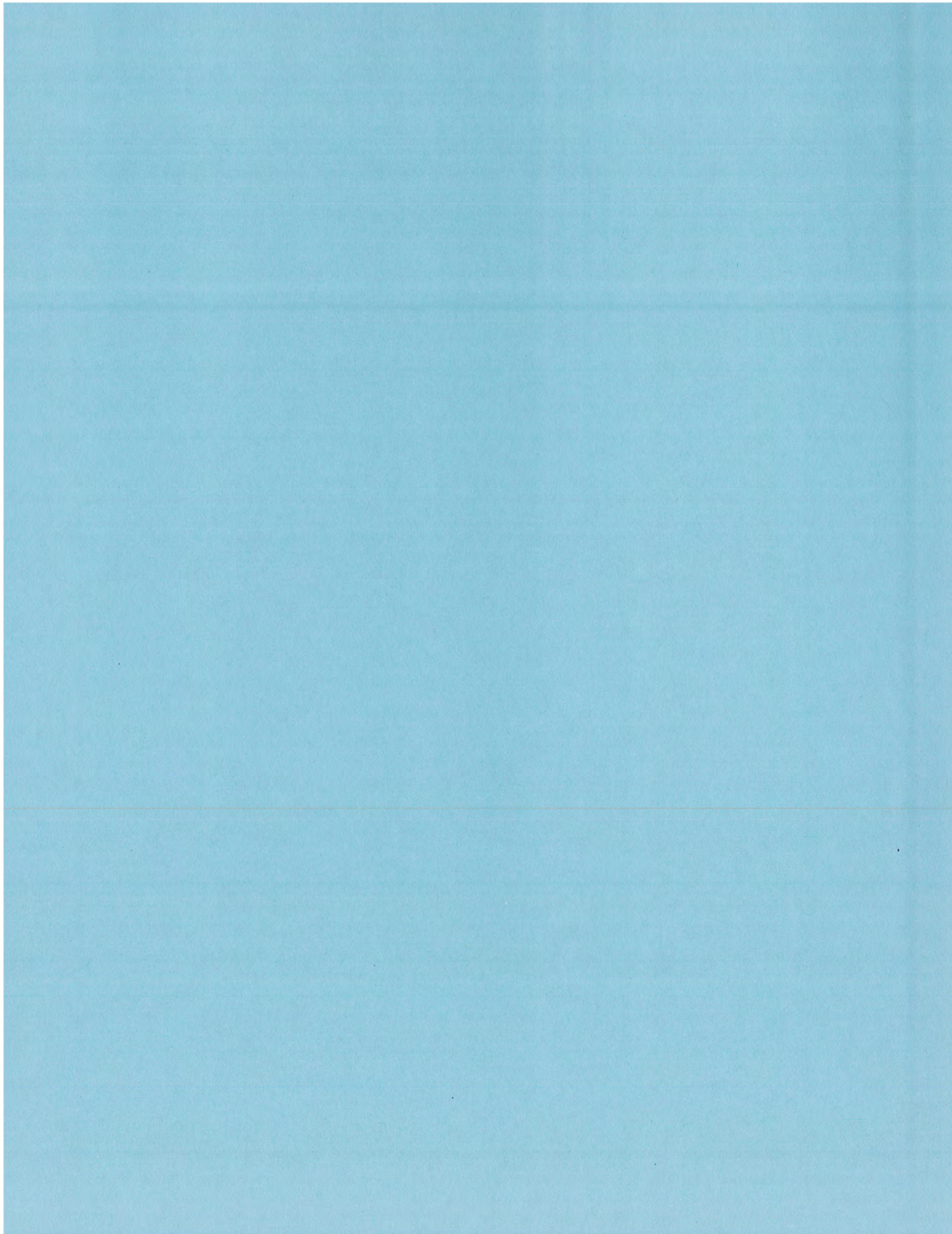
- Leachate removal and site maintenance and monitoring activities were conducted at the Pollution Abatement Services (PAS) site (Site), in Oswego, NY by OBG Operations LLC (OBG) consistent with the PAS Site Operation, Maintenance and Long-term Monitoring Plan (Work Plan).
- A total of 59,905 gallons of leachate were removed from the Site during the period of July, August and September 2017. Specific quantities of leachate removed included 20,005 gallons in July, 20,005 gallons in August and 19,895 gallons in September. Details of the leachate removal for each month, along with historical leachate removal documentation are described in this progress report.
- During the months of July – September 2017, leachate was pumped monthly from the PAS Site. The leachate was pumped into the City of Oswego East Side Wastewater Treatment Plant in accordance with City of Oswego Industrial User Permit no. 6-2017-18.
- Quarterly groundwater elevation monitoring was performed on August 8, 2017. Quarterly groundwater elevation monitoring results for the SWW- series monitoring wells (SWW-1 through SWW-12), leachate collection wells (LCW-1 through LCW-4), M-series wells (M-21 through M-23), LR-series wells (LR-2, 3, 6 and 8), LD-series wells (LD-3, 4, 5, 6, and 8), along with wells OS-1, OS-3, OI-1, OD-3 and LS-6 were recorded on the Pre-Pumping Well Monitoring Level Form. (Attachment A-1)
- Site maintenance activities were conducted monthly in combination with the monthly leachate removal event. The Site Inspection Checklist was used to document the land cap, leachate discharge system, leachate collection system and general Site conditions. (Attachment A-2) Monthly Site maintenance activities included the following:
  - Inspected the perimeter security fence of the Site. No discrepancies were reported at the time of the inspection.
  - The Site single French drainage system and two (2) concrete troughs were visually inspected and cleared of grass. No discrepancies were reported at the time of the inspection.
  - Visually inspected the Site slurry-wall containment vegetated cap for signs of burrowing vermin or surface anomalies. No discrepancies were reported at the time of the inspection. Mowing of the surface grass was performed the week of July 11, 2017.

- Visually inspected the leachate collection system pumping equipment to verify proper operation. The field technician inspected each pump control panel to ensure control systems were generally free of rodents and insects, and were properly operating. The leachate holding tank was visually inspected for integrity, as were the leachate tanks steel protective roof, and wood structure. LCW4 stopped working during the September 6, 2017 removal activity due to bad contact. Contact was repaired. No other discrepancies were reported at the time of the inspection.
- The Site wooden utility shed and leachate pumping equipment, including centrifuge discharge pump, flow meter, suction hose, pump oils levels, heat trace power panel, interior lighting, exterior and interior shed structure, and main power distribution panel were inspected. No discrepancies were reported at the time of the inspection.
- On July 11, August 8, and September 6, 2017, OBG performed the monthly pre-pumping collection system inspection for leachate collection wells LCW-1, 2, 3 & 4, along with inspection of the leachate discharge pumping system. Observations were recorded on the Site Inspection Checklist. In advance of each leachate removal event, OBG informed the City of Oswego POTW of the anticipated discharge. (Attachment A-2)
- Upon completing the monthly leachate collection system inspections, OBG manually energized the four leachate collection pumps, identified as LCW-1, LCW-2, LCW-3, and LCW-4, in order to pump the planned volume of leachate into the leachate collection tank. The run time from each leachate collection pump, along with the leachate tank level taken upon completion of well pumping, was recorded on the Leachate Disposal Checklist. (Attachment A-3)
- During the months of July, August and September 2017, OBG pumped a combined total of 59,905 gallons of leachate from LCW 1, 2, 3 & 4 into the leachate collection tank and then then into the City of Oswego POTW. The volume and flow rate of each leachate discharge was recorded onto the Leachate Disposal Checklist, as was leachate water pH, and temperature. The amount discharged was recorded onto the Leachate Disposal Checklist. No leachate was shipped to Auburn New York during the period. Therefore, no bill of lading was generated in this period. (Attachment A-3)
- Upon completing each monthly leachate discharge the tank suction hoses were placed back into the leachate hold tank and the leachate pump system was shut down and prepared for storage. The concrete leachate hold tank was secured, as was the wooden maintenance shed. Upon the completion of monthly Site activities, the Site metal access gates were closed and padlocked.
- The PAS Oswego Site quarterly discharge report for the 3rd quarter of 2017 for the City of Oswego was submitted on October 10, 2017 in accordance with Permit 6-2017-18. The quarterly report to the City of Auburn was submitted on September 11, 2017. The quarterly reports for Auburn do not follow annual quarters. Therefore the quarterly report for Auburn included June, July and August 2017. (Attachment A-4)

**DOCUMENTATION OF REMOVAL ACTIVITIES FOR PREVIOUS QUARTER**

- The Groundwater Pre-Pumping Well Monitoring Level Form for August 8, 2017 is attached to this report. (Attachment A-1)
- The Site Inspection Checklist for July 11, August 8 and September 6, 2017 are attached to this report. (Attachment A-2)
- The Leachate Disposal Checklist for the July 11, August 8 and September 6, 2017 are attached to this report. (Attachment A-3)
- The PAS POTW Quarterly Discharge reports submitted on September 11, 2017 to the City of Auburn and the report submitted to the City of Oswego on October 10, 2017 are attached to this report. (Attachment A-4)





A – 1  
PREPUMPING GROUNDWATER  
ELEVATION DATA

O'Brien & Gere Operation (O'Brien & Gere)  
 PAS Oswego Site  
 Oswego, New York  
 Pre-Pumping Well Monitoring Levels

Date - 8/8/2017

Technician -

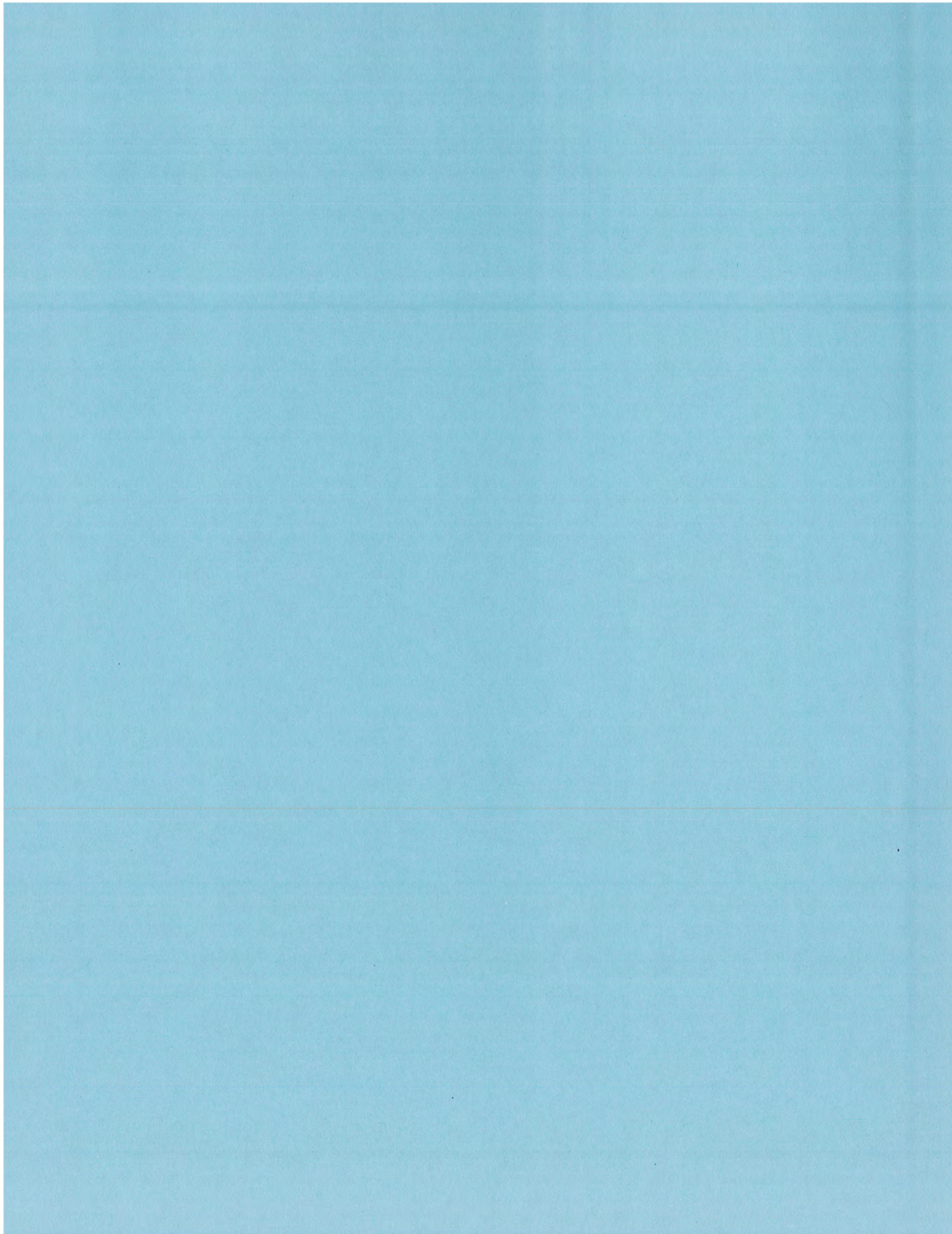
Martin Koennecke

Month -

August

Well		Well Range Verification			Monthly Onsite Field Measurements				NOTES	
Number	Riser Elevation	Average Well Level	Low Well Level	High Well Level	Well Level (1st) Check	Well Level (2nd) Check	Well Within Range (based on historical well range data) YES NO			Well Level Check (3rd) (if "NO" & well is not within targeted range)
SWW1	289.33	10.57	9.98	11.16	9.58	9.58		✓	9.58	
SWW2	289.37	15.90	15.62	16.36	14.88	14.88		✓	14.88	
SWW3	286.50	17.14	16.76	17.60	16.52	16.52		✓	16.52	
SWW4	283.60	16.86	15.72	18.00	15.18	15.18		✓	15.18	
SWW5	277.02	13.29	12.26	14.92	13.68	13.68	✓			
SWW6	273.06	9.75	9.15	11.36	8.40	8.40		✓	8.40	
SWW7	277.93	8.32	7.92	8.64	7.52	7.52		✓	7.52	
SWW8	278.24	7.36	4.89	9.90	3.86	3.86		✓	3.86	
SWW9	285.55	17.79	17.45	18.70	17.26	17.26		✓	17.26	
SWW10	280.43	15.18	12.72	17.24	11.12	11.12		✓	11.12	
SWW11	273.50	9.43	8.42	11.08	9.88	9.88	✓			
SWW12	272.82	13.43	11.45	15.74	10.78	10.78		✓	10.78	
LCW-1	272.21	9.04	7.50	10.84	9.74	9.74	✓			
LCW-2	274.44	11.29	9.76	13.08	11.98	11.98	✓			
LCW-3	284.36	18.02	17.74	18.50	17.71	17.71		✓	17.71	
LCW-4	285.70	17.82	17.10	18.48	17.24	17.24	✓			
OS-1	272.10	13.29	11.36	16.48	9.82	9.82		✓	9.82	
OI-1	272.00	13.64	12.40	16.08	10.20	10.20		✓	10.20	
OS-3	277.89	16.88	15.58	18.40	15.42	15.42		✓	15.42	
OD-3	277.85	16.72	15.45	18.20	15.24	15.24		✓	15.24	
LD-3	278.62	7.64	5.24	10.26	4.22	4.22		✓	4.22	
LD-4	279.25	14.22	12.14	16.22	11.38	11.38		✓	11.38	
LD-5	272.94	14.16	12.14	16.38	11.28	11.28		✓	11.28	
LS-6	274.14	14.26	12.58	16.32	12.16	12.16		✓	12.16	
LD-6	274.03	13.54	11.68	15.80	11.64	11.64		✓	11.64	
LD-8	272.83	10.02	8.90	11.28	8.54	8.54		✓	8.54	
LR-2	289.85	14.70	13.56	15.70	13.55	13.55		✓	13.55	
LR-3	278.06	9.75	8.54	11.40	7.68	7.68		✓	7.68	
LR-6	274.39	11.92	10.78	13.70	10.32	10.32		✓	10.32	
LR-8	273.42	11.41	10.47	12.88	10.16	10.16		✓	10.16	
M-21	272.32	11.03	10.06	12.42	9.72	9.72		✓	9.72	
M-22	273.88	11.88	10.74	13.66	10.32	10.32		✓	10.32	
M-23	270.49	13.69	13.10	14.54	12.42	12.42		✓	12.42	





A – 2  
SITE INSPECTION  
CHECKLIST



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 7-11-17

Time 8:45

Field Technician MARTIN KOENIGKE

Weather Conditions overcast 70°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		None visible
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		OK
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		off
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK



17-11-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured		
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	Yes
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORKIN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	OK
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

Pumped 20,005 gallons leachate to Oswego PTOW  
 STARTED BRUSH Hogging LANDFILL CAP.  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 8-8-17

Time 7:25

Field Technician MARTIN KOENIGSKE

Weather Conditions P-Sunny 65°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISABLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		OK
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		YES
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		YES
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		YES
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		YES
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		OFF
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		YES
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK

8-8-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	yes
Pump power panel(s) secured	✓	yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	Work In Progress
Perimeter security fence intact & free of damage	✓	yes
Site access driveway inspected & free on snow & damage	✓	yes
Security access gates / Padlock & chain serviceable	✓	yes
Site gate signage intact		
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	yes
Spill control material inspected & adequate	✓	yes
PPE available and utilized as required	✓	yes
Emergency contact information posted within shed	✓	yes

Additional remarks (use separate sheet is required)

Pumped 20,005 leachate to Oswego POTW  
 Cleared vegetation + completed quarterly well levels





Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 9-6-17

Time 7:30

Field Technician MARTIN KOENNECKE

Weather Conditions OVERCAST 59°

Check  (tasks completed in each event)

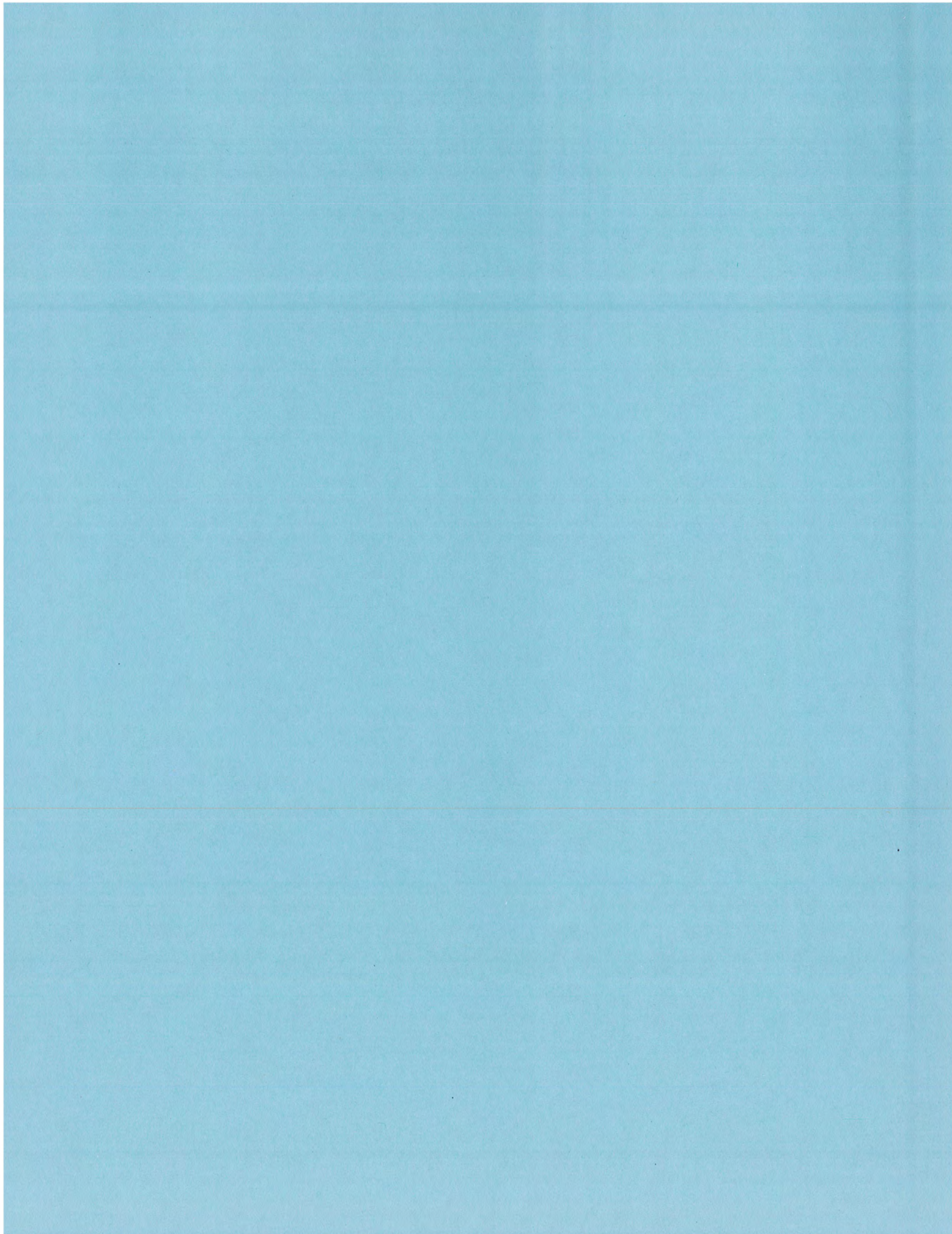
Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
<b>Land Cap</b>			
Signs of burrowing vermin	✓		NONE VISABLE
Land cap irregularities (note anomaly)	✓		OK
French drainage system clear and function able	✓		OK
Concrete trough clear and function able	✓		STARTED CLEARING VEGETATION
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	✓		Yes
Discharge Pump inspected & operational	✓		Yes
Discharge pump oil level verified prior to use.	✓		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	✓		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	✓		off
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	✓		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	✓		OK

9-6-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

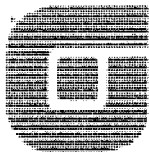
Additional remarks (use separate sheet is required)

Pumping 20,000 gal. Leachate To Oswego POTW  
 Weeds Trimming AROUND SHED AND TANK  
 STARTED CLEARING VEGETATION AWAY FROM CONCRETE TROUGH  
 LCW-4 well Pump quit working GREEN CONTROL BOX AT  
 Well Bussing ; BAD CONTACT ON Pump STARTER RELAY





A – 3  
LEACHATE DISCHARGE FORM



**O'BRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 7-11-17

Time: 8:45

Field Technician MARTIN KOENIGKE

Weather Conditions overcast 70°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:50	10:00 / Intermittent	START 12"		
LCW-2	8:50	9:00	After Pump out 10"		
LCW-3	8:50	10:00 / Intermittent	3.5" = 19,390		19,390
LCW-4	8:50	10:00 / Intermittent			
Total					

START Pump 9:50 20 min TO PRIME

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	10:10	14:05	6.8	54°	850250	870255	20,005
Discharge #2							
Total							20,005

	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



**OBRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 8-8-17

Time: 7:25

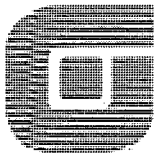
Field Technician MARTIN Koennecke

Weather Conditions P-Sunny 65°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:35	11:30	10" START		20,285
LCW-2	8:35	11:30	20,285 - 175 min = 116 GPM		
LCW-3	8:35	8:45			
LCW-4	8:35	11:30	END AFTER PUMPOUT - 10"		
				Total	20,285

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:50	13:45	6.8	54°	870255	890260	20,005
Discharge #2					235:20005 = 85 GPM		
Total							20,005
	<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							





Leachate Disposal Checklist

Former Pollution Abatement Services (PAS Oswego)  
Oswego, NY

Date: 9-6-17

Time: 7:30

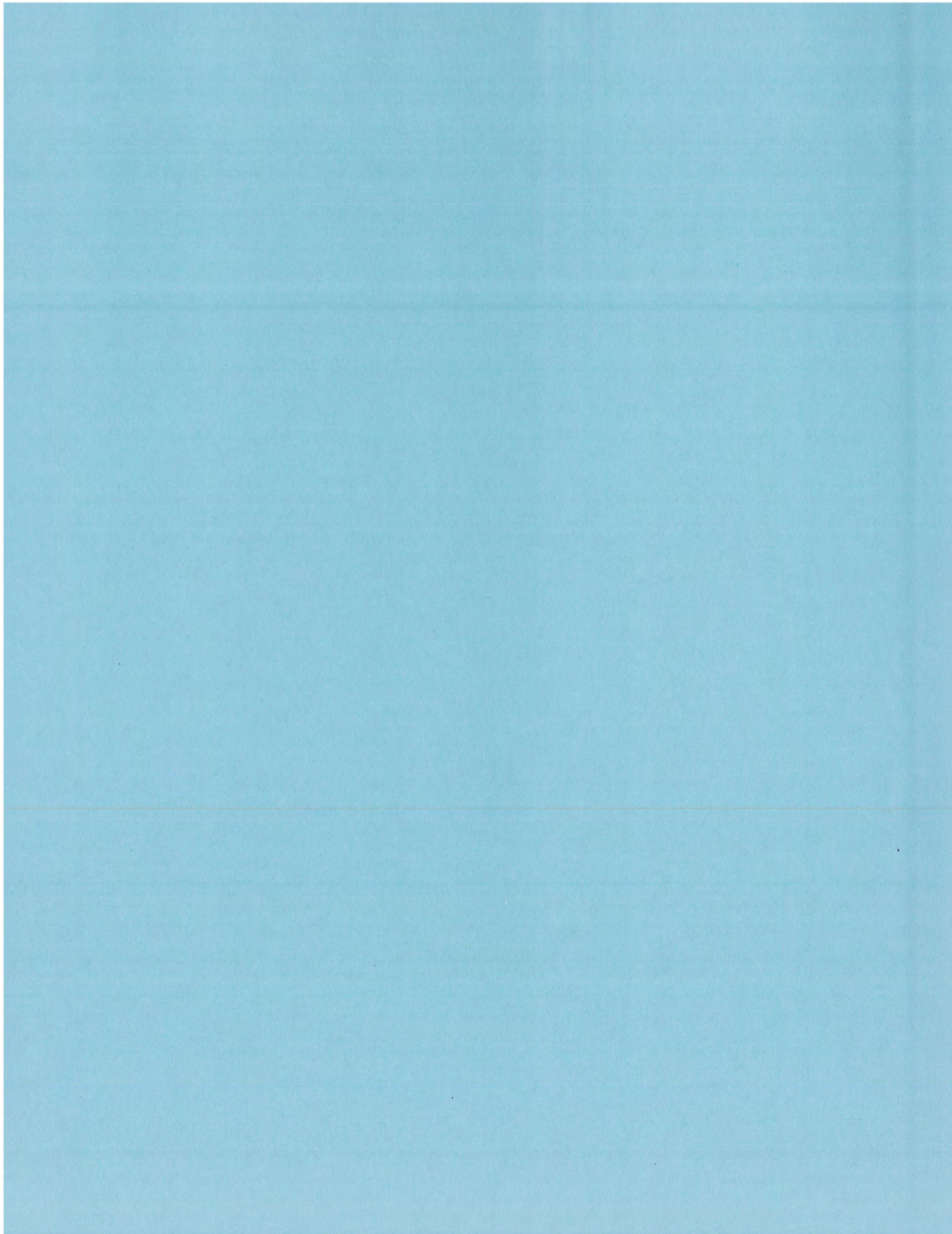
Field Technician MARTIN KOENIGS

Weather Conditions OVERCAST 59°

Beginning Leachate Hold Tank Elevation (Inches)	Pre-Discharge Well Pumping					
	Pumping Well #	Pump Start Time	Pump Stop Time	Ending Tank Elevation	Flow Rate (est.)	Est. Leachate Pumped into Holding Tank (Gallons)
10"	LCW-1	7:40	9:00 Intermittent		133 GPM	17,455 - Pumped
	LCW-2	7:40	9:00 Intermittent			+2,440 - in Tank
	LCW-3	7:40	7:50			
Pump Issues	LCW-4	7:40	9:00 intermittent till 13:30			
$9:00 = 45'' \cdot 10'' = 35'' = 10695' = 80 \text{ min} = 133 \text{ GPM}$						Total
						19,895

Post Pump out Tank Level 2"

Discharge #	Monthly Leachate Discharge Pumping (To the City of Oswego)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:00	13:30	6.8	54°	890260	910155	19,895
Pump Info	Flow Rate (GPM)	Prime Time	Pump Pressure	Pump Vacuum			
		840-9:00					Pump Lost Prime
Sample #1	Semi-Annual Leachate Discharge Sampling (Per the City of Oswego Permit)						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	



A – 4  
POTW QUARTERLY DISCHARGE  
REPORTS





***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865) 691-5052  
(865) 691-6485 FAX  
(865) 691-9835 ACCT. FAX

September 11, 2017

Mr. Tim O'Brien  
Department of Municipal Utilities  
35 Bradley Street  
Auburn, New York 13021

**Re: 3rd Quarter PAS Oswego Progress Report 2017**

Dear Mr. O'Brien,

This letter confirms that the PAS Oswego Site has not shipped or discharged any wastewater from the PAS Oswego collection system to the City of Auburn POTW during June – August 2017. This has been due to the EPA allowance of an alternate disposal method.

- **Cumulative gallons removed for discharge in Auburn 3rd Qtr. 2017 - 0**
- **Cumulative gallons removed for discharge in Auburn over 2017 - 0**

Since no wastewater was shipped or discharged to Auburn during the 3rd quarter, no analytical testing was required. However, we continue to perform Site maintenance and sampling activities under the Operation, Monitoring and Maintenance Program for the Site approved by EPA. The data associated with that program indicate little change in the characteristics of the Site wastewater.

Please contact me at (865) 691-5052, if you have any questions.

Sincerely,  
***de maximis, inc.***

Clay McClarnon

CMC/dlb

cc: PAS Management Committee

September 11, 2017

Mr. Timothy L. O'Brien  
Industrial Pretreatment Coordinator  
35 Bradley Street  
Auburn, NY 13021

**Re: Industrial Pretreatment Program  
Zero Discharge Certification Statement:**

Dear Mr. O'Brien

For the reporting quarter(s) of January 2017 to August 2017, I certify that for Pollution Abatement Services located in Oswego New York:

1. There have been no changes to any of our processes resulting in the potential for the discharge from the process waste stream.
2. No discharge of process wastewater has occurred since December 7, 2017.

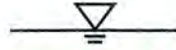
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Clay McClarnon  
Name

Project Coordinator  
Title

  
Signature

September 11, 2017    (865) 691-5052  
Date                                  Phone



***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865) 691-5052  
(865) 691-6485 FAX  
(865) 691-9835 ACCT. FAX

***Via electronic mail***

October 10, 2017

Mr. Robert L. Johnson  
City Engineer Technician  
13 W. Oneida  
City Hall  
Oswego, New York 13126  
darcher@oswegony.gov

**Re: Quarterly Discharge Report – 3rd Quarter 2017  
Pollution Abatement Services Site – Oswego, New York  
City of Oswego Wastewater Discharge Permit 6-2017-18**

Dear Mr. Johnson:

This quarterly report is submitted in accordance with the City of Oswego Wastewater Discharge Permit 6-2017-18 (Permit) for discharge of leachate from the Pollution Abatement Services (PAS) Site into the City of Oswego's Eastside Wastewater Treatment Facility. This report covers the reporting period from July 2017 through September 2017.

The PAS Site discharged a total of 59,905 gallons of leachate to the Oswego sewer system during the third quarter of 2017.

Discharge to City of Oswego July 2017 – September 2017 59,905 gallons

If you need additional information please call me at (865) 691-5052.

Sincerely,  
***de maximis, inc.***

  
Clay McClarnon

cc: Gary Hallinan – City of Oswego  
PAS Oswego Site Management Committee

F:\PROJECTS\3131 - PAS\Permits-POTW 10\2017\Oswego\3rd Qtr\Oswego 3rd Qtr 2017 rpt.doc



**TABLE 1 - PAS OSWEGO SITE QUARTERLY REPORT FOR CITY OF OSWEGO (2017)  
LEACHATE DISCHARGE TO OSWEGO EASTSIDE WASTEWATER TREATMENT FACILITY  
(Oswego SIU Wastewater Discharge Permit No.6-2017-18)**

<i>Discharge Quarter</i>	<b>1Q 2017</b>		<b>2Q 2017</b>		<b>3Q 2017</b>			
	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>		
	1/7/17	10,010	4/4/17	10,005	7/11/17	20,005		
	42/6.8		45/6.8		54/6.8			
	2/15/17	10,005	5/3/17	20,005	8/8/17	20,005		
	44/6.8		46/6.8		54/6.8			
	3/7/17	10,005	6/8/17	20,005	9/6/17	19,895		
	42/6.8		53/6.8		54/6.8			
<b>Total Discharged</b>		30,020		50,015		59,905		
<b>Date Sampled*</b>	<b>Permit Limit</b>	3/7/2017 ***						
<b>Analytes</b>	<b>mg/L</b>	<b>mg/L</b>						
Antimony	0.107	0.00075						
Arsenic	0.358	0.0166						
Beryllium	0.107	ND <0.0003						
Cadmium	0.43	ND <0.001						
Chromium (total)	0.67	ND <0.007						
Copper	0.43	0.0197						
Cyanide	0.67	ND <0.010						
Lead	0.19	<0.0016						
Mercury	0.0002	NA						
Nickel	0.69	0.296						
Selenium	0.282	0.005						
Silver	0.65	ND <0.001						
Thallium	0.073	ND <0.0003						
Zinc	1	0.0052						
VOC**		NA						
SVOC**		NA						
BOD 5	200	ND <13.3						
TSS	400	64						
Phenolics	0.375	0.0626						
pH	5> and <10	6.6						

\* Semi-annual sampling of PAS leachate discharge conducted in accordance with SIU Wastewater Discharge Permit No.6-2017-18.

\*\* Analytes included for permit pollutant analysis performed every three years

\*\*\* Sample taken by City of Oswego

Analyte values in bold exceed limit

## ATTACHMENT I





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 7-11-17

Time: 8:45

Field Technician MARTIN KOENIGKE

Weather Conditions overcast 70°

Well Pump	Pre-Discharge Well Pumping				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:50	10:00 / Inteam. not START 12"			
LCW-2	8:50	9:00	After Pump out 10"		
LCW-3	8:50	10:00 / Inteam. 3.5" = 19390			19390
LCW-4	8:50	10:00 / Inteam. not			
Total					

START Pump 9:50 20 min TO PRIME

Discharge #	Leachate Discharge Pumping (Monthly)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	10:10	14:05	6.8	54°	850250	870255	20,005
Discharge #2							
Total							20,005
	Leachate Discharge Sampling (Semi-Annually)						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 8-8-17

Time: 7:25

Field Technician MARTIN Koennecke

Weather Conditions P. Sunny 65°

Well Pump	Pre-Discharge Well Pumping				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:35	11:30	10" START		20,285
LCW-2	8:35	11:30	20,285 - 175 gpm = 116 GPM		
LCW-3	8:35	8:45			
LCW-4	8:35	11:30	END After Pumpout - 10"		
Total					20,285

Discharge #	Leachate Discharge Pumping (Monthly)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:50	13:45	6.8	54°	890255	890260	20,005
Discharge #2					235:2005 =	85 GPM	
Total							20,005

	Leachate Discharge Sampling (Semi-Annually)					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



**O'BRIEN & GERE**

Leachate Disposal Checklist

Former Pollution Abatement Services (PAS Oswego)  
Oswego, NY

Date: 9-6-17

Time: 7:30

Field Technician MARTIN KOENIG

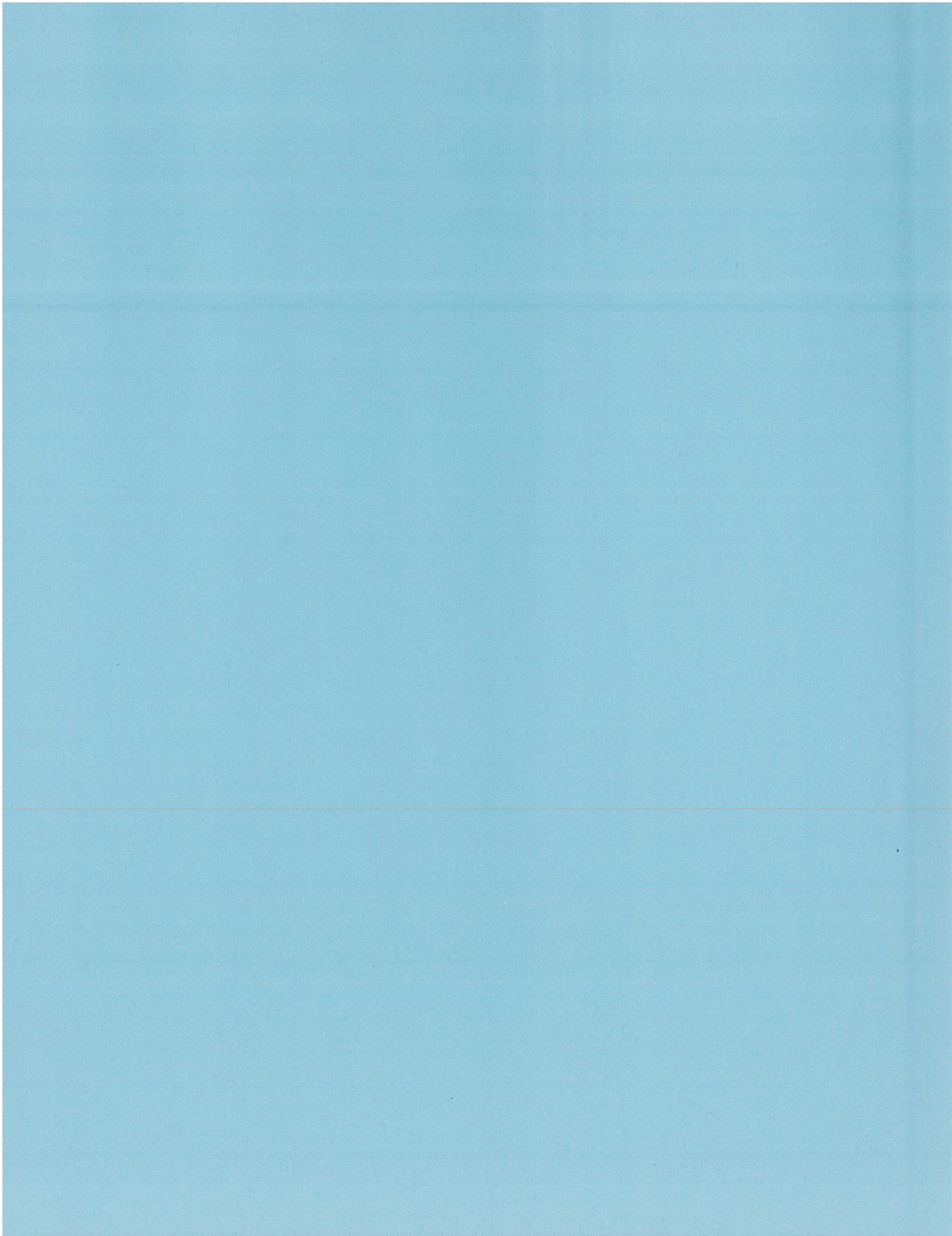
Weather Conditions OVERCAST 59°

Beginning Leachate Hold Tank Elevation (inches)	Pre-Discharge Well Pumping					
	Pumping Well #	Pump Start Time	Pump Stop Time	Ending Tank Elevation	Flow Rate (est.)	Est. Leachate Pumped into Holding Tank (Gallons)
10"	LCW-1	7:40	9:00	Intermittent	133 GPM	17,455 - Pumped
	LCW-2	7:40	9:00	Intermittent		+2,440 - in tank
	LCW-3	7:40	7:50			
Pump Issues	LCW-4 LCW-4	7:40	9:00	intermittent till 13:30		
$9:00 - 45'' - 10'' = 35'' = 10.675' \times 80 \text{ min} = 133 \text{ GPM}$						Total
						19,895

Post Pump out Tank level 2"

Discharge #	Monthly Leachate Discharge Pumping (To the City of Oswego)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:00	13:30	6.8	54°	890260	910155	19,895
Pump Info	Flow Rate (GPM)	Prime Time	Pump Pressure	Pump Vacuum			
		8:40 - 9:00					Pump Lost Prime
Sample #1	Semi-Annual Leachate Discharge Sampling (Per the City of Oswego Permit)						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	







II – B  
4TH QUARTER REPORT 2017

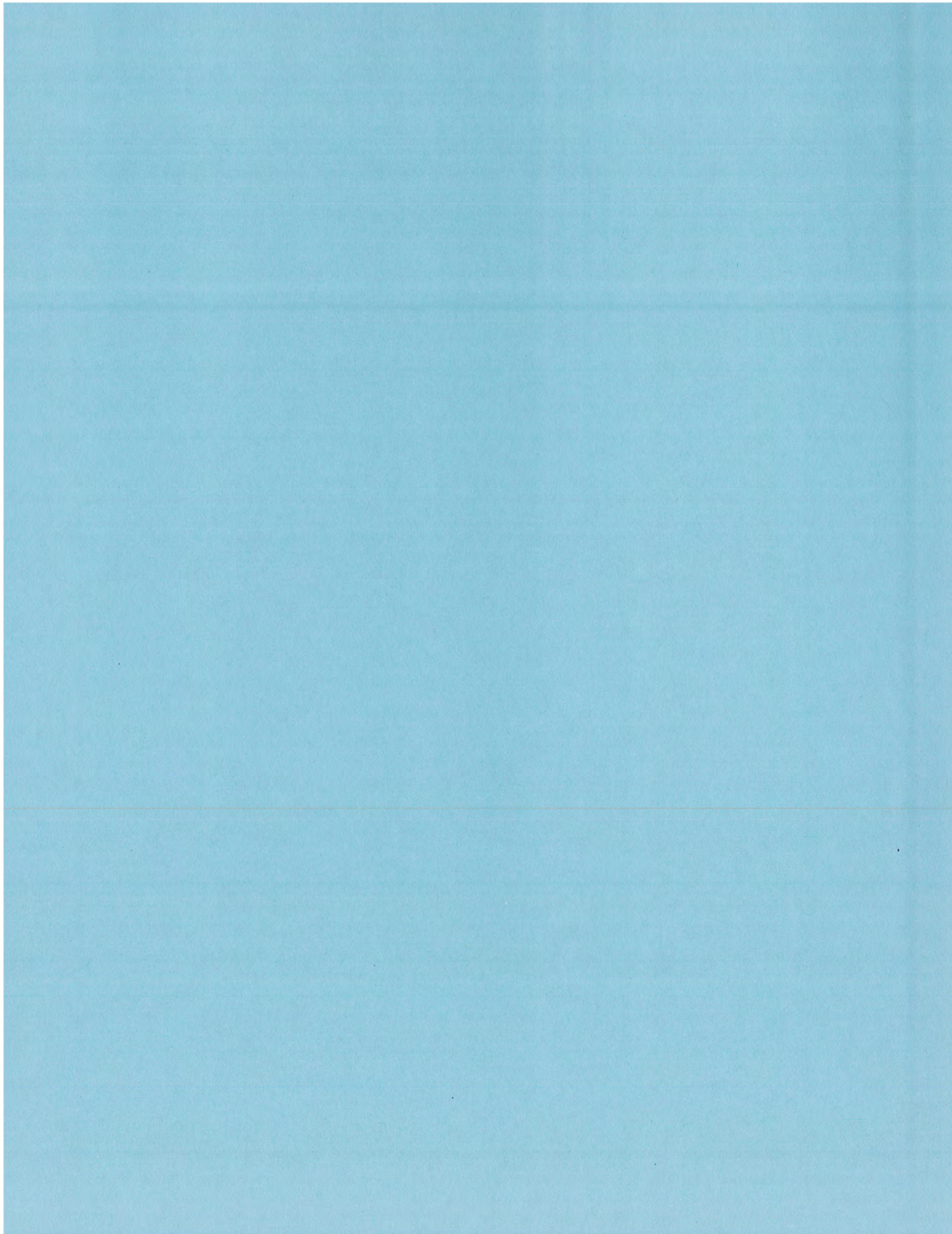
B – 1  
PREPUMPING  
GROUNDWATER  
ELEVATION DATA

**O'Brien Gere Operation  
PAS Site  
Oswego, New York  
Pre-Pumping Monitoring Well Levels**

11/13/2017

Well Number	Ground Elevation	Riser Elevation	November 2017			Within Range?				Ground-Water Elevation
			Reading 1	Reading 2	Reading 3	Average	Low	High	Y / N	
SWW1	286.20	289.33	8.64	8.64	8.64	9.82	8.62	11.62	Yes	280.69
SWW2	286.30	289.37	15.3	15.30	15.30	16.45	15.75	17.40	No	274.07
SWW3	286.00	286.50	16.52	16.52	16.52	17.40	16.60	17.96	No	269.98
SWW4	282.90	283.60	13.83	13.83	13.83	15.10	13.44	17.12	Yes	269.77
SWW5	275.90	277.02	13.45	13.45	13.45	13.61	12.55	14.66	Yes	263.57
SWW6	270.90	273.06	8.27	8.27	8.27	8.77	7.95	9.58	Yes	264.79
SWW7	273.30	277.93	7.9	7.90	7.90	8.81	8.02	9.43	No	270.03
SWW8	275.70	278.24	3.8	3.80	3.80	6.05	3.94	11.38	No	274.44
SWW9	283.30	285.55	17.32	17.32	17.32	18.83	17.48	20.06	No	268.23
SWW10	279.30	280.43	10.05	10.05	10.05	12.80	9.71	18.65	Yes	270.38
SWW11	271.00	273.50	9.8	9.80	9.80	9.99	8.81	11.48	Yes	263.70
SWW12	270.20	272.82	8.5	8.50	8.50	11.72	8.70	15.36	No	264.32
LCW-1	271.40	272.21	9.54	9.54	9.54	9.74	8.20	10.98	Yes	262.67
LCW-2	272.60	274.44	11.8	11.80	11.80	11.99	10.44	13.22	Yes	262.64
LCW-3	283.30	284.36	17.6	17.60	17.60	18.14	17.40	19.56	Yes	266.76
LCW-4	283.80	285.70	17.92	17.92	17.92	18.87	16.64	19.80	Yes	267.78
OS-1	269.63	272.10	8.4	8.40	8.40	12.46	8.60	16.60	No	263.70
OI-1	269.14	272.00	11.1	11.10	11.10	12.80	11.14	15.26	No	260.90
OS-3	274.63	277.89	13.56	13.56	13.56	16.29	13.92	18.58	No	264.33
OD-3	274.96	277.85	13.4	13.40	13.40	16.13	13.76	18.42	No	264.45
LD-3	275.80	278.62	4.18	4.18	4.18	6.88	4.32	11.77	No	274.44
LD-4	276.30	279.25	10.22	10.22	10.22	12.77	9.85	17.15	Yes	269.03
LD-5	270.02	272.94	8.8	8.80	8.80	12.95	9.10	15.86	No	264.14
LS-6	271.40	274.14	9.56	9.56	9.56	13.34	10.25	15.78	No	264.58
LD-6	270.09	274.03	9.9	9.90	9.90	11.87	10.12	13.88	No	264.13
LD-8	269.90	272.83	6.8	6.80	6.80	10.06	7.15	15.38	No	266.03
LR-2	287.50	289.85	12.63	12.63	12.63	13.69	12.70	14.96	No	277.22
LR-3	275.50	278.06	7.4	7.40	7.40	9.21	7.80	12.00	No	270.66
LR-6	270.90	274.39	10.06	10.06	10.06	11.18	10.05	12.72	Yes	264.33
LR-8	270.00	273.42	9.62	9.62	9.62	10.90	9.45	12.84	Yes	263.80
M-21	270.28	272.32	9.24	9.24	9.24	10.52	9.17	12.50	Yes	263.08
M-22	270.40	273.88	10.05	10.05	10.05	11.17	10.00	12.62	Yes	263.83
M-23	267.98	270.49	12.22	12.22	12.22	12.93	12.25	14.25	No	258.27





B – 2  
SITE INSPECTION  
CHECKLIST



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 10-3-17

Time 7:15

Field Technician Martin Koenig

Weather Conditions SUNNY 50°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NOPE USABLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OK
French drainage system clear and function able	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes
Concrete trough clear and function able	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Vegetation in Trough
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OIL ADDED
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	off
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	OK

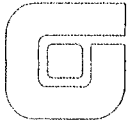


10-3-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORKIN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	OK
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

Pumped 20,000 gal To Oswego POTW  
 CLEARED ROAD SIDE FENCE LINE OF VEGETATION  
 WEED WHACKED AROUND SHED AND TANK



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 11-15-17

Time 7:45

Field Technician MARTIN KOENIGKI

Weather Conditions clear, 30°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISIBLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		OK
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		Yes
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK

11-15-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	work in progress
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	yes
Security access gates / Padlock & chain serviceable	✓	OK
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	OK
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

Quarterly well Levels, Semi Annual well sampling  
 10,000 gallons Leachate Pumped To City of Oswego POTW  
 Semi Annual Leachate samples taken





Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 12-5-17

Time 8:00

Field Technician MARTIN KOENIGKE

Weather Conditions RAIN / 46°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
<b>Land Cap</b>			
Signs of burrowing vermin	✓		NONE VISABLE
Land cap irregularities (note anomaly)	✓		OK
French drainage system clear and function able	✓		OK
Concrete trough clear and function able	✓		Yes
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	✓		Yes
Discharge Pump inspected & operational	✓		Yes
Discharge pump oil level verified prior to use.	✓		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	✓		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	✓		ON
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	✓		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	✓		OK

12-5-17

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	Yes
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

Pumped Leachate To Holding Tank  
 Pumped 10,000 gallons Leachate To City of Oswego

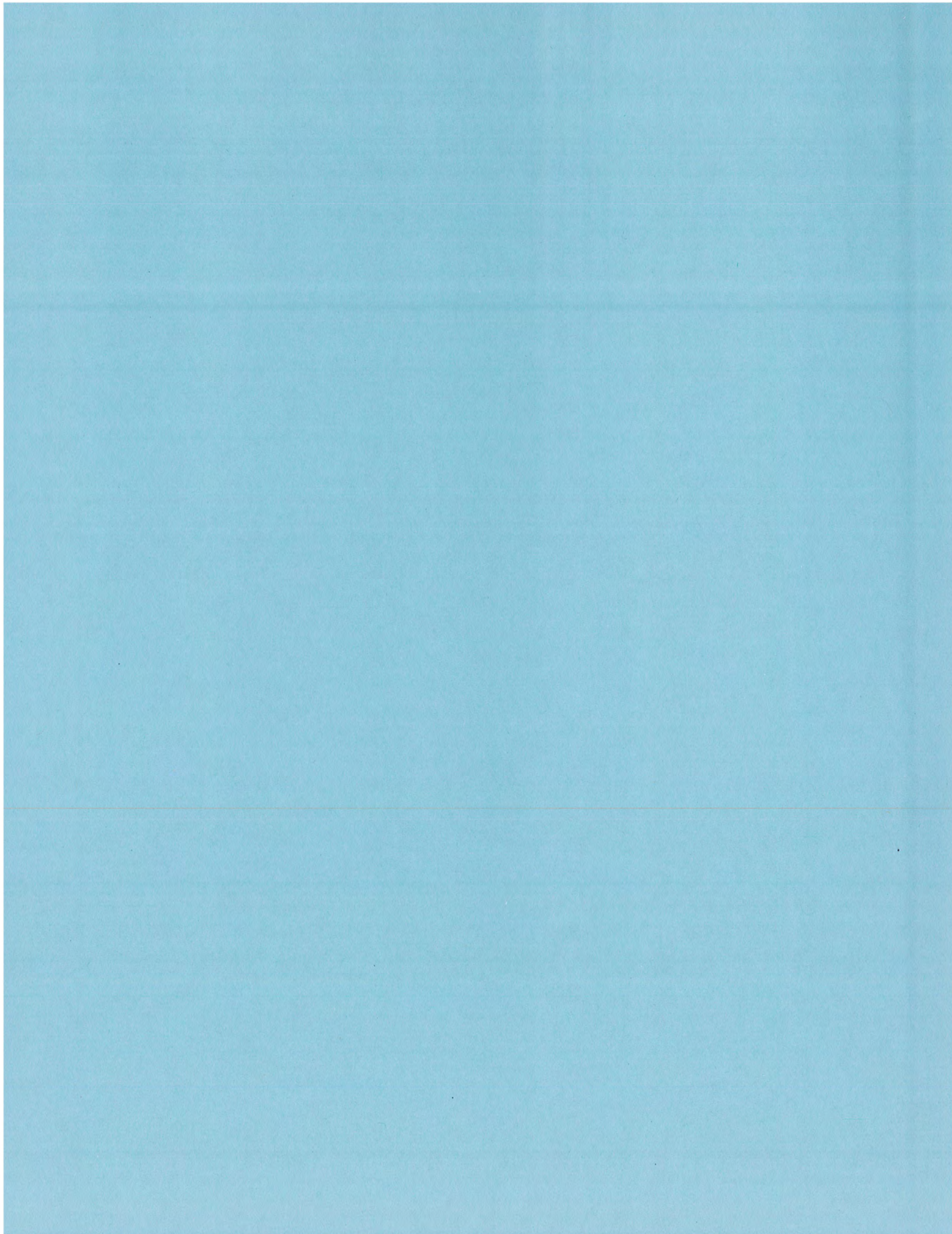
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B – 3  
LEACHATE DISCHARGE  
FORM



**OBRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 10-3-17

Time: 7:15

Field Technician MARTIN KOENNECKE

Weather Conditions Sunny 50°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:20	INTERRUPTED 12:30			22,440
LCW-2	7:20	TOTAL INTERRUPTED 12:30			
LCW-3	—	NOT PUMPED			
LCW-4	7:20	INTERRUPTED 12:30			
Total					22,440

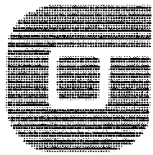
START - 4"

END 12"

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:40	13:35	6.8	54°	910155	930160	20,005
Discharge #2							
Total							20,005

*Leachate Discharge Sampling (Semi-Annually)*

	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 11-15-17

Time: 7:45

Field Technician MARTIN KOENNECKE

Weather Conditions Clear 30°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:55	9:05	START - 12"	END 43"	9455
LCW-2	7:55	9:05		135 GPM	
LCW-3	NOT PUMPED				
LCW-4	7:55	9:05			
Total					9455

*9455 / 70 min = 135 GPM / Tank AFTER-11"*

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:30	11:30	6.7	48.5	930160	940165	10,005
Discharge #2							
Total							10,005
	<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1	11-15-17	Sample Point	Composite	11:15	6.7	48.5	
Sample #2 (if required)							





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 12-5-17

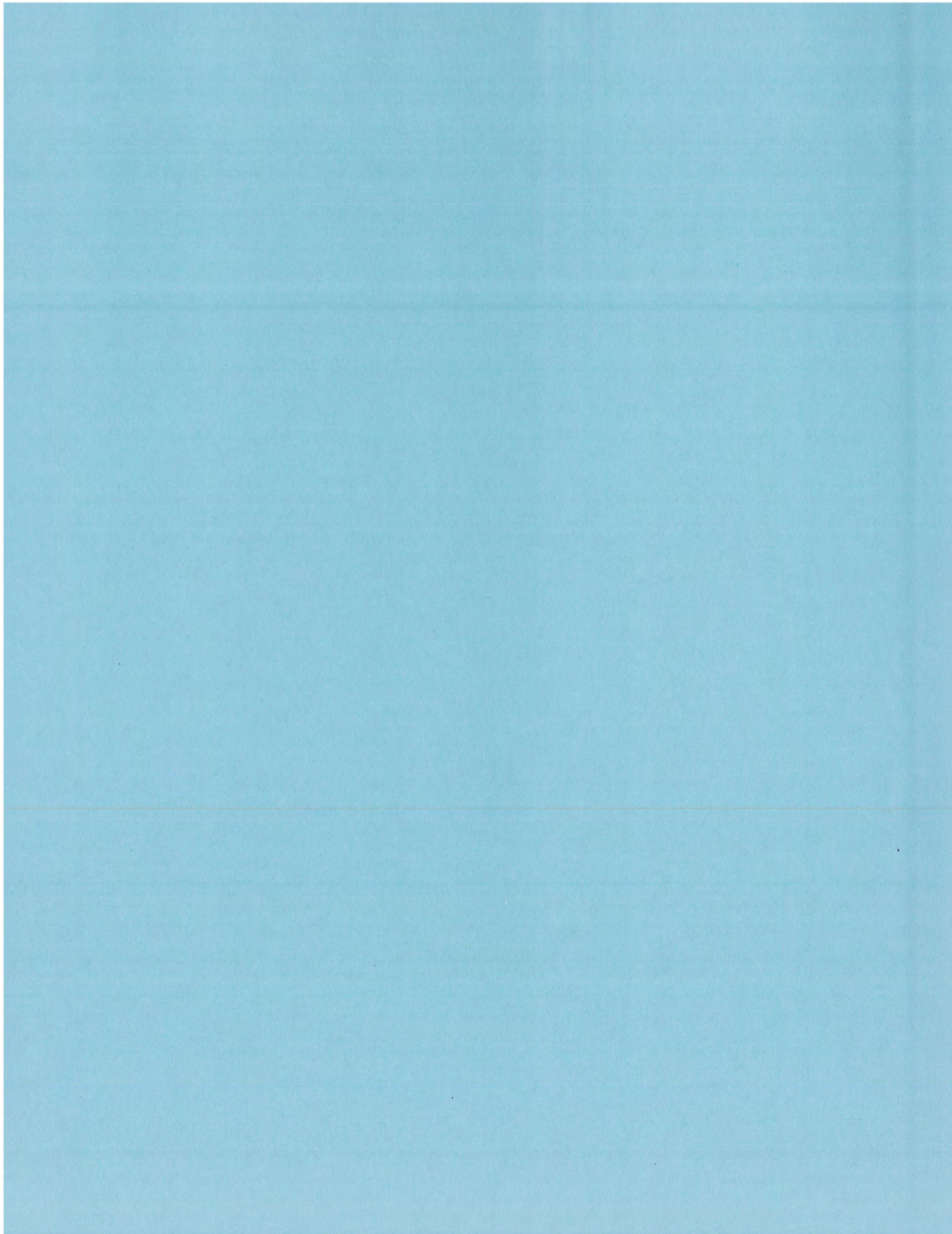
Time: 8:00

Field Technician MARTIN KOENNECKE

Weather Conditions RAIN 46°

Well/Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:00	9:20	START-10"	STOP-43"	10065
LCW-2	8:00	9:20		125 GPM	
LCW-3	8:00	8:10			
LCW-4	8:00	9:20			
Total					10065

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:45	11:45	6.7	54°	940165	950165	10,000
Discharge #2							
Total		83.3 GPM					10,000
START PUMP 9:00 FINISHED @ 9:45 <i>Leachate Discharge Sampling (Semi-Annually)</i>							
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							



B – 4  
SEMIANNUAL LEACHATE  
AND GROUNDWATER  
MONITORING DATA



**DATA VALIDATION**

**FOR**

**WATER MONITORING  
PAS Oswego  
OSWEGO, NEW YORK**

**ORGANIC ANALYSIS DATA  
Volatiles in Water  
Laboratory Job No.  
1718799**

**Analyses Performed**

**By:**

**Life Sciences Laboratory  
East Syracuse, NY**

**For:**

**de maximis, inc.  
Knoxville, TN 37919**

**Data Validation By:**

**ddms, inc.  
St. Paul, Minnesota 55108**

**March 28, 2018**

## EXECUTIVE SUMMARY

Validation of the volatile organics analysis data prepared by Life Sciences Laboratories, Inc. for eight water samples, one equipment blank, and one trip blank supporting the PAS Oswego Semi Annual Well Sampling event has been completed by de maximis Data Management Solutions, Inc. (ddms). The data were reported by the laboratory under Laboratory Job No. 1718799. The following samples were reported:

---

Equipment Blank	M-21	OD-3	LR-8	X-1
QC Trip Blank	LCW-2	LCW-4	M-22	LR-6

---

Based on the validation effort, the following qualifiers were applied:

- The results for methylene chloride in all samples, chloroform in Equipment Blank and LCW-2 and acetone in M-21, LR-8, and LCW-2 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater.

All other results were determined to be valid as reported. Details of the validation findings and conclusions based on review of the results for each quality control requirement are provided in the remaining sections of this report.

Documentation issues are discussed in Section XIII.

This report should be considered part of the data package for all future distributions of the volatiles data.

## INTRODUCTION

Analyses were performed in accordance with USEPA SW-846 Method 8260C. This method does not stipulate a reporting format, however, the laboratory provided a "CLP-type" data package for review. Results of sample analyses were reported by the laboratory without qualifications.

Since no validation guidelines specific to the analytical method employed are available, ddms' validation was performed, to the extent possible, in conformance with EPA's "Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8260B & 8260C, SOP NO. HW-24, Revision 4" as well as ddms' "Standard Operating Procedure: Validation and Review of Volatile Organic Data; ECS-SOP-003". Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. An initial assumption is that the data package is presented in accordance with the CLP requirements (or "CLP-like," as in this case). It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the Region II Guidelines:

- U     The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- J     The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+    The result is an estimated quantity, but the result may be biased high.
- J-    The result is an estimated quantity, but the result may be biased low.
- NJ    The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- R     The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) Criteria. The analyte may or may not be present in the sample.



These codes are recorded on the Data Summary Forms contained in Attachment A of this validation report to indicate qualifications placed on the results based on the data review.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.

## I. Holding Times, Preservation and Sample Integrity

A copy of the applicable chain of custody (COC) record was included in the data package, documenting sample collection dates of November 13 and 14, 2017. The samples were hand delivered to the laboratory on November 14, 2017. The temperature of the cooler on receipt at the laboratory was acceptable (2.4° C; criteria 4.0° C  $\pm$  2.0° C). Acceptable preservation of samples (pH <2) was noted in the narrative. The samples were analyzed on November 16, 2017, within the 14-day holding time for preserved samples.

## II. GC/MS Instrument Performance Check

Summary forms were provided for two bromofluorobenzene (BFB) instrument performance check run on instrument "MS04\_73", representing the periods during which the samples and associated standards were analyzed. The performance checks were fully documented and acceptable.

## III. Calibration

Manual integrations were indicated on the IC quantitation reports for several analyte responses, however no supporting documentation was provided to verify that the integrations were appropriately performed. The validation was completed under the assumption that all manual integrations were appropriately performed.

### A. Initial Calibration (IC)

One IC was performed in support of these sample analyses. Documentation of the individual IC standards was present in the data package and relative response factors (RRFs) as well as percent relative standard deviation (%RSD) values were accurately reported. All reported %RSD values were below the maximum acceptance limit of 20 percent for all site-specific compounds. All RRF met the method minimum acceptance criteria, with the exception of the RRFs in acetone (0.052) and 2-butanone (0.075). The RSDs over the ical for acetone and 2-butanone were <15% indicating linear responses, and based on professional judgement, no qualification of sample results was made.

### B. Continuing Calibration (CC)

One CC was performed on November 16, 2017. All RRF values were acceptable. All percent difference values were acceptable with the exception with the exception of chloromethane and methyl acetate which exhibited an increase in sensitivity from the IC. Since these compounds were not detected in any of the samples, no data were qualified on this basis.

#### **IV. Blanks**

One laboratory method blank was analyzed in support of these samples. One trip blank and one equipment blank were submitted in support of these samples. Methylene chloride (0.630ug/L) and chloroform (0.160 ug/L) were detected in the method blank.

The results for methylene chloride in all samples and chloroform in Equipment Blank and LCW-2 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, due to method blank contamination.

Following qualification based on method blank contamination, acetone was detected in both the trip blank and equipment blank. The results for acetone in M-21, LR-8, and LCW-2 were qualified as not detected (U) at the reporting limit due to trip and equipment blank contamination.

#### **V. Surrogate Compound Recovery**

Recoveries of all of the surrogate compounds were correctly calculated, accurately reported, and within acceptance limits.

#### **VI. Spike Analysis**

##### A. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were performed on LR-6. All percent recoveries were acceptable with the exception of dichlorodifluoromethane, chloromethane and methyl acetate. In all instances the %R was biased high (acceptance criteria 70-130%R, RPD<30). These compounds were not detected in any samples and no qualification of sample results was warranted.

##### B. Laboratory Control Sample (LCS)

One LCS was reported with these samples. All percent recoveries were acceptable with the exception of dichlorodifluoromethane, chloromethane and methyl acetate. In all instances the %R was biased high (acceptance criteria 70-130%R). These compounds were not detected in any samples and no qualification of sample results was warranted.



## **VII. Field Duplicate**

Sample OD-3 was collected as a blind field duplicate of Sample X-1. Following qualification based on blank results, no target analytes were detected in either sample and precision could not be assessed.

## **VIII. Internal Standard Performance**

All internal standard (IS) areas and retention times were within quality control limits for the applicable analyses.

## **IX. Target Compound Identification**

Target analytes were detected in most samples and an acceptable mass spectrum was provided for the compounds detected. Analyte-specific reporting limits are equal to at least the lowest standard in the calibration range, in most cases higher than the lowest standard, and are well supported by the IC.

## **X. Compound Quantitation and Reporting Limits**

Target compound concentrations and RLs were correctly calculated and accurately reported for all samples and spike samples.

The Data Summary Forms in Attachment A list all individual sample analytes. Where no result is listed, the compound was not detected and the RL was not qualified. Sample-specific RLs may be calculated from the information on the data summary form by multiplying the quantitation limit (far left column) by the dilution factor.

## **XI. Tentatively Identified Compounds (TIC)**

Tentative identification of non-target compounds was not a requirement of this analytical program.

## **XII. System Performance**

The analytical system appears to have been working satisfactorily at the time of these analyses, based on evaluation of the available raw data.

### **XIII. Documentation**

The chain-of-custody record was present and accurately completed for the samples reported in this data package.

The following documentation issues were observed during the validation of these data:

- The sample identifications on the COC did not include the sample date. The laboratory appended the sample dates to the field identifications to facilitate database requirements. The sample identifications provided on the COC have been used throughout this report.

While these documentation issues do not affect the usability of the data, they could be problematic if the data were used in litigation.

### **XIV. Overall Assessment**

Based on the validation effort, the following qualifiers were applied:

- The results for methylene chloride in all samples and chloroform in Equipment Blank and LCW-2 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, due to method blank contamination.
- The results for acetone in M-21, LR-8, and LCW-2 were qualified as not detected (U) at the reporting limit or reported value, whichever is greater, due to trip and equipment blank contamination.

All other results are valid as reported.

Documentation issues observed in the data package are described in Section XIII.

This validation report should be considered part of the data package for all future distributions of the volatiles data.

**ATTACHMENT A**

**DATA SUMMARY FORMS  
Laboratory Job No. 1718799  
Volatiles in Water**



Field ID	Equipment Blank	LCW-2	LCW-4	LR-6
Sample Date	11/13/2017	11/14/2017	11/14/2017	11/14/2017
DF	1	5	20	1
Compound	RL			
1,1,1-Trichloroethane	0.5		24.9	
1,1,2,2-Tetrachloroethane	0.5		2.75	
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5		3.15	
1,1,2-Trichloroethane	0.5		0.80	J
1,1-Dichloroethane	0.5		35.4	4.00 J 0.85
1,1-Dichloroethene	0.5			
1,2,4-Trichlorobenzene	0.5			
1,2-Dibromo-3-chloropropane	0.5			
1,2-Dibromoethane	0.5			
1,2-Dichlorobenzene	0.5		4.25	24.0
1,2-Dichloroethane	0.5			
1,2-Dichloropropane	0.5			
1,3-Dichlorobenzene	0.5			
1,4-Dichlorobenzene	0.5			
2-Butanone	10.0			
2-Hexanone	10.0			
4-Methyl-2-pentanone	10.0			
Acetone	0.5	1.00		U
Benzene	0.5		320	444
Bromodichloromethane	0.5			
Bromoform	0.5			
Bromomethane	1.0			
Carbon disulfide	0.5			
Carbon tetrachloride	0.5			
Chlorobenzene	0.5		67.0	289
Chloroethane	1.0		11.1	71.6
Chloroform	0.5	U	4.65	U
Chloromethane	1.0			
cis-1,2-Dichloroethene	0.5		167	3.60 J 0.11 J
cis-1,3-Dichloropropene	0.5			
Cyclohexane	0.5			4.80 J
Dibromochloromethane	0.5			
Dichlorodifluoromethane	1.0			
Ethylbenzene	0.5		13.2	179
Isopropylbenzene	0.5		2.25	3.60 J
Methyl acetate	5.0			
Methyl tert-butyl ether	1.0			
Methylcyclohexane	0.5			
Methylene chloride	2.0	U	U	U U
Styrene	0.5			
Tetrachloroethene	0.5		103	
Toluene	0.5		1.00	J 48.2
trans-1,2-Dichloroethene	0.5		0.50	J
trans-1,3-Dichloropropene	0.5			
Trichloroethene	0.5		31.4	0.16 J
Trichlorofluoromethane	1.0			
Vinyl chloride	1.0		108	8.00 J
Xylenes (total)	0.5		10.8	927

Field ID		LR-8	M-21	M-22	OD-3
Sample Date		11/13/2017	11/13/2017	11/14/2017	11/13/2017
DF		1	1	1	1
Compound	RL				
1,1,1-Trichloroethane	0.5				
1,1,2,2-Tetrachloroethane	0.5				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5				
1,1,2-Trichloroethane	0.5				
1,1-Dichloroethane	0.5			0.30	J
1,1-Dichloroethene	0.5				
1,2,4-Trichlorobenzene	0.5				
1,2-Dibromo-3-chloropropane	0.5				
1,2-Dibromoethane	0.5				
1,2-Dichlorobenzene	0.5	0.42	J	0.46	J
1,2-Dichloroethane	0.5				
1,2-Dichloropropane	0.5				
1,3-Dichlorobenzene	0.5	0.12	J		
1,4-Dichlorobenzene	0.5	0.73		0.33	J
2-Butanone	10.0				
2-Hexanone	10.0				
4-Methyl-2-pentanone	10.0				
Acetone	0.5		U		U
Benzene	0.5	0.26	J	0.22	J
Bromodichloromethane	0.5				
Bromoform	0.5				
Bromomethane	1.0				
Carbon disulfide	0.5				
Carbon tetrachloride	0.5				
Chlorobenzene	0.5	12.1		5.68	
Chloroethane	1.0	4.12		1.91	
Chloroform	0.5				
Chloromethane	1.0				
cis-1,2-Dichloroethene	0.5				
cis-1,3-Dichloropropene	0.5				
Cyclohexane	0.5	2.05		1.39	
Dibromochloromethane	0.5				
Dichlorodifluoromethane	1.0				
Ethylbenzene	0.5				
Isopropylbenzene	0.5	0.48	J	0.46	J
Methyl acetate	5.0				
Methyl tert-butyl ether	1.0				
Methylcyclohexane	0.5	0.20	J	0.15	J
Methylene chloride	2.0		U		U
Styrene	0.5				
Tetrachloroethene	0.5				
Toluene	0.5	0.26	J	0.21	J
trans-1,2-Dichloroethene	0.5				
trans-1,3-Dichloropropene	0.5				
Trichloroethene	0.5				
Trichlorofluoromethane	1.0				
Vinyl chloride	1.0				
Xylenes (total)	0.5	0.35	J		

Field ID		X-1		QC Trip Blank	
Sample Date				11/14/2017	
DF				1	
Compound	RL				
1,1,1-Trichloroethane	0.5				
1,1,2,2-Tetrachloroethane	0.5				
1,1,2-Trichloro-1,2,2-trifluoroethane	0.5				
1,1,2-Trichloroethane	0.5				
1,1-Dichloroethane	0.5				
1,1-Dichloroethene	0.5				
1,2,4-Trichlorobenzene	0.5				
1,2-Dibromo-3-chloropropane	0.5				
1,2-Dibromoethane	0.5				
1,2-Dichlorobenzene	0.5				
1,2-Dichloroethane	0.5				
1,2-Dichloropropane	0.5				
1,3-Dichlorobenzene	0.5				
1,4-Dichlorobenzene	0.5				
2-Butanone	10.0				
2-Hexanone	10.0				
4-Methyl-2-pentanone	10.0				
Acetone	0.5			1.11	
Benzene	0.5				
Bromodichloromethane	0.5				
Bromoform	0.5				
Bromomethane	1.0				
Carbon disulfide	0.5				
Carbon tetrachloride	0.5				
Chlorobenzene	0.5				
Chloroethane	1.0				
Chloroform	0.5				
Chloromethane	1.0				
cis-1,2-Dichloroethene	0.5				
cis-1,3-Dichloropropene	0.5				
Cyclohexane	0.5				
Dibromochloromethane	0.5				
Dichlorodifluoromethane	1.0				
Ethylbenzene	0.5				
Isopropylbenzene	0.5				
Methyl acetate	5.0				
Methyl tert-butyl ether	1.0				
Methylcyclohexane	0.5				
Methylene chloride	2.0		U		U
Styrene	0.5				
Tetrachloroethene	0.5				
Toluene	0.5				
trans-1,2-Dichloroethene	0.5				
trans-1,3-Dichloropropene	0.5				
Trichloroethene	0.5				
Trichlorofluoromethane	1.0				
Vinyl chloride	1.0				
Xylenes (total)	0.5				





SEMIANNUAL  
FIELD DATA  
NOVEMBER 2017



**Life Science Laboratories, Inc.**  
**Central Lab**

5854 Butternut Drive  
 East Syracuse, New York 13057  
 (315) 445-1105

**Chain of Custody**

Client: OBG Operations						Analysis/Method							
Project ID: PAS Oswego -						<i>8260c Vol</i>							
Sampled by: Martin Koennecke													
Client Contact: Mark Byrne			Phone # 315-842-7024										
<b>Sample Description</b>													
Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers								Comments
Equipment Blank	11-13-17	11:30	W	G	3	3							
M-21	11-13-17	12:20	W	G	3	3							
OD-3	11-13-17	13:40	W	G	3	3							
LR-8	11-13-17	14:45	W	G	3	3							
X-1	11-13-17	—	W	G	3	3							
LR-6, MS, MSD	11-14-17	10:00	W	G	9	9							
M-22	11-14-17	11:30	W	G	3	3							
LCW-2	11-14-17	12:25	W	G	3	3							
LCW-4	11-14-17	13:35	W	G	3	3							
QC Trip Blank			W		2	2							
Relinquished by: <i>Martin Koennecke</i>						Date: 11-14-17		Time: 15:30		Received by:		Date: _____ Time: _____	
Relinquished by:						Date: _____		Time: _____		Received by:		Date: _____ Time: _____	
Relinquished by:						Date: _____		Time: _____		Received by Lab: <i>R. D. ...</i>		Date: 11-14-17 Time: 15:30	
Shipment Method: <i>HAND</i>						Airbill Number: _____							

Turnaround Time Required:  
 Routine   X    
 Rush \_\_\_\_\_

Comments: PO #:

Samples Received  
 On Ice Cooler Temperature:   2.4°C



**Life Science Laboratories, Inc.**  
**Central Lab**

5854 Butternut Drive  
 East Syracuse, New York 13057  
 (315) 445-1105

**Chain of Custody**

Client: OBG Operations						Analysis/Method								
Project ID: PAS Oswego - <i>Semi Annual City of Oswego Permit</i>						<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 604 TSS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 605</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">OIL GREASE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CYANIDE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TKN</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BOD CRU</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METALS</div> </div> <div style="text-align: right;">       Temp - 48.5°        PH - 6.7     </div>								
Sampled by: Martin Koennecke														
Client Contact: Mark Byrne Phone # 315-842-7024														
<b>Sample Description</b>														
Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers									
<i>Lena Lake Effluent</i>	<i>11-15-17</i>	<i>11:15</i>	<i>WWTW</i>	<i>Comp</i>	<i>10</i>	<i>3</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
<i>GC TRIP BLANK</i>			<i>W</i>		<i>2</i>	<i>2</i>								
Relinquished by: <i>Martin Koennecke</i> Date: <i>11-15-17</i> Time: <i>1435</i>						Received by:						Date:	Time:	
Relinquished by:						Received by:						Date:	Time:	
Relinquished by:						Received by Lab: <i>Ryan Vanderwerker</i>						Date: <i>11-15-17</i>	Time: <i>1435</i>	
Shipment Method: <i>HAND</i>						Airbill Number:								

Turnaround Time Required:  
 Routine   X    
 Rush           

Comments: PO #:

Samples Received:  
 On Ice

Cooler Temperature:   2.0°C



START - 1300

LCW-4

11-14-17

Time	Depth to Water	Temperature C	pH	Conductivity $\mu S/cm$	ORP	DO (%) $mg/L$	Turbidity (NTU)	Flow Rate
5 min	17.92	12.39	5.70	2,395	-212.4	3.22	3.43	300ml
10 min	17.92	12.68	5.85	2,470	-223.1	1.42	2.59	300ml
15 min	17.92	12.82	5.86	2,472	-222.1	0.86	2.46	300ml
20 min	17.92	12.84	5.88	2,477	-220.8	0.87	2.52	300ml
25 min	17.92	12.85	5.87	2,476	-219.1	0.83	2.62	300ml
30 min	17.92	12.85	5.88	2,477	-219.5	0.81	2.58	300ml

WATER SAMPLE

Time Collected: 1335

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	Yellowish	Yellowish
Odor	Slight	Slight
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	3	—	HCL	—

NOTES

PID - 3.6 PPM

Date	11-14-17	Weather	Overcast 40°
Site Name	PAS Oswego	Well #	LCW-4
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Koemanek		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft 17.92	2" Diameter Well	= 0.163 X LWC	
Length of Water Column	ft	4" Diameter Well	= 0.653 X LWC	
Volume of Water in Well	gal	6" Diameter Well	= 1.469 X LWC	
3x Volume of Water in Well	gal	14" Diameter Well	= 2.282 X LWC	X

Volume removed before Sampling	gals
Did Well go dry?	N/P

Measurements Taken From:  Well Casting  Protective Casting  Other:

INSTRUMENT CALIBRATION

pH Buffer Readings	Conductivity Standard Ratings
4.0 Standard	84 S Standard
7.0 Standard	1413 S Standard
10.0 Standard	

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

Date	11-14-17	Weather	overcast 40°
Site Name	PAS Oswego	Well #	LCW-2
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Kucinski		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft 11.80	2" Diameter Well	= 0.163 X LWC	
Length of Water Column	ft <del>11</del>	4" Diameter Well	= 0.653 X LWC	
Volume of Water in Well	gal	6" Diameter Well	= 1.469 X LWC	
3x Volume of Water in Well	gal	14" Diameter Well	= 2.282 X LWC	X

Volume removed before Sampling	gals
Did Well go dry?	

Measurements Taken From:  Well Casting  Protective Casting  Other:

INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

START- 11:50 LCW-2

Time	Depth to Water	Temperature C	pH	Conductivity ms/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate
5min	11.80	13.01	6.50	1,781	-266.4	0.74	1.63	300ml
10min	11.80	12.99	6.61	1,763	-277.3	0.50	1.67	300ml
15min	11.80	13.04	6.64	1,757	-279.0	0.46	1.68	300ml
20min	11.80	13.03	6.70	1,751	-277.1	0.44	1.72	300ml
25min	11.80	13.05	6.70	1,746	-278.2	0.42	1.78	300ml
30min	11.80	13.02	6.70	1,745	-279.1	0.40	1.76	300ml

WATER SAMPLE 1

Time Collected: 12:25

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	clear
Odor	slight	slight
Turbidity <100 (NTU)	no	no
Sheen/Free Product	no	no

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40ml	glass	3	—	HCL	—

NOTES

PID - 12.0 PPM



Date	11-14-17	Weather	overcast 40°
Site Name	PAS Oswego	Well #	M-22
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Keenbeck		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	10.05	2" Diameter Well	= 0.163 X LWC
Length of Water Column	ft		4" Diameter Well	= 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well	= 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well	= 2.282 X LWC

Volume removed before Sampling	gals	3
Did Well go dry?		no

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
--------------------------	--	---	---------------------------------

INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

START 10:50

17-22

11-14-17

Time	Depth to Water	Temperature C	pH	Conductivity ms/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate
5 min	10.05	12.14	6.44	1.365	-255.4	7.44	12.4	300 ml
10 min	10.05	12.23	6.36	1.367	-251.0	6.37	9.54	300 ml
15 min	10.05	12.24	6.36	1.367	-249.7	6.18	8.21	300 ml
20 min	10.05	12.26	6.34	1.368	-247.2	5.70	6.02	300 ml
25 min	10.05	12.22	6.35	1.366	-244.8	5.35	4.96	300 ml
30 min	10.05	12.10	6.35	1.363	-241.9	5.04	3.66	300 ml
35 min	10.05	12.06	6.36	1.361	-240.9	4.99	3.17	300 ml
40 min	10.05	12.06	6.36	1.361	-240.5	4.98	3.16	300 ml

WATER SAMPLE

Time Collected: 11:30

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	clear
Odor	NO	NO
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	3	—	HCL	—

NOTES

PID - 0.0 PPM

START 915 LR-6 11-14-17

Time	Depth to Water	Temperature C	pH	Conductivity ms/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate
5min	11.62	10.91	6.15	1.031	-291.6	0.48	21.2	302 ml/min
10min	11.38	10.58	6.17	1.132	-300.3	0.27	18.1	300
15min	11.40	10.62	6.28	1.138	-306.4	0.27	18.9	300
20min	11.44	10.60	6.30	1.145	-308.5	0.25	11.8	300
25min	11.45	10.59	6.28	1.143	-309.1	0.25	8.8	300
30min	11.45	10.58	6.31	1.145	-310.7	0.24	7.18	300
35min	11.45	10.60	6.31	1.146	-309.2	0.25	7.26	300
40min	11.45	10.60	6.31	1.146	-308.9	0.24	7.20	300

WATER SAMPLE 10:00

Time Collected: 10:00

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	clear
Odor	NO	NO
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
46 ml	glass	9	—	HCL	—

NOTES

MS / MSD samples collected

PID - 0.0 PPM

Date	11-14-17	Weather	OVERCAST 35°
Site Name	PAS Oswego	Well #	LR-6
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Kowalski		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft 10.06	2" Diameter Well	= 0.163 X LWC	X
Length of Water Column	ft	4" Diameter Well	= 0.653 X LWC	
Volume of Water in Well	gal	6" Diameter Well	= 1.469 X LWC	
3x Volume of Water in Well	gal	14" Diameter Well	= 2.282 X LWC	

Volume removed before Sampling	gals
Did Well go dry?	

Measurements Taken From:  Well Casting  Protective Casting  Other:

INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS



Date	11-13-17	Weather	overcast 38°
Site Name	PAS Oswego	Well #	LR-8
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Kocanecke		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	9.62	2" Diameter Well	= 0.163 X LWC
Length of Water Column	ft		4" Diameter Well	= 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well	= 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well	= 2.282 X LWC

Volume removed before Sampling	gals
Did Well go dry?	

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

START - 14:10

LR-8

Time	Depth to Water	Temperature C	pH	Conductivity ms/cm	ORP	DO (%)	Turbidity (NTU)	Flow Rate
5 min	11.32	10.59	6.14	0.844	-288.1	0.17	1.19	300 ml
10 min	11.32	10.64	6.15	0.867	-289.4	0.16	0.83	300 ml
15 min	11.30	10.64	6.16	0.868	-288.4	0.16	0.87	300
20 min	11.30	10.63	6.18	0.869	-288.8	0.16	0.96	300
25 min	11.30	10.63	6.17	0.870	-289.1	0.15	0.82	300
30 min	11.30	10.63	6.17	0.870	-289.1	0.15	0.80	300

WATER SAMPLE

Time Collected: 14:45

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	
Odor	no	
Turbidity <100 (NTU)	no	
Sheen/Free Product	NO	

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	3	—	HCL	—

NOTES

PID READING 0.0 PPM

Date	11-13-17	Weather	Overcast 40'
Site Name	PAS Oswego	Well #	OD-3
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Kuenrich		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	13.40	2" Diameter Well	= 0.163 X LWC
Length of Water Column	ft		4" Diameter Well	= 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well	= 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well	= 2.282 X LWC

Volume removed before Sampling	gals
Did Well go dry?	

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

OD-3

START 13:00

Time	Depth to Water	Temperature °C	pH	Conductivity $\mu\text{S}/\text{cm}$	ORP	DO (%)	Turbidity (NTU)	Flow Rate
5min	13.95	10.88	6.33	0.128	-245.4	6.34	4.31	300
10min	13.90	10.98	6.43	0.130	-243.4	6.40	4.81	300
15min	13.92	10.99	6.27	0.134	-243.3	6.24	3.63	300
20min	13.90	11.00	6.33	0.139	-244.1	6.02	2.92	300
25min	13.90	11.02	6.31	0.141	-244.3	5.81	1.90	300
30min	13.90	11.03	6.33	0.141	-244.5	5.71	1.88	300
35min	13.90	11.03	6.33	0.142	-244.5	5.72	2.04	300

WATER SAMPLE

Time Collected: 13:40

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	
Odor	no	/
Turbidity <100 (NTU)	no	
Sheen/Free Product	no	

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	6	—	HCL	—

NOTES

PID READING 0.0 PPM

X-1 collected



Date	11-13-17	Weather	RAIN SNOW MIX 34°
Site Name	PAS Oswego	Well #	M-21
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	MARTIN KOENIG, KU		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft 9.24	2" Diameter Well	= 0.163 X LWC	
Length of Water Column	ft	4" Diameter Well	= 0.653 X LWC	
Volume of Water in Well	gal	6" Diameter Well	= 1.469 X LWC	X
3x Volume of Water in Well	gal	14" Diameter Well	= 2.282 X LWC	

Volume removed before Sampling	gals
Did Well go dry?	

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

M-21 START 11:15

Time	Depth to Water	Temperature C	pH	Conductivity ms/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate
5 min	9.24	10.77	6.05	0.786	-259.0	1.50	1.05	300 ml
10 min	9.24	10.83	6.07	0.787	-239.1	0.97	1.79	300 ml
15 min	9.24	10.80	6.05	0.786	-253.4	0.53	1.71	300 ml
20 min	9.24	10.77	6.00	0.784	-238.6	1.21	1.58	300 ml
25 min	9.24	10.76	6.04	0.784	-241.6	1.30	1.52	300 ml
30 min	9.24	10.74	6.02	0.783	-242.5	1.34	1.60	300 ml

WATER SAMPLE

Time Collected: 12:20

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	clear
Odor	NO	NO
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	3	—	HCL	—

NOTES

PID READING - 0.0 PPM

Equipment Blank sample - 11:30





**Life Science Laboratories, Inc.**

5854 Butternut Drive  
East Syracuse, NY 13057

(315) 445-1900

Tuesday, December 19, 2017

Mark Byrne  
O'Brien & Gere Operations, LLC  
7600 Morgan Road  
Liverpool, NY 13090

TEL: 315-437-6100

Project: PAS OSWEGO-SEMI-ANNUAL WELL SAMPLING

RE: Analytical Results

Order No.: 1718799

Dear Mark Byrne:

Life Science Laboratories, Inc. received 10 sample(s) on 11/14/2017 for the analyses presented in the following report. Sample results relate only to the samples as received by the laboratory.

Very truly yours,  
Life Science Laboratories, Inc.

David J Prichard  
Project Manager



SEMIANNUAL  
LAB DATA  
NOVEMBER 2017



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-001A  
**Client Sample ID:** *Equipment Blank 11/13/1*  
**Collection Date:** 11/13/17 11:30  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3802.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 15:51
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 15:51
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 15:51
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 15:51
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 15:51
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 15:51
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 15:51
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Acetone	1.00 J		10.0	1.00	µg/L	1	11/16/17 15:51
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 15:51
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 15:51
Methylene chloride	0.56 J		2.00	0.16	µg/L	1	11/16/17 15:51
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 15:51
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 15:51
Chloroform	0.13 J		0.50	0.10	µg/L	1	11/16/17 15:51
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 15:51
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 15:51
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 15:51
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 15:51
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 15:51
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 15:51
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 15:51

**Qualifiers:**  
 \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-001A  
**Client Sample ID:** *Equipment Blank 11/13/1*  
**Collection Date:** 11/13/17 11:30  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3802.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 15:51
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 15:51
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 15:51
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 15:51
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 15:51
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 15:51
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 15:51
Surr: 1,2-Dichloroethane-d4	108		75-130	0.16	%REC	1	11/16/17 15:51
Surr: Toluene-d8	101		75-125	0.10	%REC	1	11/16/17 15:51
Surr: 4-Bromofluorobenzene	90		75-125	0.10	%REC	1	11/16/17 15:51

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:03

850511

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-002A  
**Client Sample ID:** M-21 11/13/17  
**Collection Date:** 11/13/17 12:20  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3798.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 13:40
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 13:40
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 13:40
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 13:40
Chloroethane	1.91		1.00	0.33	µg/L	1	11/16/17 13:40
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 13:40
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 13:40
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Acetone	1.14 J		10.0	1.00	µg/L	1	11/16/17 13:40
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 13:40
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 13:40
Methylene chloride	0.20 J		2.00	0.16	µg/L	1	11/16/17 13:40
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 13:40
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 13:40
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 13:40
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Cyclohexane	1.39		0.50	0.10	µg/L	1	11/16/17 13:40
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Benzene	0.22 J		0.50	0.10	µg/L	1	11/16/17 13:40
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 13:40
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Methylcyclohexane	0.15 J		0.50	0.10	µg/L	1	11/16/17 13:40
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 13:40
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 13:40
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 13:40
Toluene	0.21 J		0.50	0.10	µg/L	1	11/16/17 13:40
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 13:40
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 13:40
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 13:40

**Qualifiers:**  
 \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:03

850507

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-002A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> M-21 11/13/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/13/17 12:20
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>Sample Size:</b> 10 mL
<b>ColumnID:</b> Rtx-VMS	<b>%Moisture:</b>
<b>Revision:</b> 12/18/17 7:21	<b>TestCode:</b> 8260W OLM42
<b>Col Type:</b>	<b>PrepDate:</b>
	<b>BatchNo:</b> R31672
	<b>FileID:</b> 1-SAMP-R3798.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 13:40
Chlorobenzene	5.68		0.50	0.10	µg/L	1	11/16/17 13:40
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 13:40
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 13:40
Isopropylbenzene	0.46 J		0.50	0.10	µg/L	1	11/16/17 13:40
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:40
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:40
1,4-Dichlorobenzene	0.33 J		0.50	0.16	µg/L	1	11/16/17 13:40
1,2-Dichlorobenzene	0.46 J		0.50	0.10	µg/L	1	11/16/17 13:40
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 13:40
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 13:40
Surr: 1,2-Dichloroethane-d4	108		75-130	0.16	%REC	1	11/16/17 13:40
Surr: Toluene-d8	101		75-125	0.10	%REC	1	11/16/17 13:40
Surr: 4-Bromofluorobenzene	90		75-125	0.10	%REC	1	11/16/17 13:40

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-003A  
**Client Sample ID:** OD-3 11/13/17  
**Collection Date:** 11/13/17 13:40  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3803.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 16:23
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 16:23
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 16:23
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 16:23
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 16:23
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 16:23
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 16:23
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Acetone	ND		10.0	1.00	µg/L	1	11/16/17 16:23
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 16:23
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 16:23
Methylene chloride	0.17	J	2.00	0.16	µg/L	1	11/16/17 16:23
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 16:23
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 16:23
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 16:23
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 16:23
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 16:23
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 16:23
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 16:23
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 16:23
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 16:23

**Qualifiers:**  
 \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

**Lab ID:** 1718799-003A  
**Client Sample ID:** OD-3 11/13/17  
**Collection Date:** 11/13/17 13:40  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3803.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 16:23
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 16:23
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 16:23
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 16:23
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:23
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 16:23
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 16:23
Surr: 1,2-Dichloroethane-d4	107		75-130	0.16	%REC	1	11/16/17 16:23
Surr: Toluene-d8	98		75-125	0.10	%REC	1	11/16/17 16:23
Surr: 4-Bromofluorobenzene	93		75-125	0.10	%REC	1	11/16/17 16:23

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850512

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-004A  
**Client Sample ID:** LR-8 11/13/17  
**Collection Date:** 11/13/17 14:45  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3804.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 16:55
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 16:55
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 16:55
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 16:55
Chloroethane	4.12		1.00	0.33	µg/L	1	11/16/17 16:55
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 16:55
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 16:55
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Acetone	1.49 J		10.0	1.00	µg/L	1	11/16/17 16:55
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 16:55
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 16:55
Methylene chloride	0.22 J		2.00	0.16	µg/L	1	11/16/17 16:55
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 16:55
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 16:55
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 16:55
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Cyclohexane	2.05		0.50	0.10	µg/L	1	11/16/17 16:55
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Benzene	0.26 J		0.50	0.10	µg/L	1	11/16/17 16:55
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 16:55
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Methylcyclohexane	0.20 J		0.50	0.10	µg/L	1	11/16/17 16:55
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 16:55
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 16:55
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 16:55
Toluene	0.26 J		0.50	0.10	µg/L	1	11/16/17 16:55
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 16:55
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 16:55
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 16:55

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850513

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-004A  
**Client Sample ID:** LR-8 11/13/17  
**Collection Date:** 11/13/17 14:45  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3804.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 16:55
Chlorobenzene	12.1		0.50	0.10	µg/L	1	11/16/17 16:55
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Xylenes (total)	0.35 J		1.00	0.30	µg/L	1	11/16/17 16:55
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 16:55
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 16:55
Isopropylbenzene	0.48 J		0.50	0.10	µg/L	1	11/16/17 16:55
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 16:55
1,3-Dichlorobenzene	0.12 J		0.50	0.10	µg/L	1	11/16/17 16:55
1,4-Dichlorobenzene	0.73		0.50	0.16	µg/L	1	11/16/17 16:55
1,2-Dichlorobenzene	0.42 J		0.50	0.10	µg/L	1	11/16/17 16:55
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 16:55
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 16:55
Surr: 1,2-Dichloroethane-d4	107		75-130	0.16	%REC	1	11/16/17 16:55
Surr: Toluene-d8	102		75-125	0.10	%REC	1	11/16/17 16:55
Surr: 4-Bromofluorobenzene	93		75-125	0.10	%REC	1	11/16/17 16:55

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER Q  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-005A  
**Client Sample ID:** X-1 11/13/17  
**Collection Date:** 11/13/17 0:00  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3805.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 17:28
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 17:28
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 17:28
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 17:28
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 17:28
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 17:28
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 17:28
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Acetone	ND		10.0	1.00	µg/L	1	11/16/17 17:28
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 17:28
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 17:28
Methylene chloride	0.16	J	2.00	0.16	µg/L	1	11/16/17 17:28
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 17:28
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 17:28
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 17:28
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 17:28
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 17:28
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 17:28
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 17:28
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 17:28
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 17:28

**Qualifiers:**  
 \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850514

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER Q  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-005A  
**Client Sample ID:** X-1 11/13/17  
**Collection Date:** 11/13/17 0:00  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3805.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 17:28
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 17:28
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 17:28
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 17:28
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 17:28
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 17:28
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 17:28
Surr: 1,2-Dichloroethane-d4	109		75-130	0.16	%REC	1	11/16/17 17:28
Surr: Toluene-d8	100		75-125	0.10	%REC	1	11/16/17 17:28
Surr: 4-Bromofluorobenzene	95		75-125	0.10	%REC	1	11/16/17 17:28

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850514

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-006A  
**Client Sample ID:** LR-6 11/14/17  
**Collection Date:** 11/14/17 10:00  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3797.D

**Sample Size:** NA  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 13:08
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 13:08
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 13:08
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 13:08
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 13:08
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 13:08
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 13:08
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Acetone	ND		10.0	1.00	µg/L	1	11/16/17 13:08
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 13:08
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 13:08
Methylene chloride	0.22	J	2.00	0.16	µg/L	1	11/16/17 13:08
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 13:08
1,1-Dichloroethane	0.85		0.50	0.10	µg/L	1	11/16/17 13:08
cis-1,2-Dichloroethene	0.11	J	0.50	0.10	µg/L	1	11/16/17 13:08
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 13:08
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 13:08
Trichloroethene	0.16	J	0.50	0.10	µg/L	1	11/16/17 13:08
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 13:08
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 13:08
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 13:08
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 13:08
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 13:08
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 13:08

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

853277

Project Supervisor: David J Prichard





**Life Science Laboratories, Inc.**  
 5854 Butternut Drive  
 East Syracuse, NY 13057 (315) 445-1900

**Analytical Results**

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-006A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> LR-6 11/14/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/14/17 10:00
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>Sample Size:</b> NA
<b>ColumnID:</b> Rtx-VMS	<b>%Moisture:</b>
<b>Revision:</b> 12/18/17 7:21	<b>TestCode:</b> 8260W OLM42
<b>Col Type:</b>	<b>PrepDate:</b>
	<b>BatchNo:</b> R31672
	<b>FileID:</b> 1-SAMP-R3797.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 13:08
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 13:08
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 13:08
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 13:08
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 13:08
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 13:08
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 13:08
Surr: 1,2-Dichloroethane-d4	111		75-130	0.16	%REC	1	11/16/17 13:08
Surr: Toluene-d8	100		75-125	0.10	%REC	1	11/16/17 13:08
Surr: 4-Bromofluorobenzene	92		75-125	0.10	%REC	1	11/16/17 13:08

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-007A  
**Client Sample ID:** M-22 11/14/17  
**Collection Date:** 11/14/17 11:30  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3799.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 14:12
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 14:12
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 14:12
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 14:12
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 14:12
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 14:12
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 14:12
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Acetone	ND		10.0	1.00	µg/L	1	11/16/17 14:12
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 14:12
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 14:12
Methylene chloride	0.17 J		2.00	0.16	µg/L	1	11/16/17 14:12
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 14:12
1,1-Dichloroethane	0.30 J		0.50	0.10	µg/L	1	11/16/17 14:12
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 14:12
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 14:12
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 14:12
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 14:12
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 14:12
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 14:12
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 14:12
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 14:12

**Qualifiers:**  
 \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850508

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-007A  
**Client Sample ID:** M-22 11/14/17  
**Collection Date:** 11/14/17 11:30  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3799.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 14:12
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 14:12
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 14:12
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 14:12
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 14:12
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 14:12
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 14:12
Surr: 1,2-Dichloroethane-d4	108		75-130	0.16	%REC	1	11/16/17 14:12
Surr: Toluene-d8	100		75-125	0.10	%REC	1	11/16/17 14:12
Surr: 4-Bromofluorobenzene	91		75-125	0.10	%REC	1	11/16/17 14:12

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-008A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> LCW-2 11/14/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/14/17 12:25
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>Sample Size:</b> 10 mL
<b>ColumnID:</b> Rtx-VMS	<b>%Moisture:</b>
<b>Revision:</b> 12/18/17 7:21	<b>TestCode:</b> 8260W OLM42
<b>Col Type:</b>	<b>PrepDate:</b>
	<b>BatchNo:</b> R31672
	<b>FileID:</b> 1-SAMP-R3800.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		5.00	0.50	µg/L	5	11/16/17 14:45
Chloromethane	ND		5.00	1.65	µg/L	5	11/16/17 14:45
Vinyl chloride	108		5.00	1.65	µg/L	5	11/16/17 14:45
Bromomethane	ND		5.00	1.65	µg/L	5	11/16/17 14:45
Chloroethane	11.1		5.00	1.65	µg/L	5	11/16/17 14:45
Trichlorofluoromethane	ND		5.00	0.50	µg/L	5	11/16/17 14:45
1,1-Dichloroethene	ND		2.50	0.80	µg/L	5	11/16/17 14:45
1,1,2-Trichloro-1,2,2-trifluoroethane	3.15		2.50	0.50	µg/L	5	11/16/17 14:45
Acetone	7.35 J		50.0	5.00	µg/L	5	11/16/17 14:45
Carbon disulfide	ND		2.50	0.55	µg/L	5	11/16/17 14:45
Methyl acetate	ND		25.0	5.00	µg/L	5	11/16/17 14:45
Methylene chloride	2.90 J		10.0	0.80	µg/L	5	11/16/17 14:45
trans-1,2-Dichloroethene	0.50 J		2.50	0.50	µg/L	5	11/16/17 14:45
Methyl tert-butyl ether	ND		5.00	0.80	µg/L	5	11/16/17 14:45
1,1-Dichloroethane	35.4		2.50	0.50	µg/L	5	11/16/17 14:45
cis-1,2-Dichloroethene	167		2.50	0.50	µg/L	5	11/16/17 14:45
2-Butanone	ND		50.0	5.00	µg/L	5	11/16/17 14:45
Chloroform	4.65		2.50	0.50	µg/L	5	11/16/17 14:45
1,1,1-Trichloroethane	24.9		2.50	0.50	µg/L	5	11/16/17 14:45
Cyclohexane	ND		2.50	0.50	µg/L	5	11/16/17 14:45
Carbon tetrachloride	ND		2.50	0.50	µg/L	5	11/16/17 14:45
Benzene	320		2.50	0.50	µg/L	5	11/16/17 14:45
1,2-Dichloroethane	ND		2.50	0.80	µg/L	5	11/16/17 14:45
Trichloroethene	31.4		2.50	0.50	µg/L	5	11/16/17 14:45
Methylcyclohexane	ND		2.50	0.50	µg/L	5	11/16/17 14:45
1,2-Dichloropropane	ND		2.50	0.80	µg/L	5	11/16/17 14:45
Bromodichloromethane	ND		2.50	0.50	µg/L	5	11/16/17 14:45
cis-1,3-Dichloropropene	ND		2.50	0.80	µg/L	5	11/16/17 14:45
4-Methyl-2-pentanone	ND		25.0	5.00	µg/L	5	11/16/17 14:45
Toluene	1.00 J		2.50	0.50	µg/L	5	11/16/17 14:45
trans-1,3-Dichloropropene	ND		2.50	0.80	µg/L	5	11/16/17 14:45
1,1,2-Trichloroethane	0.80 J		2.50	0.80	µg/L	5	11/16/17 14:45
Tetrachloroethene	103		2.50	0.50	µg/L	5	11/16/17 14:45
2-Hexanone	ND		25.0	5.00	µg/L	5	11/16/17 14:45

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850509

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-008A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> LCW-2 11/14/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/14/17 12:25
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>Sample Size:</b> 10 mL
<b>ColumnID:</b> Rtx-VMS	<b>%Moisture:</b>
<b>Revision:</b> 12/18/17 7:21	<b>TestCode:</b> 8260W OLM42
<b>Col Type:</b>	<b>PrepDate:</b>
	<b>BatchNo:</b> R31672
	<b>FileID:</b> 1-SAMP-R3800.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		2.50	0.50	µg/L	5	11/16/17 14:45
1,2-Dibromoethane	ND		2.50	0.80	µg/L	5	11/16/17 14:45
Chlorobenzene	67.0		2.50	0.50	µg/L	5	11/16/17 14:45
Ethylbenzene	13.2		2.50	0.50	µg/L	5	11/16/17 14:45
Xylenes (total)	10.8		5.00	1.50	µg/L	5	11/16/17 14:45
Styrene	ND		2.50	0.50	µg/L	5	11/16/17 14:45
Bromoform	ND		5.00	1.65	µg/L	5	11/16/17 14:45
Isopropylbenzene	2.25 J		2.50	0.50	µg/L	5	11/16/17 14:45
1,1,2,2-Tetrachloroethane	2.75		2.50	0.50	µg/L	5	11/16/17 14:45
1,3-Dichlorobenzene	ND		2.50	0.50	µg/L	5	11/16/17 14:45
1,4-Dichlorobenzene	ND		2.50	0.80	µg/L	5	11/16/17 14:45
1,2-Dichlorobenzene	4.25		2.50	0.50	µg/L	5	11/16/17 14:45
1,2-Dibromo-3-chloropropane	ND		25.0	5.00	µg/L	5	11/16/17 14:45
1,2,4-Trichlorobenzene	ND		5.00	0.50	µg/L	5	11/16/17 14:45
Surr: 1,2-Dichloroethane-d4	104		75-130	0.80	%REC	5	11/16/17 14:45
Surr: Toluene-d8	101		75-125	0.50	%REC	5	11/16/17 14:45
Surr: 4-Bromofluorobenzene	88		75-125	0.50	%REC	5	11/16/17 14:45

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850509

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

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# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-009A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> LCW-4 11/14/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/14/17 13:35
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>Sample Size:</b> 10 mL
<b>ColumnID:</b> Rtx-VMS	<b>%Moisture:</b>
<b>Revision:</b> 12/18/17 7:21	<b>TestCode:</b> 8260W OLM42
<b>Col Type:</b>	<b>PrepDate:</b>
	<b>BatchNo:</b> R31672
	<b>FileID:</b> 1-SAMP-R3801.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		20.0	2.00	µg/L	20	11/16/17 15:17
Chloromethane	ND		20.0	6.60	µg/L	20	11/16/17 15:17
Vinyl chloride	8.00	J	20.0	6.60	µg/L	20	11/16/17 15:17
Bromomethane	ND		20.0	6.60	µg/L	20	11/16/17 15:17
Chloroethane	71.6		20.0	6.60	µg/L	20	11/16/17 15:17
Trichlorofluoromethane	ND		20.0	2.00	µg/L	20	11/16/17 15:17
1,1-Dichloroethene	ND		10.0	3.20	µg/L	20	11/16/17 15:17
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Acetone	ND		200	20.0	µg/L	20	11/16/17 15:17
Carbon disulfide	ND		10.0	2.20	µg/L	20	11/16/17 15:17
Methyl acetate	ND		100	20.0	µg/L	20	11/16/17 15:17
Methylene chloride	8.80	J	40.0	3.20	µg/L	20	11/16/17 15:17
trans-1,2-Dichloroethene	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Methyl tert-butyl ether	ND		20.0	3.20	µg/L	20	11/16/17 15:17
1,1-Dichloroethane	4.00	J	10.0	2.00	µg/L	20	11/16/17 15:17
cis-1,2-Dichloroethene	3.60	J	10.0	2.00	µg/L	20	11/16/17 15:17
2-Butanone	ND		200	20.0	µg/L	20	11/16/17 15:17
Chloroform	ND		10.0	2.00	µg/L	20	11/16/17 15:17
1,1,1-Trichloroethane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Cyclohexane	4.80	J	10.0	2.00	µg/L	20	11/16/17 15:17
Carbon tetrachloride	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Benzene	444		10.0	2.00	µg/L	20	11/16/17 15:17
1,2-Dichloroethane	ND		10.0	3.20	µg/L	20	11/16/17 15:17
Trichloroethene	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Methylcyclohexane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
1,2-Dichloropropane	ND		10.0	3.20	µg/L	20	11/16/17 15:17
Bromodichloromethane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
cis-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	11/16/17 15:17
4-Methyl-2-pentanone	ND		100	20.0	µg/L	20	11/16/17 15:17
Toluene	48.2		10.0	2.00	µg/L	20	11/16/17 15:17
trans-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	11/16/17 15:17
1,1,2-Trichloroethane	ND		10.0	3.20	µg/L	20	11/16/17 15:17
Tetrachloroethene	ND		10.0	2.00	µg/L	20	11/16/17 15:17
2-Hexanone	ND		100	20.0	µg/L	20	11/16/17 15:17

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850510

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC	<b>Lab ID:</b> 1718799-009A
<b>Project:</b> PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b> LCW-4 11/14/17
<b>W Order:</b> 1718799	<b>Collection Date:</b> 11/14/17 13:35
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/14/17 15:30
<b>Inst. ID:</b> MS04 73	<b>PrepDate:</b>
<b>ColumnID:</b> Rtx-VMS	<b>BatchNo:</b> R31672
<b>Revision:</b> 12/18/17 7:21	<b>FileID:</b> 1-SAMP-R3801.D
<b>Col Type:</b>	

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
1,2-Dibromoethane	ND		10.0	3.20	µg/L	20	11/16/17 15:17
Chlorobenzene	289		10.0	2.00	µg/L	20	11/16/17 15:17
Ethylbenzene	179		10.0	2.00	µg/L	20	11/16/17 15:17
Xylenes (total)	927		20.0	6.00	µg/L	20	11/16/17 15:17
Styrene	ND		10.0	2.00	µg/L	20	11/16/17 15:17
Bromoform	ND		20.0	6.60	µg/L	20	11/16/17 15:17
Isopropylbenzene	3.60 J		10.0	2.00	µg/L	20	11/16/17 15:17
1,1,2,2-Tetrachloroethane	ND		10.0	2.00	µg/L	20	11/16/17 15:17
1,3-Dichlorobenzene	ND		10.0	2.00	µg/L	20	11/16/17 15:17
1,4-Dichlorobenzene	ND		10.0	3.20	µg/L	20	11/16/17 15:17
1,2-Dichlorobenzene	24.0		10.0	2.00	µg/L	20	11/16/17 15:17
1,2-Dibromo-3-chloropropane	ND		100	20.0	µg/L	20	11/16/17 15:17
1,2,4-Trichlorobenzene	ND		20.0	2.00	µg/L	20	11/16/17 15:17
Surr: 1,2-Dichloroethane-d4	104		75-130	3.20	%REC	20	11/16/17 15:17
Surr: Toluene-d8	98		75-125	2.00	%REC	20	11/16/17 15:17
Surr: 4-Bromofluorobenzene	88		75-125	2.00	%REC	20	11/16/17 15:17

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850510

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER Q  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-010A  
**Client Sample ID:** QC Trip Blank 11/13/17  
**Collection Date:** 11/14/17 0:00  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3806.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 18:00
Chloromethane	ND		1.00	0.33	µg/L	1	11/16/17 18:00
Vinyl chloride	ND		1.00	0.33	µg/L	1	11/16/17 18:00
Bromomethane	ND		1.00	0.33	µg/L	1	11/16/17 18:00
Chloroethane	ND		1.00	0.33	µg/L	1	11/16/17 18:00
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	11/16/17 18:00
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	11/16/17 18:00
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Acetone	1.11 J		10.0	1.00	µg/L	1	11/16/17 18:00
Carbon disulfide	ND		0.50	0.11	µg/L	1	11/16/17 18:00
Methyl acetate	ND		5.00	1.00	µg/L	1	11/16/17 18:00
Methylene chloride	0.41 J		2.00	0.16	µg/L	1	11/16/17 18:00
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	11/16/17 18:00
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
2-Butanone	ND		10.0	1.00	µg/L	1	11/16/17 18:00
Chloroform	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Cyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Benzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 18:00
Trichloroethene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Methylcyclohexane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	11/16/17 18:00
Bromodichloromethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 18:00
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	11/16/17 18:00
Toluene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	11/16/17 18:00
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	11/16/17 18:00
Tetrachloroethene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
2-Hexanone	ND		5.00	1.00	µg/L	1	11/16/17 18:00

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850515

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1718799  
**Matrix:** WATER Q  
**Inst. ID:** MS04 73  
**ColumnID:** Rtx-VMS  
**Revision:** 12/18/17 7:21  
**Col Type:**

**Lab ID:** 1718799-010A  
**Client Sample ID:** *QC Trip Blank 11/13/17*  
**Collection Date:** 11/14/17 0:00  
**Date Received:** 11/14/17 15:30  
**PrepDate:**  
**BatchNo:** R31672  
**FileID:** 1-SAMP-R3806.D

**Sample Size:** 10 mL  
**%Moisture:**  
**TestCode:** 8260W OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dibromochloromethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	11/16/17 18:00
Chlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Ethylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Xylenes (total)	ND		1.00	0.30	µg/L	1	11/16/17 18:00
Styrene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
Bromoform	ND		1.00	0.33	µg/L	1	11/16/17 18:00
Isopropylbenzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	11/16/17 18:00
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	11/16/17 18:00
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	11/16/17 18:00
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	11/16/17 18:00
Surr: 1,2-Dichloroethane-d4	106		75-130	0.16	%REC	1	11/16/17 18:00
Surr: Toluene-d8	99		75-125	0.10	%REC	1	11/16/17 18:00
Surr: 4-Bromofluorobenzene	91		75-125	0.10	%REC	1	11/16/17 18:00

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 12/19/17 13:04

850515

Project Supervisor: David J Prichard



**Life Science Laboratories, Inc.**  
**Central Lab**

5854 Butternut Drive  
 East Syracuse, New York 13057  
 (315) 445-1105

**Chain of Custody**

1718799

Client: OBG Operations							Analysis/Method						
Project ID: PAS Oswego -							<i>Sabor VOC</i>						
Sampled by: Martin Koennecke													
Client Contact: Mark Byrne				Phone # 315-842-7024									
<b>Sample Description</b>													
Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers								Comments
001 Equipment Blank	11-13-17	11:30	W	G	3	3							
002 M-21	11-13-17	12:20	W	G	3	3							
003 OD-3	11-13-17	13:40	W	G	3	3							
004 LR-8	11-13-17	14:45	W	G	3	3							
005 X-1	11-13-17	—	W	G	3	3							
006 LR-6, MS, MSD	11-14-17	10:00	W	G	9	9							
007 M-22	11-14-17	11:30	W	G	3	3							
008 LCW-2	11-14-17	12:25	W	G	3	3							
009 LCW-4	11-14-17	13:35	W	G	3	3							
010 RC TRIP Blank	11-7-17		W		2	2							
Relinquished by: <i>Martin Koennecke</i>							Date: 11-14-17 Time: 15:30						
Relinquished by:							Received by:						
Relinquished by:							Received by Lab: <i>R. D. ...</i>						
Shipment Method: <i>HAND</i>							Airbill Number:						

Turnaround Time Required:  
 Routine   X    
 Rush           

Comments: PO #:

Samples Received  
 On Ice Cooler Temperature:   2.4°C



Client/Project OGINA PAS 1718799

**Sample Control Record**

Sample ID	Frac	Client Sample ID	Removed By	Date and Time Removed	Analysis	Date and Time Returned
001 → 010	A → C			Stored in Fridge 1B	8260	11/14/17 1730
001 → 10	A		MSV	11/16/17 0820	8260	N.R.



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**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**Lab Order:** 1718799

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**Work Order Sample Summary**

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
1718799-001A	Equipment Blank	11/13/17	11/13/2017	11/14/2017
1718799-002A	M-21	11/13/17	11/13/2017	11/14/2017
1718799-003A	OD-3	11/13/17	11/13/2017	11/14/2017
1718799-004A	LR-8	11/13/17	11/13/2017	11/14/2017
1718799-005A	X-1	11/13/17	11/13/2017	11/14/2017
1718799-006A	LR-6	11/14/17	11/14/2017	11/14/2017
1718799-007A	M-22	11/14/17	11/14/2017	11/14/2017
1718799-008A	LCW-2	11/14/17	11/14/2017	11/14/2017
1718799-009A	LCW-4	11/14/17	11/14/2017	11/14/2017
1718799-010A	QC Trip Blank	11/13/17	11/14/2017	11/14/2017

Lab Order: 1718799  
 Client: O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well S

**DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
1718799-001A	Equipment Blank 11/13/17	11/13/2017 11:30:00 AM	Water	Volatile Organic Compounds by GC/MS			11/16/2017
1718799-002A	M-21 11/13/17	11/13/2017 12:20:00 PM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-003A	OD-3 11/13/17	11/13/2017 1:40:00 PM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-004A	LR-8 11/13/17	11/13/2017 2:45:00 PM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-005A	X-1 11/13/17	11/13/2017	Water Q	Volatile Organic Compounds by GC/MS			11/16/2017
1718799-006A	LR-6 11/14/17	11/14/2017 10:00:00 AM	Water	Volatile Organic Compounds by GC/MS			11/16/2017
1718799-007A	M-22 11/14/17	11/14/2017 11:30:00 AM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-008A	LCW-2 11/14/17	11/14/2017 12:25:00 PM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-009A	LCW-4 11/14/17	11/14/2017 1:35:00 PM		Volatile Organic Compounds by GC/MS			11/16/2017
1718799-010A	QC Trip Blank 11/13/17	11/14/2017	Water Q	Volatile Organic Compounds by GC/MS			11/16/2017

**GC/MS Volatile Organics Case Narrative - Page 1**

Client: OGINA PAS  
 Project/Order: PAS Oswego – Semi-Annual Well Sampling  
 Work Order #: 1718799  
 Methodology: 8260C/5030C

Analyzed/Reviewed by (Initials/Date):     *JD* 12/19/17    

Supervisor/Reviewed by (Initials/Date):     *JD* 12/19/17    

QA/QC Review (Initials/Date): \_\_\_\_\_

File Name: U:\Narratives\MSVoa\1718799msnar.doc

**GC/MS Volatile Organics**

The GC/MS Volatile instruments are equipped with a Restek Rtx-VMS, 60 m x 0.25 mm ID capillary column (MS01, MS04, MSK, and MSN), Restek Rtx-502.2, 105 m x 0.53 mm ID capillary column (MS02), and a Restek Rtx-502.2, 60 m x 0.25 mm ID capillary column (MS03).

**Holding Times and Sample Preservation**

All samples were prepared and analyzed within the method and/or QAPP specified holding time requirements. Samples had a pH of < 2.

**Laboratory Control Sample**

The following compound(s) did not meet laboratory control sample recovery criteria:

LCS No.	Compound	Corrective Action
LCS-31672	Cyclohexane	1
	Methyl cyclohexane	1
LCS-31672	Dichlorodifluoromethane	2
	Methyl acetate	2

- 1 The recovery exceeded the lower control limit and was detected in several associated samples. Results may be biased low. The associated CCV met acceptance criteria. It is suspected that these analytes degraded in the LCS solution and that the calibration is accurate. No corrective action was taken.
- 2 The recovery exceeded the upper control limit in the LCS and CCV and was not detected in the associated samples. No corrective action was taken.

**MS/MSD**

The following compound(s) did not meet matrix spike and/or matrix spike duplicate percent recovery and/or RPD criteria:

Sample Description	Sample #	Compound	% REC	RPD	Corrective Action
LR-6 11/14/17	1718799-006A	Dichlorodifluoromethane	X		1
		Chloromethane	X		1
		Cyclohexane	X		2
		Methyl cyclohexane	X		2

## GC/MS Volatile Organics Case Narrative - Page 2

Client: OGINA PAS  
Project/Order: PAS Oswego – Semi-Annual Well Sampling  
Work Order #: 1718799  
Methodology: 8260C/5030C

- 1 The recovery exceeded the upper control limit and was not detected in the associated sample. No corrective action was taken.
- 2 The recovery exceeded the lower control limit and was not detected in the associated samples. No corrective action was taken.

### Surrogate Standards

All surrogate standard recoveries met method and/or project specific QC criteria.

### Internal Standards

All internal standard areas met method and/or project specific QC criteria.

### Calibrations

All initial calibrations and calibration verifications met method and/or project specific QC criteria.

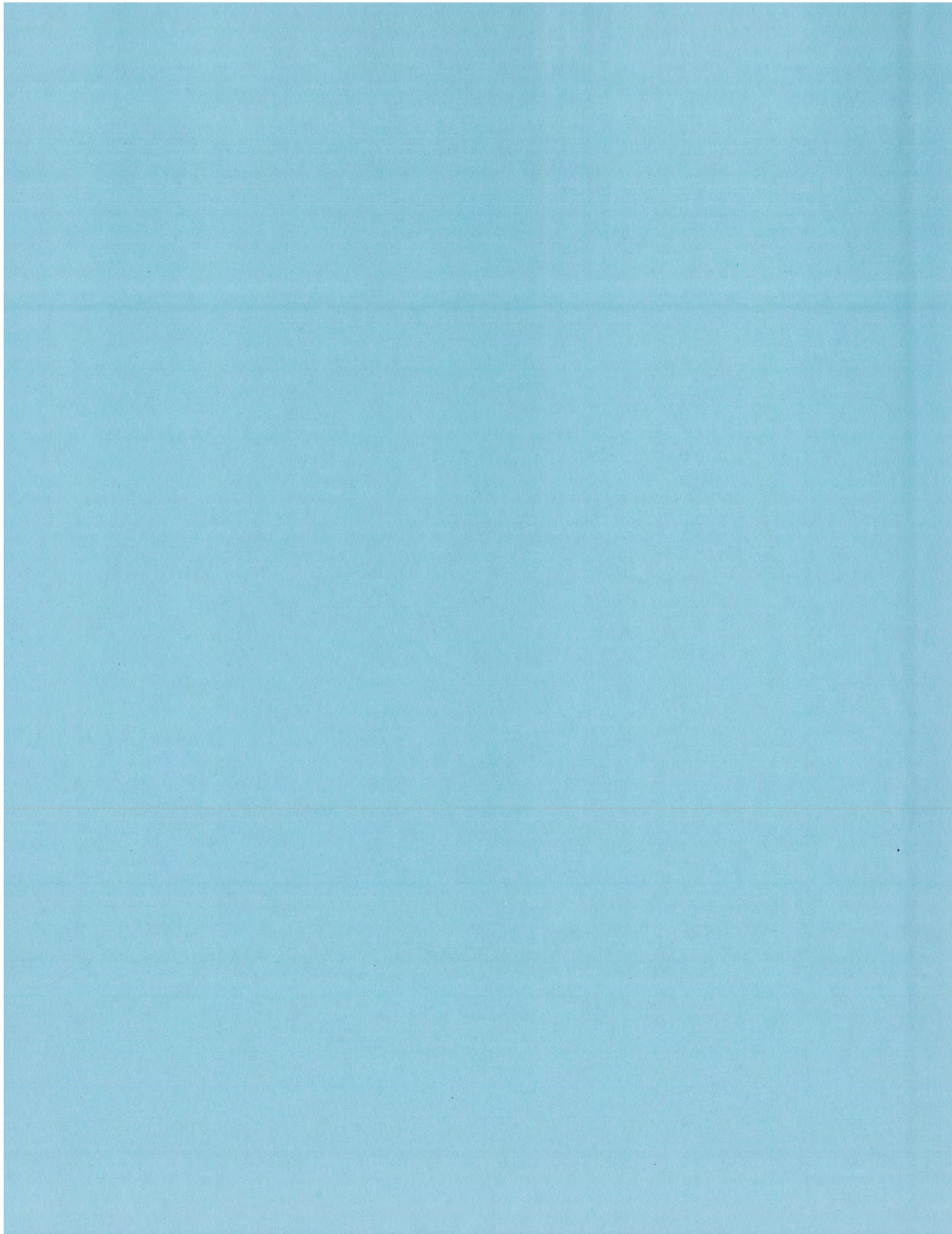
The following continuing calibration compound(s) exceeded method percent drift and/or RRF criteria:

Calibration ID	Instrument	Compound	%D	RRF	Corrective Action
CCV-31672	#4MS73	Chloromethane	22.7		1
		Methyl acetate	26.7		1

- 1 The recovery exceeded the upper control limit in the LCS and CCV and was not detected in the associated samples. No corrective action was taken.

### Preparation Blanks

All preparation blanks met method and/or project specific QC criteria.





B -5  
QUARTERLY POTW  
DISCHARGE REPORTS



***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
865-691-5052  
865-691-9835 Fax

***Via electronic mail***

January 3, 2018

Mr. Robert L. Johnson  
City Engineer Technician  
13 W. Oneida  
City Hall  
Oswego, New York 13126  
darcher@oswegony.gov

**Re: Quarterly Discharge Report – 4th Quarter 2017  
Pollution Abatement Services Site – Oswego, New York  
City of Oswego Wastewater Discharge Permit 6-2017-18**

Dear Mr. Johnson:

This quarterly report is submitted in accordance with the City of Oswego Wastewater Discharge Permit 6-2017-18 (Permit) for discharge of leachate from the Pollution Abatement Services (PAS) Site into the City of Oswego's Eastside Wastewater Treatment Facility. This report covers the reporting period from October 2017 through December 2017.

The PAS Site discharged a total of 40,010 gallons of leachate to the Oswego sewer system during the fourth quarter of 2017.

Discharge to City of Oswego October 2017 – December 2017 40,010 gallons.

If you need additional information please call me at (865) 691-5052.

Sincerely,  
***de maximis, inc.***

Clay McClarnon

cc: Gary Hallinan – City of Oswego  
PAS Oswego Site Management Committee

F:\PROJECTS\3131 - PAS\Qtr Rpts, Annual Rpts, 5 yr rvws 07\2017\4th qtr\Oswego 4th Qtr 2017 rpt.doc

Allentown, PA • Clinton, NJ • Greensboro, GA • Knoxville, TN • San Diego, CA  
Cortland, NY • Wheaton, IL • Sarasota, FL • Houston, TX • Windsor, CT • Waltham, MA



**TABLE 1 - PAS OSWEGO SITE QUARTERLY REPORT FOR CITY OF OSWEGO (2017)  
LEACHATE DISCHARGE TO OSWEGO EASTSIDE WASTEWATER TREATMENT FACILITY  
(Oswego SIU Wastewater Discharge Permit No.6-2017-18)**

Discharge Quarter	1Q 2017		2Q 2017		3Q 2017		4Q 2017	
	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged
	1/7/17	10,010	4/4/17	10,005	7/11/17	20,005	10/3/17	20,005
	42/6.8		45/6.8		54/6.8		54/6.8	
	2/15/17	10,005	5/3/17	20,005	8/8/17	20,005	11/15/17	10,005
	44/6.8		46/6.8		54/6.8		48.5/6.7	
	3/7/17	10,005	6/8/17	20,005	9/6/17	19,895	12/5/17	10,000
	42/6.8		53/6.8		54/6.8		54/6.7	
<b>Total Discharged</b>		30,020		50,015		59,905		40,010
<b>Date Sampled*</b>	<b>Permit Limit</b>	3/7/2017 ***						11/15/2017
<b>Analytes</b>	<b>mg/L</b>	<b>mg/L</b>						
Antimony	0.107	0.00075						ND <0.010
Arsenic	0.358	0.0166						0.021
Beryllium	0.107	ND <0.0003						ND <0.010
Cadmium	0.43	ND <0.001						ND <0.010
Chromium (total)	0.67	ND <0.007						0.017
Copper	0.43	0.0197						0.026
Cyanide	0.67	ND <0.010						ND <0.010
Lead	0.19	<0.0016						ND <0.010
Mercury	0.0002	NA						ND <0.0020
Nickel	0.69	0.296						0.41
Selenium	0.282	0.005						ND <0.010
Silver	0.65	ND <0.001						ND <0.010
Thallium	0.073	ND <0.0003						ND <0.020
Zinc	1	0.0052						ND <0.020
VOC**		NA						NA
SVOC**		NA						NA
BOD <sub>5</sub>	200	ND <13.3						15
TSS	400	64						45
Phenolics	0.375	0.0626						ND <0.010
pH	5 > and < 10	6.6						6.7

\* Semi-annual sampling of PAS leachate discharge conducted in accordance with SIU Wastewater Discharge Permit No.6-2017-18.

\*\* Analytes included for permit pollutant analysis performed every three years

\*\*\* Sample taken by City of Oswego

Analyte values in bold exceed limit

# ATTACHMENT I



**OBRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 10-3-17

Time: 7:15

Field Technician MARTIN KOENNECKE

Weather Conditions Sunny 50°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:20	INTERRUPTED 12:30			22,440
LCW-2	7:20	TOTAL INTERRUPTED 12:30			
LCW-3	—	NOT PUMPED			
LCW-4	7:20	INTERRUPTED 12:30			
Total					22,440

START - 4"

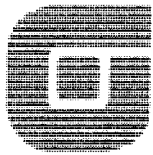
END 12"

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:40	13:35	6.8	54°	910155	930160	20,005
Discharge #2							
Total							20,005

*Leachate Discharge Sampling (Semi-Annually)*

	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 11-15-17

Time: 7:45

Field Technician MARTIN KOENNECKE

Weather Conditions Clear 30°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:55	9:05	START - 12"	END 43"	9455
LCW-2	7:55	9:05		135 GPM	
LCW-3	NOT PUMPED				
LCW-4	7:55	9:05			
Total					9455

*9455 ÷ 70 min = 135 GPM / Tank AFTER-11"*

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:30	11:30	6.7	48.5	930160	940165	10,005
Discharge #2							
Total							10,005
	<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1	11-15-17	Sample Point	Composite	11:15	6.7	48.5	
Sample #2 (if required)							



**O'BRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 12-5-17

Time: 8:00

Field Technician MARTIN KOENNECKE

Weather Conditions RAIN 46°

Well/Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	8:00	9:20	START-10"	STOP-43"	10065
LCW-2	8:00	9:20		125 GPM	
LCW-3	8:00	8:10			
LCW-4	8:00	9:20			
Total					10065

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:45	11:45	6.7	54°	940165	950165	10,000
Discharge #2							
Total		83.3 GPM					10,000
START PUMP 9:00 FINISHED @ 9:45 <i>Leachate Discharge Sampling (Semi-Annually)</i>							
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							



**Life Science Laboratories, Inc.**  
5854 Butternut Drive  
East Syracuse, NY 13057  
Phone: 315-445-1105 Fax: 315-445-1301

**TO:** OBG Operations-PAS Oswego  
Mark Byrne

**FROM:** Life Science Laboratories, Inc.  
Quality Assurance Department

**RE:** Revision of Report and/or Invoice  
1718915

**DATE:** January 2, 2018

The attached report and/or invoice was revised. The reason for the change and instructions on how it was revised is as follows:

The client needs Beryllium reported for this report. It was added and a revised report was generated.

If you have any questions regarding this change, please don't hesitate to contact us at 315-445-1105.

## ATTACHMENT II



**Life Science Laboratories, Inc.**

5854 Butternut Drive  
East Syracuse, NY 13057

(315) 445-1900

Tuesday, January 02, 2018

**REVISED**  
1/2/18

Mark Byrne  
O'Brien & Gere Operations, LLC.  
7600 Morgan Road  
Liverpool, NY 13090

TEL: 315-437-6100

Project: PAS OSWEGO, 4TH QUARTER LEACHATE SAMPLES

RE: Analytical Results

Order No.: 1718915

Dear Mark Byrne:

Life Science Laboratories, Inc. received 2 sample(s) on 11/15/2017 for the analyses presented in the following report. Sample results relate only to the samples as received by the laboratory.

Very truly yours,  
Life Science Laboratories, Inc.

David J Prichard  
Project Manager





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
 Project: PAS Oswego, 4th Quarter Leachate Samples  
 W Order: 1718915  
 Matrix: WATER

Lab ID: 1718915-001A  
 Client Sample ID: Tank Effluent Leachate,  
 11/15/17

Collection Date: 11/15/17 11:15  
 Date Received: 11/15/17 14:35

Inst. ID: Fisher balance XA      Sample Size: NA  
 ColumnID:                              %Moisture:  
 Revision: 11/20/17 10:55      TestCode TSS2540D

PrepDate:  
 BatchNo: R31665  
 FileID: 0-SAMP-

Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
RESIDUE-NON-FILTERABLE (TSS)				SM 2540 D-97,-11		
Residue-non-filterable (TSS)	45		5.0	mg/L	1	11/16/17

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
Project: PAS Oswego, 4th Quarter Leachate Samples  
W Order: 1718915  
Matrix: WATER

Lab ID: 1718915-001B  
Client Sample ID: Tank Effluent Leachate,  
11/15/17

Collection Date: 11/15/17 11:15  
Date Received: 11/15/17 14:35  
PrepDate: 11/20/17 0:00  
BatchNo: R31710  
FileID: 1-SAMP-K7328

Inst. ID: MS06 40                      Sample Size: 1000 mL  
ColumnID: DB-5MS                    %Moisture:  
Revision: 12/07/17 14:31            TestCode 625W

Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
SEMI-VOLATILE ORGANICS COMPOUNDS BY GC/MS				EPA 625		
Phenol	ND		10	µg/L	1	11/22/17 13:14
Surr: 2,4,6-Tribromophenol	102		46-149	%REC	1	11/22/17 13:14
Surr: 2-Fluorophenol	29		26-130	%REC	1	11/22/17 13:14
Surr: Phenol-d5	25		21-134	%REC	1	11/22/17 13:14

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

REVISED

1/2/18



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

## Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
 Project: PAS Oswego, 4th Quarter Leachate Samples  
 W Order: 1718915  
 Matrix: WATER  
 Inst. ID: ICAP 61E      Sample Size: 50 mL  
 ColumnID:              %Moisture:  
 Revision: 01/02/18 16:49      TestCode 200.7 NPW  
 Col Type:

Lab ID: 1718915-001C  
 Client Sample ID: Tank Effluent Leachate,  
 11/15/17  
 Collection Date: 11/15/17 11:15  
 Date Received: 11/15/17 14:35  
 PrepDate: 11/20/17 0:00  
 BatchNo: 24397/R3 1669  
 FileID: 1-SAMP-311269

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
TOTAL METALS BY ICP				EPA 200.7		(EPA 200.2)
Antimony	ND		0.010	mg/L	1	11/21/17 18:12
Arsenic	0.021		0.010	mg/L	1	11/21/17 18:12
Barium	0.49		0.10	mg/L	1	11/21/17 18:12
Beryllium	ND		0.010	mg/L	1	11/21/17 18:12
Cadmium	ND		0.010	mg/L	1	11/21/17 18:12
Chromium	0.017		0.010	mg/L	1	11/21/17 18:12
Copper	0.026		0.010	mg/L	1	11/21/17 18:12
Iron	19		0.050	mg/L	1	11/21/17 18:12
Lead	ND		0.010	mg/L	1	11/21/17 18:12
Nickel	0.41		0.010	mg/L	1	11/21/17 18:12
Selenium	ND		0.010	mg/L	1	11/21/17 18:12
Silver	ND		0.010	mg/L	1	11/21/17 18:12
Thallium	ND		0.020	mg/L	1	11/21/17 18:12
Zinc	ND		0.020	mg/L	1	11/21/17 18:12

Qualifiers: \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive  
East Syracuse, NY 13057 (315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT:</b> O'Brien & Gere Operations, LLC.	<b>Lab ID:</b> 1718915-001C
<b>Project:</b> PAS Oswego, 4th Quarter Leachate Samples	<b>Client Sample ID:</b> Tank Effluent Leachate, 11/15/17
<b>W Order:</b> 1718915	<b>Collection Date:</b> 11/15/17 11:15
<b>Matrix:</b> WATER	<b>Date Received:</b> 11/15/17 14:35
<b>Inst. ID:</b> FIMS 100	<b>Sample Size:</b> 40 mL
<b>ColumnID:</b>	<b>%Moisture:</b>
<b>Revision:</b> 11/20/17 8:39	<b>TestCode:</b> HG245W
<b>Col Type:</b>	<b>PrepDate:</b> 11/17/17 0:00
	<b>BatchNo:</b> 24393/R31663
	<b>FileID:</b> 1-SAMP-

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
MERCURY				EPA 245.1		(EPA 245.1)
Mercury	ND		0.00020	mg/L	1	11/17/17 15:38

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

## Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC.  
**Project:** PAS Oswego, 4th Quarter Leachate Samples  
**W Order:** 1718915  
**Matrix:** WATER  
  
**Inst. ID:** AA3  
**ColumnID:**  
**Revision:** 11/29/17 7:33  
**Col Type:**

**Lab ID:** 1718915-001D  
**Client Sample ID:** Tank Effluent Leachate, 11/15/17  
**Collection Date:** 11/15/17 11:15  
**Date Received:** 11/15/17 14:35  
**PrepDate:** 11/28/17 0:00  
**BatchNo:** 24418/R31682  
**FileID:** 1-SAMP-

**Sample Size:** 50 mL  
**%Moisture:**  
**TestCode** CN335.4W

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
CYANIDE, TOTAL				EPA 335.4		(EPA 335.4)
Cyanide, Total	ND		0.010	mg/L	1	11/29/17

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

## Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
 Project: PAS Oswego, 4th Quarter Leachate Samples  
 W Order: 1718915  
 Matrix: WATER

Lab ID: 1718915-001E  
 Client Sample ID: Tank Effluent Leachate,  
 11/15/17  
 Collection Date: 11/15/17 11:15  
 Date Received: 11/15/17 14:35  
 PrepDate: 11/21/17 0:00  
 BatchNo: 24404/R31674  
 FileID: 1-SAMP-

Inst. ID: Traacs                      Sample Size: 1 mL  
 ColumnID:                              %Moisture:  
 Revision: 11/22/17 13:07              TestCode TKN351.2  
 Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
KJELDAHL NITROGEN - TOTAL (AS N)				EPA 351.2		(EPA 351.2)
Kjeldahl Nitrogen - Total (as N)	25		6.0	mg/L	3	11/22/17

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

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(315) 445-1900

## Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
 Project: PAS Oswego, 4th Quarter Leachate Samples  
 W Order: 1718915  
 Matrix: WATER

Lab ID: 1718915-001E  
 Client Sample ID: Tank Effluent Leachate,  
 11/15/17

Collection Date: 11/15/17 11:15  
 Date Received: 11/15/17 14:35  
 PrepDate: 11/21/17 0:00  
 BatchNo: 24405/R31671  
 FileID: 1-SAMP-

Inst. ID: Traacs                      Sample Size: 50 mL  
 ColumnID:                              %Moisture:  
 Revision: 11/22/17 9:54              TestCode TP365.1  
 Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
PHOSPHORUS, TOTAL (AS P)				EPA 365.1		(EPA 365.1)
Phosphorus, Total (As P)	0.28		0.050	mg/L	1	11/22/17

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



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East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
 Project: PAS Oswego, 4th Quarter Leachate Samples  
 W Order: 1718915  
 Matrix: WATER

Lab ID: 1718915-001F  
 Client Sample ID: Tank Effluent Leachate,  
 11/15/17

Collection Date: 11/15/17 11:15  
 Date Received: 11/15/17 14:35

Inst. ID: MSK 75                      Sample Size: 10 mL  
 ColumnID: Rtx-VMS                  %Moisture:  
 Revision: 12/01/17 8:30              TestCode 624W

PrepDate:  
 BatchNo: R31690  
 FileID: 1-SAMP-C:\HPCH

Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS			EPA 624			
1,1,1-Trichloroethane	5.65		5.00	µg/L	5	11/21/17 13:52
Methylene chloride	ND		5.00	µg/L	5	11/21/17 13:52
Tetrachloroethene	49.6		5.00	µg/L	5	11/21/17 13:52
Toluene	53.1		5.00	µg/L	5	11/21/17 13:52
Trichloroethene	14.8		5.00	µg/L	5	11/21/17 13:52
Surr: 1,2-Dichloroethane-d4	95		75-130	%REC	5	11/21/17 13:52
Surr: 4-Bromofluorobenzene	91		75-125	%REC	5	11/21/17 13:52
Surr: Toluene-d8	94		75-125	%REC	5	11/21/17 13:52

Qualifiers: \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

## Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC.  
**Project:** PAS Oswego, 4th Quarter Leachate Samples  
**W Order:** 1718915  
**Matrix:** WATER

**Lab ID:** 1718915-001G  
**Client Sample ID:** Tank Effluent Leachate,  
 11/15/17

**Collection Date:** 11/15/17 11:15  
**Date Received:** 11/15/17 14:35  
**PrepDate:** 11/30/17 7:48  
**BatchNo:** 24434/R31693  
**FileID:** 1-SAMP-

**Inst. ID:** Fisher balance XA      **Sample Size:** 1000 mL  
**ColumnID:**                              **%Moisture:**  
**Revision:** 12/04/17 7:02      **TestCode** OG1664A  
**Col Type:**

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
OIL AND GREASE ( LLE )				EPA 1664A		(EPA 1664A)
Oil and Grease	ND		5.00	mg/L	1	12/03/17

**Qualifiers:** \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC.  
**Project:** PAS Oswego, 4th Quarter Leachate Samples  
**W Order:** 1718915  
**Matrix:** WATER  
  
**Inst. ID:** DO Meter                      **Sample Size:** NA  
**ColumnID:**                                      **%Moisture:**  
**Revision:** 11/27/17 8:04              **TestCode** BODSM5210B  
**Col Type:**

**Lab ID:** 1718915-001H  
**Client Sample ID:** Tank Effluent Leachate, 11/15/17  
**Collection Date:** 11/15/17 11:15  
**Date Received:** 11/15/17 14:35  
**PrepDate:** 11/16/17 13:21  
**BatchNo:** R31678  
**FileID:** 1-SAMP-

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
BIOCHEMICAL OXYGEN DEMAND (BOD5)				SM 5210B-01,-11		
Biochemical oxygen demand (BOD5)	15		4.0	mg/L	1	11/16/17

**NOTES:**

The method blank results associated with this analysis did not meet method specified acceptance criteria.; This sample seems to exhibit the characteristics of toxicity toward the BOD method, therefore this result should be considered to be an estimate.

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive  
East Syracuse, NY 13057 (315) 445-1900

## Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
Project: PAS Oswego, 4th Quarter Leachate Samples  
W Order: 1718915  
Matrix: WATER  
Inst. ID: GENESYS 20  
ColumnID:  
Revision: 11/17/17 8:12  
Col Type:

Lab ID: 1718915-001H  
Client Sample ID: Tank Effluent Leachate,  
11/15/17  
Collection Date: 11/15/17 11:15  
Date Received: 11/15/17 14:35  
PrepDate:  
BatchNo: R31661  
FileID: 0-SAMP-

Sample Size: NA  
%Moisture:  
TestCode CRHEX7196W

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
CHROMIUM, HEXAVALENT Chromium, Hexavalent	ND		0.010	mg/L	1	11/16/17

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC.  
Project: PAS Oswego, 4th Quarter Leachate Samples  
W Order: 1718915  
Matrix: WATER Q

Lab ID: 1718915-002A  
Client Sample ID: Trip Blank

Collection Date: 11/07/17 0:00  
Date Received: 11/15/17 14:35

Inst. ID: MSK 75                      Sample Size: 10 mL  
ColumnID: Rtx-VMS                  %Moisture:  
Revision: 12/01/17 8:30              TestCode 624W

PrepDate:  
BatchNo: R31690  
FileID: 1-SAMP-C:\HPCH

Col Type:

Analyte	Result	Qual	PQL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS			EPA 624			
1,1,1-Trichloroethane	ND		1.00	µg/L	1	11/21/17 22:34
Methylene chloride	ND		1.00	µg/L	1	11/21/17 22:34
Tetrachloroethene	ND		1.00	µg/L	1	11/21/17 22:34
Toluene	ND		1.00	µg/L	1	11/21/17 22:34
Trichloroethene	ND		1.00	µg/L	1	11/21/17 22:34
Surr: 1,2-Dichloroethane-d4	92		75-130	%REC	1	11/21/17 22:34
Surr: 4-Bromofluorobenzene	92		75-125	%REC	1	11/21/17 22:34
Surr: Toluene-d8	98		75-125	%REC	1	11/21/17 22:34

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



**Life Science Laboratories, Inc.**  
**Central Lab**

5854 Butternut Drive  
 East Syracuse, New York 13057  
 (315) 445-1105

**Chain of Custody**

1718915

Client: OBG Operations						Analysis/Method								
Project ID: PAS Oswego - <i>Semi Annual. City of Oswego POTW</i>						<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 604 TSS</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">EPA 605</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">OIL GREASE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">CYANIDE</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">TRN</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">BOD CRU</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">METHODS See <i>Appendix</i></div> </div> <div style="text-align: right; margin-top: 20px;">       TEMP - 48.5 °        PH - 6.4     </div>								
Sampled by: Martin Koennecke														
Client Contact: Mark Byrne Phone # 315-842-7024														
<b>Sample Description</b>														
Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	Comments								
<i>Lehigh Effluent</i>	<i>11-15-17</i>	<i>11:15</i>	<i>Water</i>	<i>Comp</i>	<i>10</i>	<i>3</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	
<i>QC TRIP BLANK</i>	<i>11-7-17</i>		<i>W</i>		<i>2</i>	<i>2</i>								
Relinquished by: <i>Martin Koennecke</i> Date: <i>11-15-17</i> Time: <i>14:35</i>						Received by: _____ Date: _____ Time: _____								
Relinquished by: _____ Date: _____ Time: _____						Received by: _____ Date: _____ Time: _____								
Relinquished by: _____ Date: _____ Time: _____						Received by Lab: <i>Ryan Vanderwerker</i> Date: <i>11-15-17</i> Time: <i>14:35</i>								
Shipment Method: <i>HAND</i>						Airbill Number: _____								

Turnaround Time Required:  
 Routine   X    
 Rush           

Comments: PO #:

Samples Received  
 On Ice

Cooler Temperature:   2.0°C

**Life Science Laboratories, Inc.**

**Sample Receipt Checklist**

Client Name: **OGINA PAS**

Date and Time Received: **11/15/2017 2:35:00 PM**

Work Order Number: **1718915**

Received by: **rv**

Checklist completed by:                                            
Initials Date

Reviewed by:                                            
Initials Date

Delivery Method: Hand Delivered

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

pH	Preservative	pH Acceptable			Sample ID	Volume of Preservative added in Lab.
>12	NaOH	Yes <input checked="" type="checkbox"/>	N <input type="checkbox"/>	NA <input type="checkbox"/>		
<2	HNO3	Yes <input checked="" type="checkbox"/>	N <input type="checkbox"/>	NA <input type="checkbox"/>		
<2	HSO4	Yes <input checked="" type="checkbox"/>	N <input type="checkbox"/>	NA <input type="checkbox"/>		
<2	1:1 HCL	Yes <input type="checkbox"/>	N <input type="checkbox"/>	NA <input checked="" type="checkbox"/>		
5-9	Pest/PCBs (608/8081)	Yes <input type="checkbox"/>	N <input type="checkbox"/>	NA <input checked="" type="checkbox"/>		

Comments:

Corrective Action:



***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865) 691-5052  
(865) 691-6485 FAX  
(865) 691-9835 ACCT. FAX

December 1, 2017

Mr. Tim O'Brien  
Department of Municipal Utilities  
35 Bradley Street  
Auburn, New York 13021

**Re: 4th Quarter PAS Oswego Progress Report 2017**

Dear Mr. O'Brien,

This letter confirms that the PAS Oswego Site has not shipped or discharged any wastewater from the PAS Oswego collection system to the City of Auburn POTW during September – November 2017. This has been due to the EPA allowance of an alternate disposal method.

- **Cumulative gallons removed for discharge in Auburn 4th Qtr. 2017 - 0**
- **Cumulative gallons removed for discharge in Auburn over 2017 - 0**

Since no wastewater was shipped or discharged to Auburn during the 4th quarter of 2017, no analytical testing was required. However, we continue to perform Site maintenance and sampling activities under the Operation, Monitoring and Maintenance Program for the Site approved by EPA. The data associated with that program indicate little change in the characteristics of the Site wastewater.

Please contact me at (865) 691-5052, if you have any questions.

Sincerely,  
***de maximis, inc.***

Clay McClarnon

CMC/dlb

cc: PAS Management Committee



December 1, 2017

Mr. Timothy L. O'Brien  
Industrial Pretreatment Coordinator  
35 Bradley Street  
Auburn, NY 13021

**Re: Industrial Pretreatment Program  
Zero Discharge Certification Statement:**

Dear Mr. O'Brien

For the reporting quarter(s) of January 2017 to November 2017, I certify that for Pollution Abatement Services located in Oswego New York:

1. There have been no changes to any of our processes resulting in the potential for the discharge from the process waste stream.
  
2. No discharge of process wastewater has occurred since December 7, 2016.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Clay McClarnon  
Name

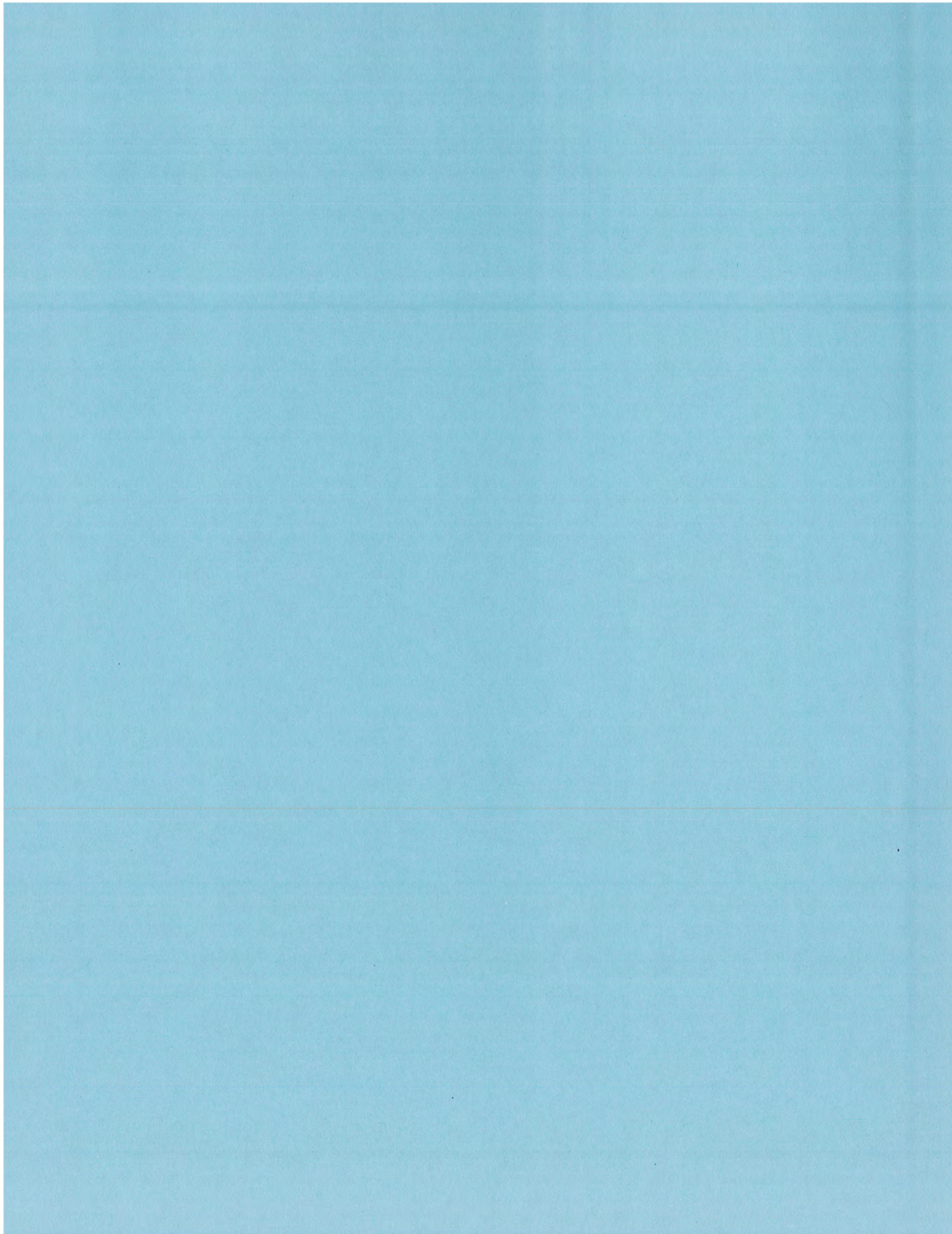
Project Coordinator  
Title

  
Signature

December 11, 2017  
Date

(865) 691-5052  
Phone





B – 6  
INSTITUTIONAL  
CONTROL CERTIFICATION

**PAS OSWEGO SUPERFUND SITE**

**Institutional Controls Implementation Plan  
Annual Certification  
November 15, 2017**

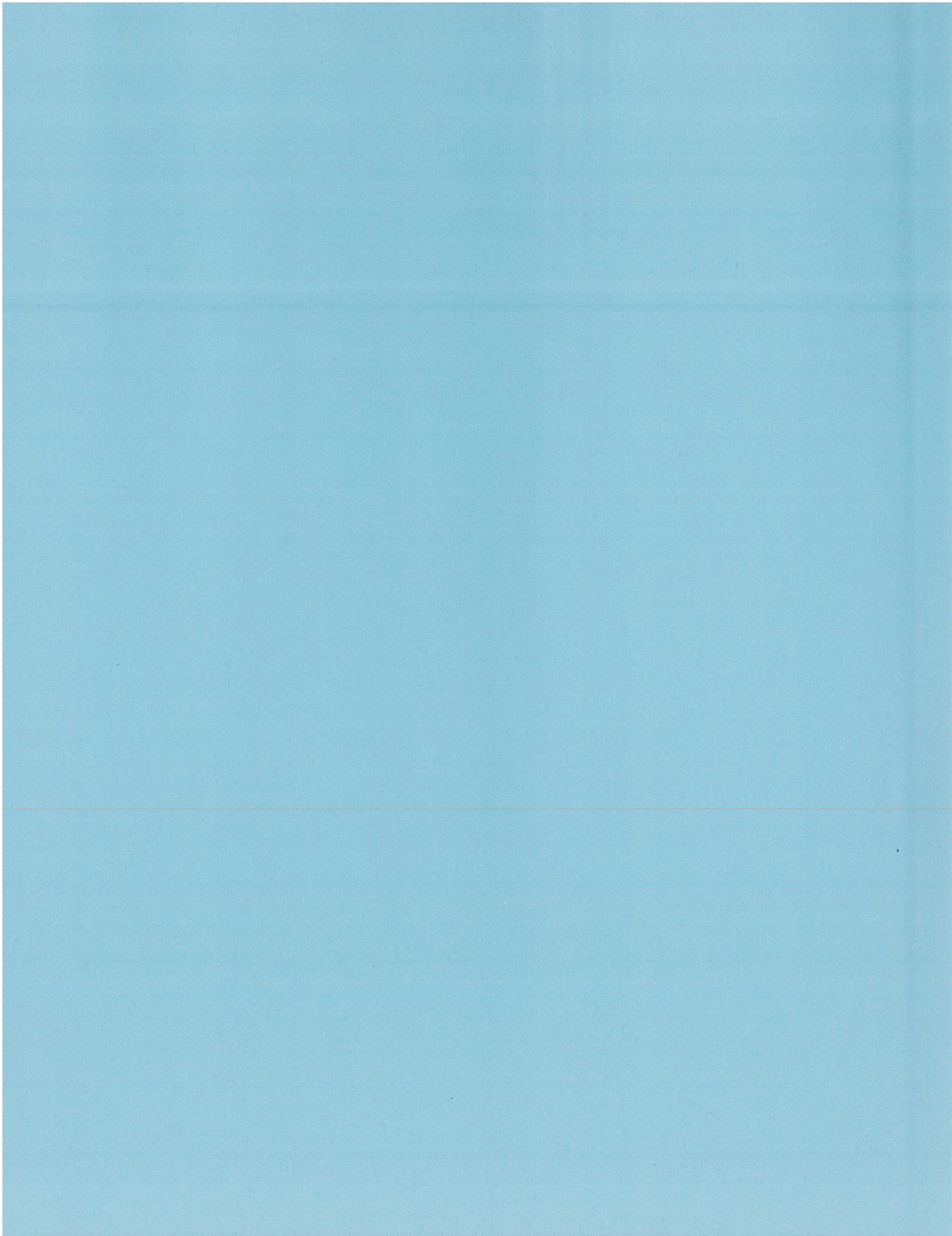
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REQUIREMENT: The Institutional Control Implementation Plan (ICIP) for the PAS Oswego Superfund Site (Site) as approved by USEPA includes requirements for the period following the execution and recording of the Easement, which were documented in the approved Remedial Action Completion Report. It states that following implementation of institutional controls on the Industrial Precision Products Property, the Site will be inspected on an annual basis to determine whether any intrusive activities have occurred. In addition, building and property records will be reviewed to ascertain whether or not any filings have been made for such activities. The ICIP provides for an annual report summarizing the findings of the inspection and record review to be prepared, along with a certification confirming that operation and maintenance activities continue, and that this annual report would be included with the OM&M progress report to be submitted to EPA in July of each year.

---

CERTIFICATION: The PAS Oswego annual Site and records inspection was performed by *de maximis, inc.* on November 15, 2017. During this visit an inspection was made of the PAS Oswego Site during a monthly operation leachate removal event. This Site inspection was scheduled to allow a visit with a representative of Industrial Precision Products to determine if any intrusive activities may have occurred on their property since the Remedial Action Completion Report was approved in August 2006. *de maximis* also contacted representatives of the City and County to confirm that no potential filings were made to install wells on the Industrial Precision Property. Based on results of the Site and records inspection, a determination has been made that no intrusive activities have occurred or are planned on the Industrial Precision Control Property and that the operation and maintenance activities at the PAS Oswego Site are continuing in accordance with the requirements of Consent Decree.







II – C  
1<sup>ST</sup> QUARTER REPORT 2018

**QUARTERLY PROGRESS REPORT – 1st QUARTER 2018**  
**Operation, Maintenance and Long-term Monitoring Activities**

**PROJECT NAME:**      *Pollution Abatement Services Site*  
*Oswego, New York*

**PERIOD COVERED:**    January – March (1st Quarter) 2018

**ACTIONS TAKEN DURING QUARTER:**

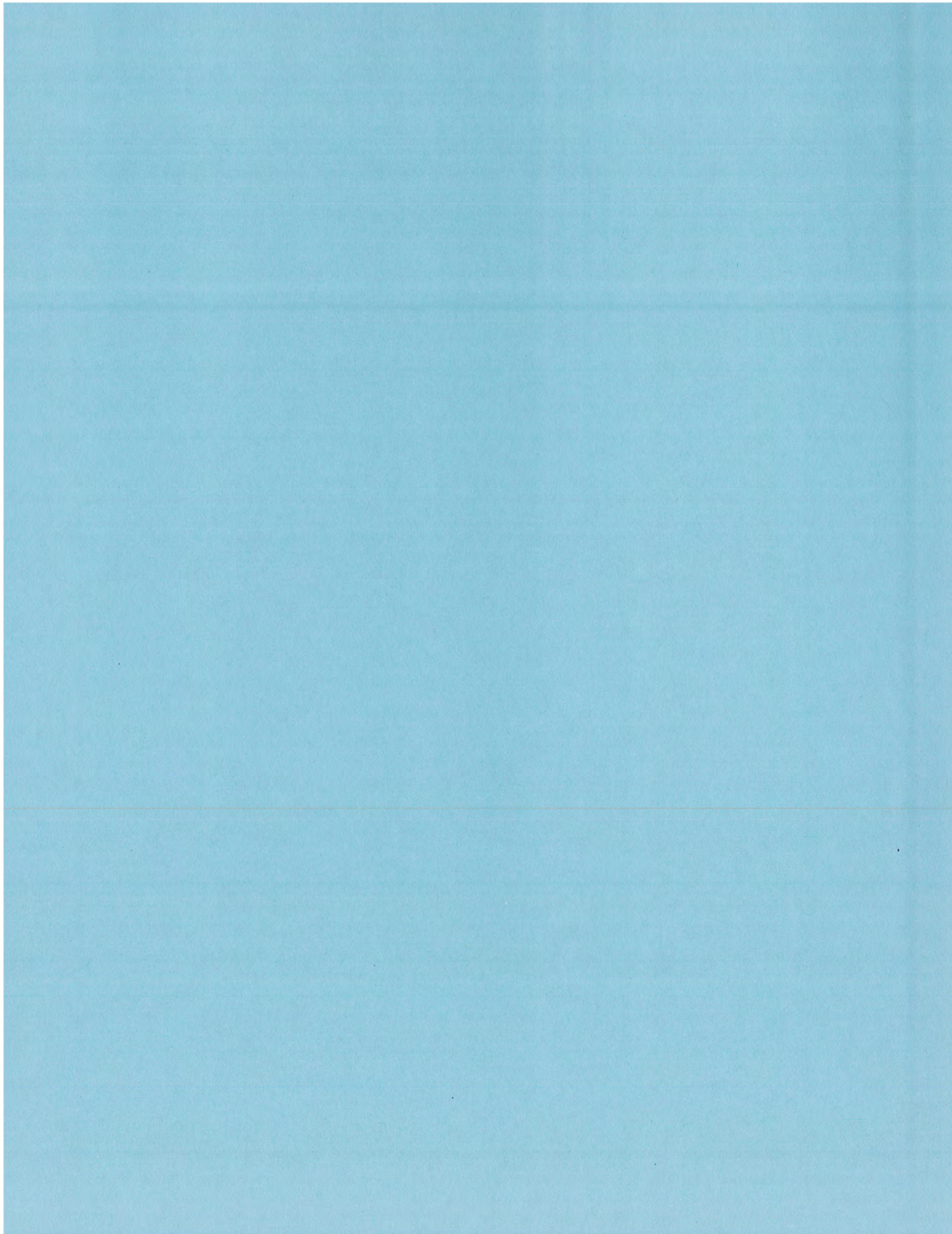
- Leachate removal and site maintenance and monitoring activities were conducted at the Pollution Abatement Services (PAS) site (Site), in Oswego, NY by OBG Operations LLC (OBG) consistent with the PAS Site Operation, Maintenance and Long-term Monitoring Plan (Work Plan).
- A total of 30,000 gallons of leachate were removed from the Site during the period of January, February, and March 2018. Specific quantities of leachate removed included 10,000 gallons in January, 10,000 gallons in February and 10,000 gallons in March. Details of the leachate removal for each month, along with historical leachate removal documentation are described in this progress report.
- During the months of January – March 2018, leachate was pumped monthly from the PAS Site. The leachate was pumped into the City of Oswego East Side Wastewater Treatment Plant in accordance with City of Oswego Industrial User Permit no. 6-2017-18.
- Quarterly groundwater elevation monitoring was performed on February 6, 2018. Quarterly groundwater elevation monitoring results for the SWW- series monitoring wells (SWW-1 through SWW-12), leachate collection wells (LCW-1 through LCW-4), M-series wells (M-21 through M-23), LR-series wells (LR-2, 3, 6 and 8), LD-series wells (LD-3, 4, 5, 6, and 8), along with wells OS-1, OS-3, OI-1, OD-3 and LS-6 were recorded on the Pre-Pumping Well Monitoring Level Form. (Attachment C-1)
- Site maintenance activities were conducted monthly in combination with the monthly leachate removal event. The Site Inspection Checklist was used to document the land cap, leachate discharge system, leachate collection system and general Site conditions. (Attachment C-2) Monthly Site maintenance activities included the following:
  - Inspected the perimeter security fence of the Site. No discrepancies were reported at the time of the inspection.
  - The Site single French drainage system and two (2) concrete troughs were visually inspected. No discrepancies were reported at the time of the inspection.
  - Visually inspected the Site slurry-wall containment vegetated cap for signs of burrowing vermin or surface anomalies. No discrepancies were reported at the time of the inspections.

- Visually inspected the leachate collection system pumping equipment to verify proper operation. The field technician inspected each pump control panel to ensure control systems were generally free of rodents and insects, and were properly operating. The leachate holding tank was visually inspected for integrity, as were the leachate tanks steel protective roof, and wood structure. The February 6, 2018 Site inspection noted the LCW-2 electrical panel was broken off the stand and inoperable. No other discrepancies were reported at the time of the inspection.
- The Site wooden utility shed and leachate pumping equipment, including centrifuge discharge pump, flow meter, suction hose, pump oils levels, heat trace power panel, interior lighting, exterior and interior shed structure, and main power distribution panel were inspected. No discrepancies were reported at the time of the inspection.
- On January 9, February 6, and March 6, 2018, OBG performed the monthly pre-pumping collection system inspection for leachate collection wells LCW-1, 2, 3 & 4, along with inspection of the leachate discharge pumping system. Observations were recorded on the Site Inspection Checklist. LCW-2 was inoperable during the period. In advance of each leachate removal event, OBG informed the City of Oswego POTW of the anticipated discharge. (Attachment C-2)
- Upon completing the monthly leachate collection system inspections, OBG manually energized the four leachate collection pumps, identified as LCW-1, LCW-2, LCW-3, and LCW-4, in order to pump the planned volume of leachate into the leachate collection tank. The run time from each leachate collection pump, along with the leachate tank level taken upon completion of well pumping, was recorded on the Leachate Disposal Checklist. LCW-2 was not operational; however, LCW-1 continued to pump leachate from the down gradient trench. (Attachment C-3)
- During the months of April, May and June 2018, OBG pumped a combined total of 50,000 gallons of leachate from LCW 1, 2, 3 & 4 into the leachate collection tank and then into the City of Oswego POTW. The volume and flow rate of each leachate discharge was recorded onto the Leachate Disposal Checklist, as was leachate water pH, and temperature. The amount discharged was recorded onto the Leachate Disposal Checklist. No leachate was shipped to Auburn New York during the period. Therefore, no bill of lading was generated. (Attachment C-3)
- Upon completing each monthly leachate discharge the tank suction hoses were placed back into the leachate hold tank and the leachate pump system was shut down and prepared for storage. The concrete leachate hold tank was secured, as was the wooden maintenance shed. Upon the completion of monthly Site activities, the Site metal access gates were closed and padlocked.
- The PAS Oswego Site quarterly discharge report for the 1st quarter of 2018 for the City of Oswego was submitted on April 19, 2018 in accordance with Permit 6-2017-18. The quarterly report to the City of Auburn was submitted on March 6, 2018. The quarterly reports for the City of Auburn do not follow annual quarters. Therefore, the quarterly report for Auburn included December 2017, January, February 2018 (Attachment C-4)

## **DOCUMENTATION OF REMOVAL ACTIVITIES FOR PREVIOUS QUARTER**

- The Groundwater Pre-Pumping Well Monitoring Level Form for February 6, 2018 is attached to this report. (Attachment C-1)
- The Site Inspection Checklist for January 9, February 6 and March 6, 2018 are attached to this report. (Attachment C-2)
- The Leachate Disposal Checklist for the January 9, February 6 and March 9, 2018 are attached to this report. (Attachment C-3)
- The PAS Quarterly Discharge reports submitted on April 19, 2018 to the City of Oswego and the report submitted to the City of Auburn on March 6, 2018 are attached to this report. (Attachment C-4)







C -1  
GROUNDWATER ELEVATION  
DATA

O'Brien & Gere Operation (O'Brien & Gere)  
 PAS Oswego Site  
 Oswego, New York  
 Pre-Pumping Well Monitoring Levels

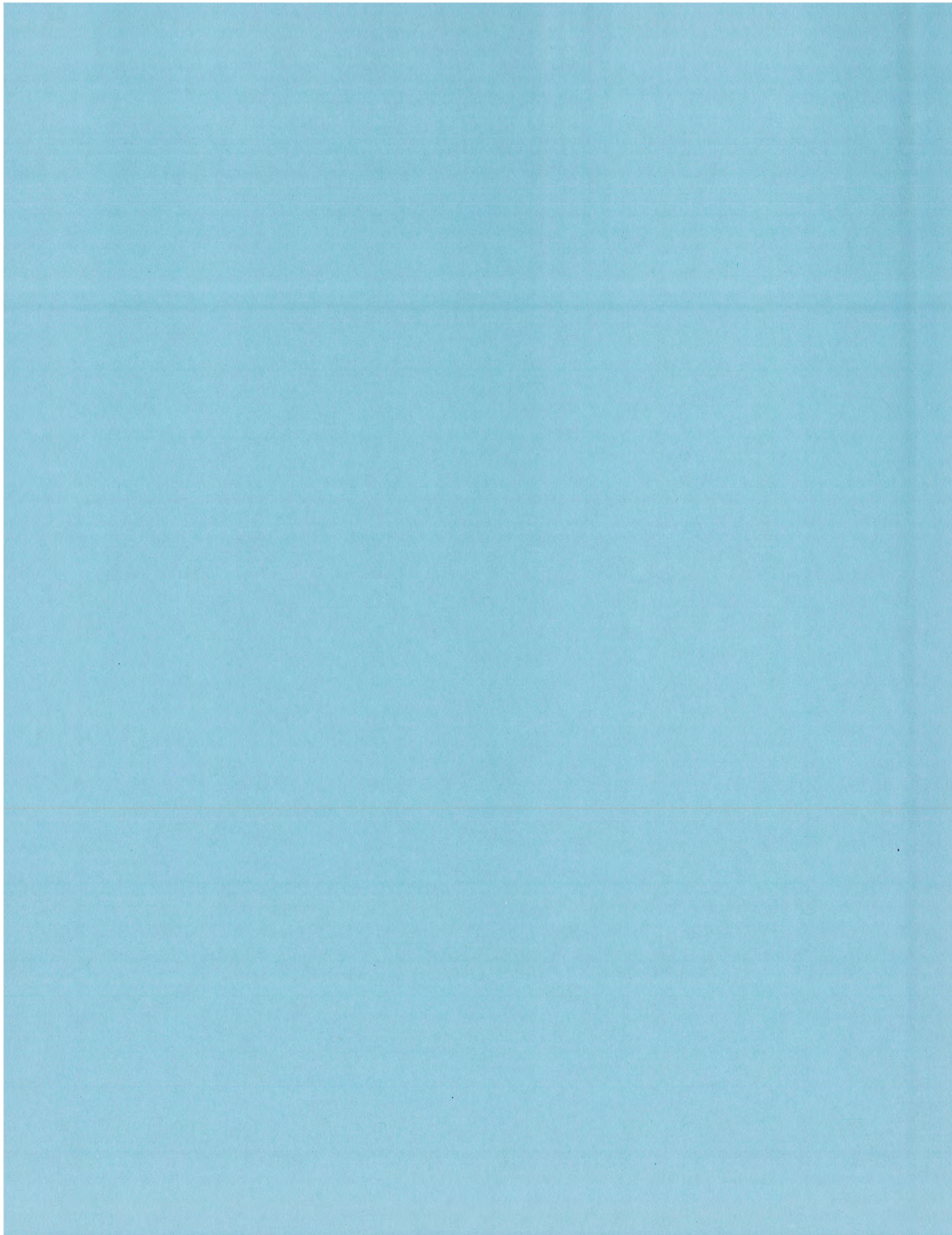
Date - 2-6-18

Technician - MARTIN KOENIG

Month - February 2018

Well Number	Riser Elevation	Well Range Verification			Monthly Onsite Field Measurements				NOTES
		Average Well Level	Low Well Level	High Well Level	Well Level (1st) Check	Well Level (2nd) Check	Well Within Range (based on historical well range data) YES NO	Well Level Check (3rd) (if "NO" & well is not within targeted range)	
SWW1	289.33	9.13	8.11	9.74	8.92	8.92	✓		
SWW2	289.37	15.59	14.48	16.08	14.62	14.62	✓		
SWW3	286.50	17.08	16.24	19.94	16.20	16.20		✓	16.20
SWW4	283.60	14.54	12.55	15.70	14.40	14.40	✓		
SWW5	277.02	13.20	12.48	14.04	12.68	12.68	✓		
SWW6	273.06	8.50	7.90	8.90	8.44	8.44	✓		
SWW7	277.93	8.04	7.54	8.30	7.44	7.44		✓	7.44
SWW8	278.24	4.02	3.78	4.30	3.90	3.90	✓		
SWW9	285.55	17.34	16.40	18.72	16.06	16.06		✓	16.06
SWW10	280.43	11.09	9.20	12.53	10.36	10.36	✓		
SWW11	273.50	9.28	8.40	10.16	8.70	8.70	✓		
SWW12	272.82	8.73	8.30	9.20	8.54	8.54	✓		
LCW-1	272.21	8.93	7.70	9.90	7.96	7.96	✓		
LCW-2	274.44	11.18	9.95	12.14	10.18	10.18	✓		
LCW-3	284.36	17.79	17.18	18.34	17.20	17.20	✓		
LCW-4	285.70	18.33	17.35	19.42	17.30	17.30		✓	17.30
OS-1	272.10	9.42	8.30	10.94	9.28	9.28	✓		
OI-1	272.00	11.21	10.90	11.80	10.96	10.96	✓		
OS-3	277.89	13.92	12.48	15.38	12.50	12.50	✓		
OD-3	277.85	13.86	12.36	15.16	12.48	12.48	✓		
LD-3	278.62	4.30	4.16	4.62	4.18	4.18	✓		
LD-4	279.25	10.52	9.82	11.90	10.34	10.34	✓		
LD-5	272.94	8.92	8.58	9.48	8.80	8.80	✓		
LS-6	274.14	9.84	8.75	11.28	9.78	9.78	✓		
LD-6	274.03	10.09	9.58	10.82	9.80	9.80	✓		
LD-8	272.83	7.64	6.56	9.52	7.82	7.82	✓		
LR-2	289.85	12.83	12.34	13.30	12.50	12.50	✓		
LR-3	278.06	7.85	7.38	8.12	7.62	7.62	✓		
LR-6	274.39	10.32	9.88	10.98	10.18	10.18	✓		
LR-8	273.42	9.77	9.30	10.20	9.60	9.60	✓		
M-21	272.32	9.54	9.06	10.44	9.48	9.48	✓		
M-22	273.88	10.18	9.62	10.94	10.15	10.15	✓		
M-23	270.49	12.32	12.05	12.65	12.24	12.24	✓		





C - 2  
SITE INSPECTION  
CHECKLIST





Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 1-9-18

Time 8:00 AM

Field Technician MARTIN KOENIGSKI

Weather Conditions OVERCAST 30°

Check **V** (tasks completed in each event)

Inspection Features	Check <b>V</b> (tasks completed in each event)		Remarks (indicate accomplishment of each maintenance task)
	Monthly	Quarterly	
<b>Land Cap</b>			
Signs of burrowing vermin	✓		SNOW COVERED
Land cap irregularities (note anomaly)	✓		SNOW COVERED
French drainage system clear and function able	✓		COVERED in SNOW
Concrete trough clear and function able	✓		COVERED in SNOW
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	✓		Yes
Discharge Pump inspected & operational	✓		Yes
Discharge pump oil level verified prior to use.	✓		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	✓		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	✓		Yes ON
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	✓		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	✓		OK



1-9-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	Yes
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	work in PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	Plowed snow
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

SITE COVERED IN SNOW THREE PLUS FEET  
 PUMPED 10,000 gallons Leachate To OSWEGO POTW

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Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 2-6-18

Time 7:15

Field Technician MARTIN KOENIGKE

Weather Conditions SNOW 19°

Check  (tasks completed in each event)

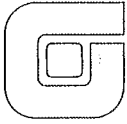
Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISIBLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		SNOW COVERED
French drainage system clear and function able	<input checked="" type="checkbox"/>		SNOW COVERED
Concrete trough clear and function able	<input checked="" type="checkbox"/>		SNOW COVERED
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		ON
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK

2-6-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	LCW-2 BROKEN off STAND - IN OPER
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	SNOW PLOWED
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	OK
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

QUARTERLY well levels TAKEN, 10,000 gallons DISCHARGED  
 TO OSWEGO POTW  
 LCW-2 POWER PANEL AT well BROKEN off of  
 PIPE STAND LAYING ON GROUND WIRES BROKEN off AT  
 BOTTOM OF CONTROL BOX, (NOT USED)



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 3-6-18

Time 7:30

Field Technician MARTIN KOENIG

Weather Conditions OVERCAST 30°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		SNOW COVERED
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		NO
French drainage system clear and function able	<input checked="" type="checkbox"/>		SNOW COVERED
Concrete trough clear and function able	<input checked="" type="checkbox"/>		SNOW COVERED
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		YES
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		YES
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		YES ADDED OIL
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		YES
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		ON
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		YES
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK



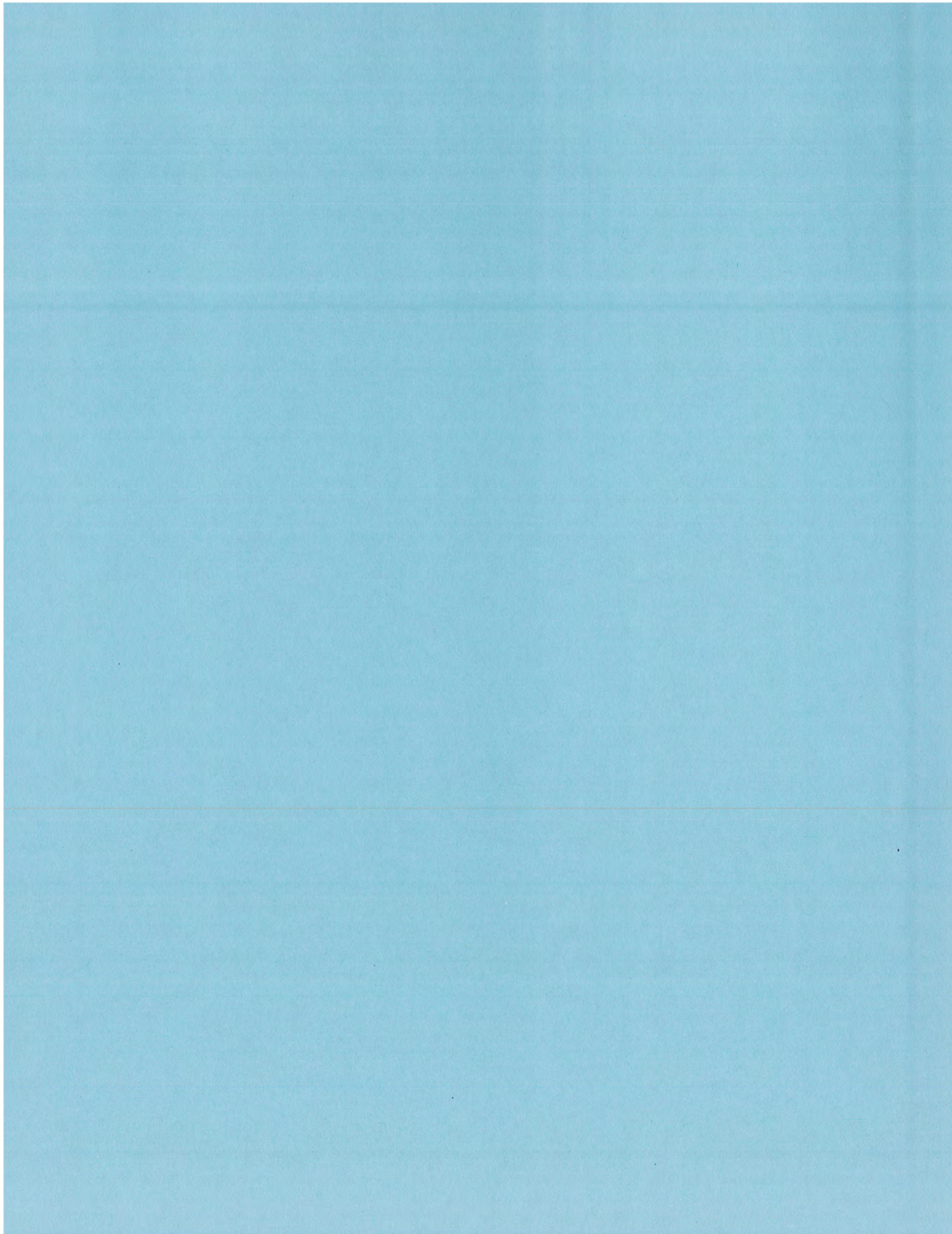
3-6-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK PLOWED SNOW
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	OK
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

LCW-2 Pump inoperable, Pumped 10,000 gal.  
Leachate to City of Oswego POTW  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





C -3  
LEACHATE DISCHARGE  
FORM





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 1-9-18

Time: 8:00 AM

Field Technician MARTIN KOENIG

Weather Conditions OVERCAST 30°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	9:30	10:50	START 10"	STOP 42"	9760
LCW-2	9:30	10:50		80 min = 9760 =	122600
LCW-3	NOT PUMPED				
LCW-4	9:30	10:50	END 9"		
Total					9760

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	11:35	13:35	6.8	48°	950165	960165	10,000
Discharge #2							
Total	(START @ 11:15 PUMP @ 11:35)				83.3 GPM		10,000
	<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							



# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 2-6-18

Time: 7:15

Field Technician MARTIN KOENNECKE

Weather Conditions SNOW 19°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	10:15	12:25	START 9"		
LCW-2	NOT PUMPED - Inoperable		END - 43"	(34" = 130 min) 80 gpm ✓	10,370
LCW-3	10:15	10:30			
LCW-4	10:15	12:25			
Total					10,370

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	12:30	14:30	6.8	48°	960165	970165	10,000
Discharge #2							
Total							10,000

	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



**O'BRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 3-6-18

Time: 7:30

Field Technician Martin Koennecke

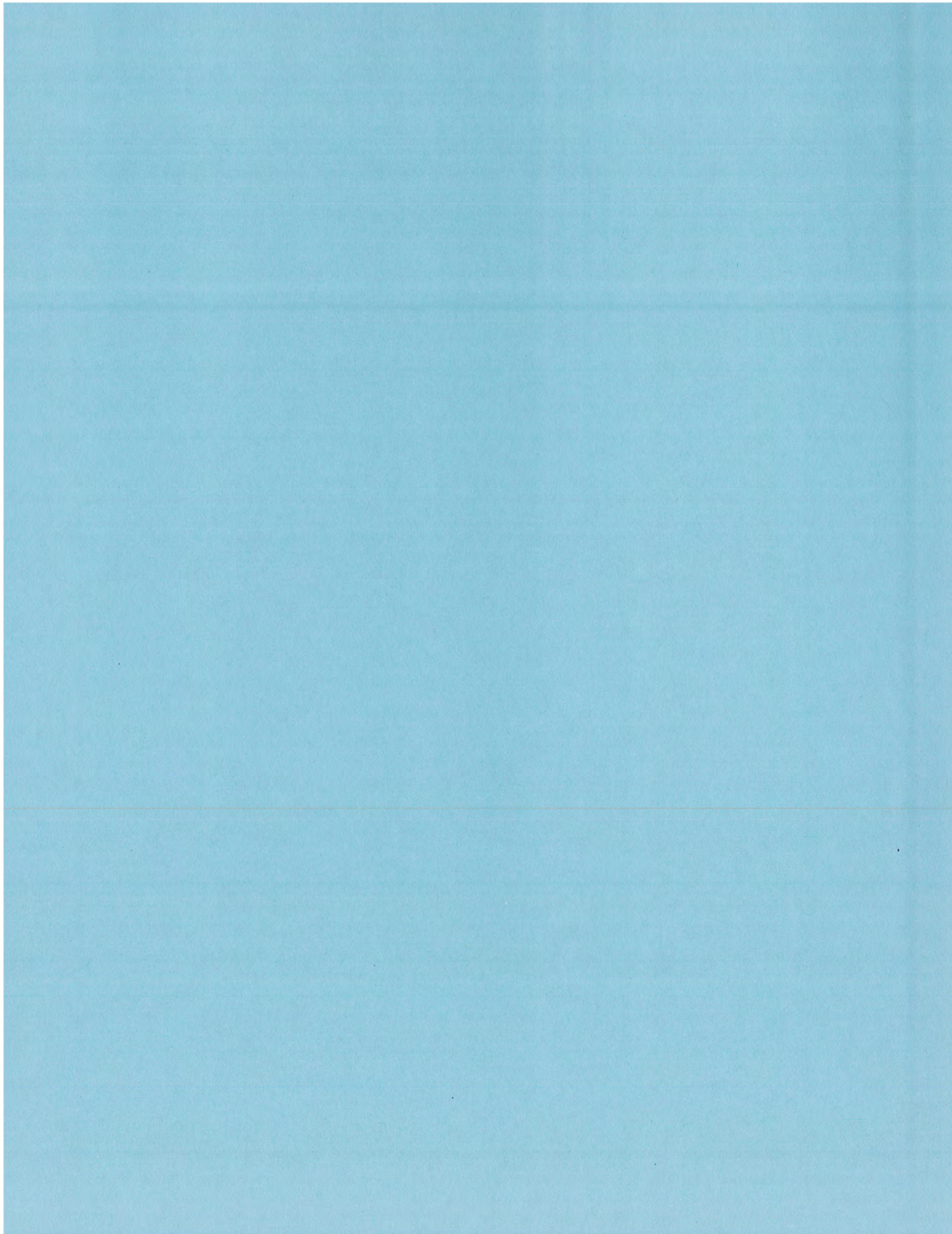
Weather Conditions overcast 30°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	9:55	START - 10"	76 GPM	10065
LCW-2	NOT USED				
LCW-3	7:30	7:50			
LCW-4	7:30	9:55	STOP - 43"		
Total					10065

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	10:00	12:00	6.8	44°	970165	980165	10,000
Discharge #2						833 GPM	
Total							10,000

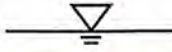
	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						





C – 4  
QUARTERLY POTW  
DISCHARGE REPORTS





***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865)691-5052  
(865)691-9835 FAX

***Via electronic mail***

April 19, 2018

Mr. Robert L. Johnson  
City Engineer Technician  
13 W. Oneida  
City Hall  
Oswego, New York 13126  
darcher@oswegony.gov

**Re: Quarterly Discharge Report – 1st Quarter 2018  
Pollution Abatement Services Site – Oswego, New York  
City of Oswego Wastewater Discharge Permit 6-2017-18**

Dear Mr. Johnson:

This quarterly report is submitted in accordance with the City of Oswego Wastewater Discharge Permit 6-2017-18 (Permit) for discharge of leachate from the Pollution Abatement Services (PAS) Site into the City of Oswego's Eastside Wastewater Treatment Facility. This report covers the reporting period from January 2018 through March 2018.

The PAS Site discharged a total of 30,000 gallons of leachate to the Oswego sewer system during the first quarter of 2018.

Discharge to City of Oswego January 2018 – March 2018 30,000 gallons

If you need additional information please call me at (865) 691-5052.

Sincerely,  
***de maximis, inc.***

  
Clay McClarnon

cc: Gary Hallinan – City of Oswego  
PAS Oswego Site Management Committee

**TABLE 1 - PAS OSWEGO SITE QUARTERLY REPORT FOR CITY OF OSWEGO (2017)  
LEACHATE DISCHARGE TO OSWEGO EASTSIDE WASTEWATER TREATMENT FACILITY  
(Oswego SIU Wastewater Discharge Permit No.6-2017-18)**

Discharge Quarter	2Q 2017		3Q 2017		4Q 2017		1Q 2018	
	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged	Date Discharged (temp/pH)	Gallons Discharged
	4/4/17	10,005	7/11/17	20,005	10/3/17	20,005	1/9/18	10,000
	45/6.8		54/6.8		54/6.8		48/6.8	
	5/3/17	20,005	8/8/17	20,005	11/15/17	10,005	2/6/18	10,000
	46/6.8		54/6.8		48.5/6.7		48/6.8	
	6/8/17	20,005	9/6/17	19,895	12/5/17	10,000	3/6/18	10,000
	53/6.8		54/6.8		54/6.7		6.8/44	
<b>Total Discharged</b>		50,015		59,905		40,010		30,000
<b>Date Sampled*</b>	<b>Permit Limit</b>					11/15/2017		
<b>Analytes</b>	<b>mg/L</b>					<b>mg/L</b>		
Antimony	0.107					ND <0.010		
Arsenic	0.358					0.021		
Beryllium	0.107					ND <0.010		
Cadmium	0.43					ND <0.010		
Chromium (total)	0.67					0.017		
Copper	0.43					0.026		
Cyanide	0.67					ND <0.010		
Lead	0.19					ND <0.010		
Mercury	0.0002					ND <0.0020		
Nickel	0.69					0.41		
Selenium	0.282					ND <0.010		
Silver	0.65					ND <0.010		
Thallium	0.073					ND <0.020		
Zinc	1					ND <0.020		
VOC**						NA		
SVOC**						NA		
BOD 5	200					15		
TSS	400					45		
Phenolics	0.375					ND <0.010		
pH	5> and <10					6.7		

\* Semi-annual sampling of PAS leachate discharge conducted in accordance with SIU Wastewater Discharge Permit No.6-2017-18.

\*\* Analytes included for permit pollutant analysis performed every three years

Analyte values in bold exceed limit

# ATTACHMENT I





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 1-9-18

Time: 8:00 A.M.

Field Technician MARTIN KUENNEKE

Weather Conditions OVERCAST 30°

Well Pump	Pre-Discharge Well Pumping				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	9:30	10:50	STMT 10"	STOP 4/2"	9760
LCW-2	9:30	10:50		80 min = 9760 =	127600
LCW-3	NOT PUMPED				
LCW-4	9:30	10:50	END 9"		
Total					9760

Discharge #	Leachate Discharge Pumping (Monthly)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	11:35	13:35	6.8	48°	950165	960165	10,000
Discharge #2							
Total	(START by 11:15 P.M. @ 11:35)				83.3 GPM		10,000
	Leachate Discharge Sampling (Semi-Annually)						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature	
Sample #1							
Sample #2 (if required)							



**O'BRIEN & GERE**

**PAS Site  
Oswego, New York**

Leachate Discharge Form

Date: 2-6-18

Time: 7:15

Field Technician MARTIN KOENNECKE

Weather Conditions SNOW 19°

<i>Pre-Discharge Well Pumping</i>					
Well Pump	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	10:15	12:25	START. 9"		
LCW-2	NOT PUMPED - Inoperable		END - 43"	34" = 130 mm	10,370
LCW-3	10:15	10:30		80 gpm	
LCW-4	10:15	12:25			
Total					10,370

<i>Leachate Discharge Pumping (Monthly)</i>							
Discharge #	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	12:30	14:30	6.8	48°	960165	970165	10,000
Discharge #2							
Total							10,000

<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						





# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 3-6-18

Time: 7:30

Field Technician MARTIN KOENNECKE

Weather Conditions OVERCAST 30°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	9:55	START - 10"	70 GPM	10065
LCW-2	NOT USED				
LCW-3	7:30	7:50			
LCW-4	7:30	9:55	STOP - 43"		
Total					10065

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	10:00	12:00	6.8	44°	970165	980165	10,000
Discharge #2						833 GPM	
Total							10,000

	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865)691-5052  
(865)691-9835 FAX

March 6, 2018

Mr. Tim O'Brien  
Department of Municipal Utilities  
35 Bradley Street  
Auburn, New York 13021

**Re: 1st Quarter PAS Oswego Progress Report 2018**

Dear Mr. O'Brien,

This letter confirms that the PAS Oswego Site has not shipped or discharged any wastewater from the PAS Oswego collection system to the City of Auburn POTW during December 2017– February 2018. This has been due to the EPA allowance of an alternate disposal method.

- **Cumulative gallons removed for discharge in Auburn 1st Qtr. 2018 - 0**
- **Cumulative gallons removed for discharge in Auburn 2018 - 0**

Since no wastewater was shipped or discharged to Auburn during the 1<sup>st</sup> quarter of 2018, no analytical testing was required. However, we continue to perform Site maintenance and sampling activities under the Operation, Monitoring and Maintenance Program for the Site approved by EPA. The data associated with that program indicate little change in the characteristics of the Site wastewater.

Please contact me at (865) 691-5052, if you have any questions.

Sincerely,  
***de maximis, inc.***

Clay McClarnon

CMC/dsr

cc: PAS Management Committee



March 6, 2018

Mr. Timothy L. O'Brien  
Industrial Pretreatment Coordinator  
35 Bradley Street  
Auburn, NY 13021

**Re: Industrial Pretreatment Program  
Zero Discharge Certification Statement:**

Dear Mr. O'Brien

For the reporting quarter(s) of December 2017 to February 2018, I certify that for Pollution Abatement Services located in Oswego New York:

1. There have been no changes to any of our processes resulting in the potential for the discharge from the process waste stream.
  
2. No discharge of process wastewater has occurred since December 7, 2017.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Clay McClarnon  
Name

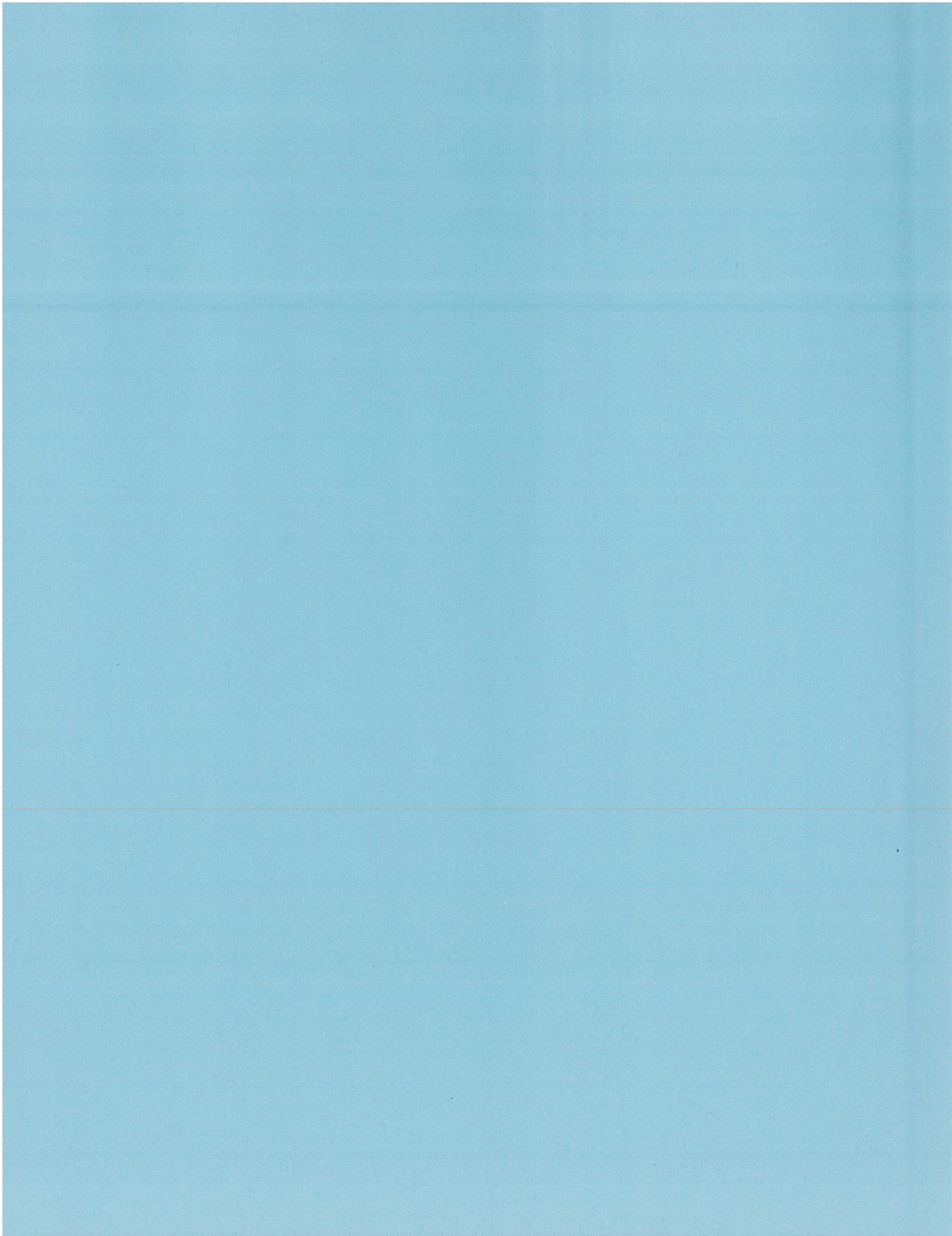
Project Coordinator  
Title

  
Signature

March 6, 2017  
Date

(865) 691-5052  
Phone







II – D  
2<sup>ND</sup> QUARTER REPORT 2018

**QUARTERLY PROGRESS REPORT – 2nd QUARTER 2018**  
***Operation, Maintenance and Long-term Monitoring Activities***

**PROJECT NAME:**      *Pollution Abatement Services Site*  
                                  *Oswego, New York*

**PERIOD COVERED:**    April – June (2nd Quarter) 2018

**ACTIONS TAKEN DURING QUARTER:**

- Leachate removal and site maintenance and monitoring activities were conducted at the Pollution Abatement Services (PAS) site (Site), in Oswego, NY by OBG Operations LLC (OBG) consistent with the PAS Site Operation, Maintenance and Long-term Monitoring Plan (Work Plan).
- A total of 50,000 gallons of leachate were removed from the Site during the period of April, May and June 2018. Specific quantities of leachate removed included 10,000 gallons in April, 20,000 gallons in May and 20,000 gallons in June. Details of the leachate removal for each month, along with historical leachate removal documentation are described in this progress report.
- During the months of April – June 2018, leachate was pumped monthly from the PAS Site. The leachate was pumped into the City of Oswego East Side Wastewater Treatment Plant in accordance with City of Oswego Industrial User Permit no. 6-2017-18.
- Quarterly groundwater elevation monitoring was performed on May 7, 2018. Quarterly groundwater elevation monitoring results for the SWW- series monitoring wells (SWW-1 through SWW-12), leachate collection wells (LCW-1 through LCW-4), M-series wells (M-21 through M-23), LR-series wells (LR-2, 3, 6 and 8), LD-series wells (LD-3, 4, 5, 6, and 8), along with wells OS-1, OS-3, OI-1, OD-3 and LS-6 were recorded on the Pre-Pumping Well Monitoring Level Form. (Attachment D-1)
- Site maintenance activities were conducted monthly in combination with the monthly leachate removal event. The Site Inspection Checklist was used to document the land cap, leachate discharge system, leachate collection system and general Site conditions. (Attachment D-2) Monthly Site maintenance activities included the following:
  - Inspected the perimeter security fence of the Site. No discrepancies were reported at the time of the inspection.
  - The Site single French drainage system and two (2) concrete troughs were visually inspected. No discrepancies were reported at the time of the inspection.
  - Visually inspected the Site slurry-wall containment vegetated cap for signs of burrowing vermin or surface anomalies. No discrepancies were reported at the time of the inspections.



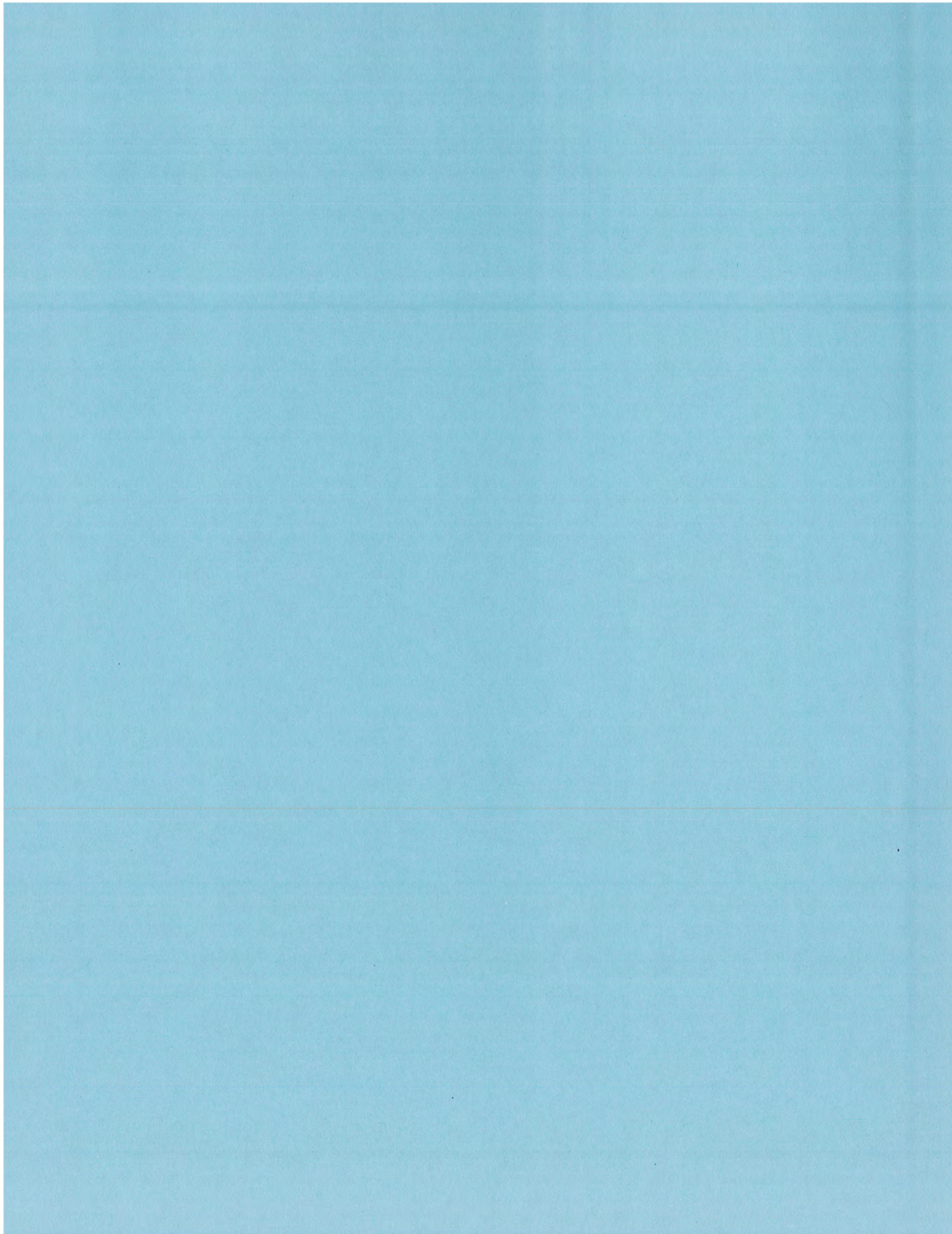
- Visually inspected the leachate collection system pumping equipment to verify proper operation. The field technician inspected each pump control panel to ensure control systems were generally free of rodents and insects, and were properly operating. The leachate holding tank was visually inspected for integrity, as were the leachate tanks steel protective roof, and wood structure. No discrepancies were reported at the time of the inspection.
- The Site wooden utility shed and leachate pumping equipment, including centrifuge discharge pump, flow meter, suction hose, pump oils levels, heat trace power panel, interior lighting, exterior and interior shed structure, and main power distribution panel were inspected. No discrepancies were reported at the time of the inspection.
- On April 3, May 9, and June 5, 2018, OBG performed the monthly pre-pumping collection system inspection for leachate collection wells LCW-1, 2, 3 & 4, along with inspection of the leachate discharge pumping system. Observations were recorded on the Site Inspection Checklist. LCW-2 was inoperable during the period. In advance of each leachate removal event, OBG informed the City of Oswego POTW of the anticipated discharge. (Attachment D-2)
- Upon completing the monthly leachate collection system inspections, OBG manually energized the four leachate collection pumps, identified as LCW-1, LCW-2, LCW-3, and LCW-4, in order to pump the planned volume of leachate into the leachate collection tank. The run time from each leachate collection pump, along with the leachate tank level taken upon completion of well pumping, was recorded on the Leachate Disposal Checklist. LCW-2 was inoperable; however, LCW-1 continued to pump leachate from the down gradient trench. (Attachment D-3)
- During the months of April, May and June 2018, OBG pumped a combined total of 50,000 gallons of leachate from LCW 1, 2, 3 & 4 into the leachate collection tank and then into the City of Oswego POTW. The volume and flow rate of each leachate discharge was recorded onto the Leachate Disposal Checklist, as was leachate water pH, and temperature. The amount discharged was recorded onto the Leachate Disposal Checklist. No leachate was shipped to Auburn New York during the period. Therefore, no bill of lading was generated. (Attachment D-3)
- Upon completing each monthly leachate discharge the tank suction hoses were placed back into the leachate hold tank and the leachate pump system was shut down and prepared for storage. The concrete leachate hold tank was secured, as was the wooden maintenance shed. Upon the completion of monthly Site activities, the Site metal access gates were closed and padlocked.
- On May 7, 2018, OBG performed the semi-annual groundwater sampling for monitoring wells LR-8, M-21, and leachate collection wells LCW2 and LCW4. Based on the 2016 Annual Report, well OD-3 was included in the sampling event, and wells M-22 and LR-6 were not sampled during this event. Sampling activities for long term monitoring wells were conducted using low-flow sampling protocols described in the Work Plan. Samples were preserved using industry standard methods, and delivered to Life Science Laboratories in East Syracuse, NY for analysis. (Attachment D-4)

- The PAS Oswego Site quarterly discharge report for the 2nd quarter of 2017 for the City of Oswego was submitted on July 14, 2017 in accordance with Permit 6-2017-18. The quarterly report to the City of Auburn was submitted on June 5, 2017. (Attachment D-5)

#### **DOCUMENTATION OF REMOVAL ACTIVITIES FOR PREVIOUS QUARTER**

- The Groundwater Pre-Pumping Well Monitoring Level Form for May 1, 2017 is attached to this report. (Attachment D-1)
- The Site Inspection Checklist for April 4, May 4 and June 8, 2017 are attached to this report. (Attachment D-2)
- The Leachate Disposal Checklist for the April 4, May 3 and June 8, 2017 are attached to this report. (Attachment D-3)
- The validated lab report for the Semi-annual Groundwater sampling of LR-8, M-21 and the sampling for, LCW2, LCW4 and OD-3 performed on May 1, 2017 is attached to this report. (Attachment D-4)
- The PAS Quarterly Discharge reports submitted on July 14, 2017 to the City of Auburn and the report submitted to the City of Oswego on June 5, 2017 are attached to this report. (Attachment D-5)





D -1  
GROUNDWATER  
ELEVATION  
DATA



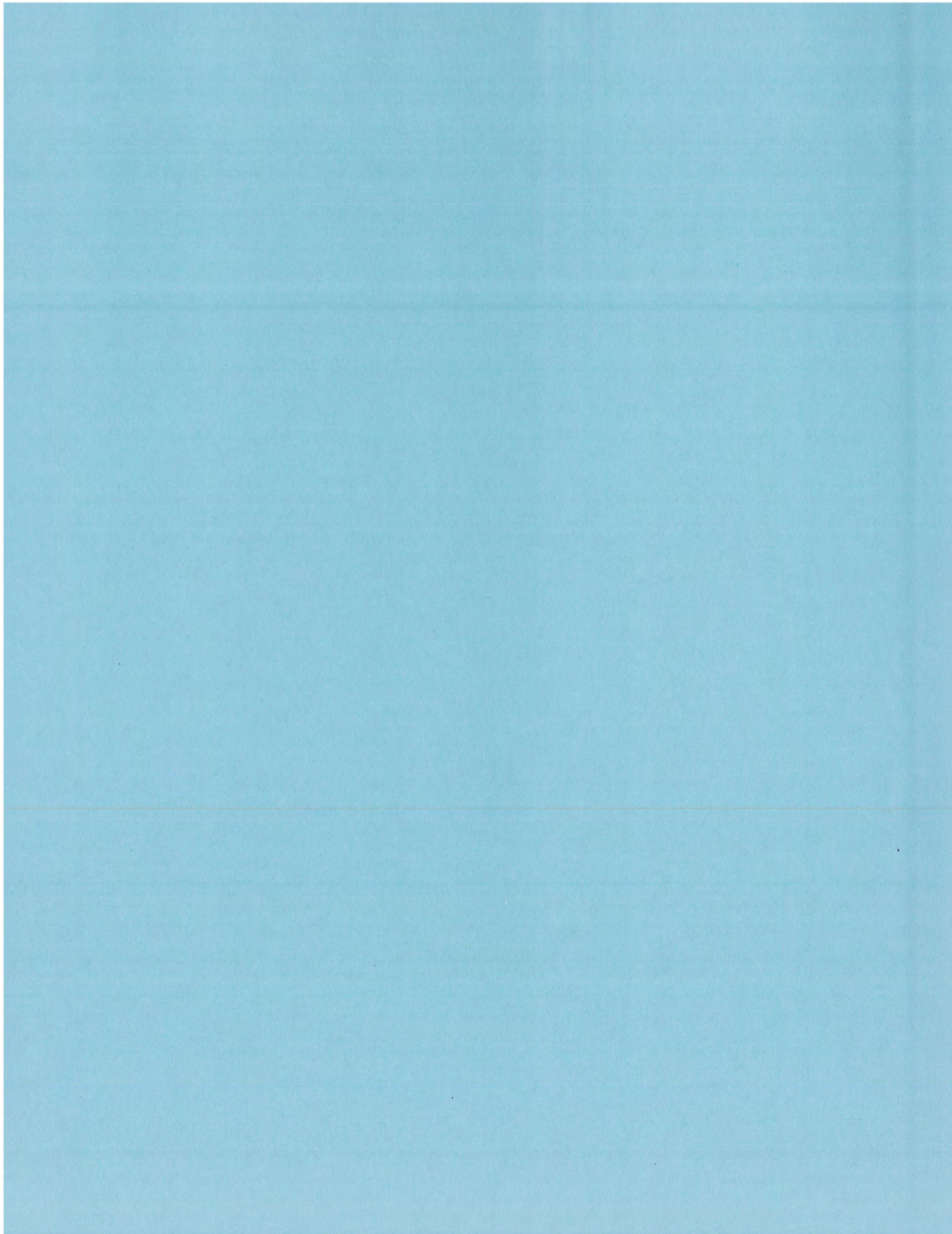
O'Brien & Gere Operation (O'Brien & Gere)  
 PAS Oswego Site  
 Oswego, New York  
 Pre-Pumping Well Monitoring Levels

Date - 5-7-18

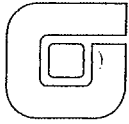
Technician - MARTIN KOENVECKE

Month - May 2018

Well Number	Riser Elevation	Well Range Verification			Monthly Onsite Field Measurements				NOTES
		Average Well Level	Low Well Level	High Well Level	Well Level (1st) Check	Well Level (2nd) Check	Well Within Range (based on historical well range data) YES NO	Well Level Check (3rd) (if "NO" & well is not within targeted range)	
SWW1	289.33	9.25	8.22	10.00	9.10	9.10			
SWW2	289.37	14.99	14.14	15.42	14.38	14.38			
SWW3	286.50	16.58	15.84	17.00	16.08	16.08			
SWW4	283.60	14.73	12.62	15.94	14.14	14.14			
SWW5	277.02	12.77	11.74	13.46	12.00	12.00			
SWW6	273.06	8.57	7.58	9.21	8.22	8.22			
SWW7	277.93	7.52	7.02	7.90	7.02	7.02			
SWW8	278.24	3.99	3.40	4.54	3.72	3.72			
SWW9	285.55	16.43	15.68	17.16	15.84	15.84			
SWW10	280.43	11.23	8.50	12.62	9.88	9.88			
SWW11	273.50	8.69	7.50	9.50	7.94	7.94			
SWW12	272.82	8.60	7.58	9.23	8.28	8.28			
LCW-1	272.21	8.24	7.04	9.12	7.06	7.06			
LCW-2	274.44	10.49	9.27	11.36	9.30	9.30			
LCW-3	284.36	17.69	17.24	18.05	17.66	17.66			
LCW-4	285.70	17.62	16.82	18.56	16.96	16.96			
OS-1	272.10	8.83	6.40	11.40	8.80	8.80			
OI-1	272.00	11.20	10.14	12.28	11.06	11.06			
OS-3	277.89	14.22	11.70	15.30	14.06	14.06			
OD-3	277.85	14.06	11.58	15.12	13.90	13.90			
LD-3	278.62	4.19	3.78	4.64	4.10	4.10			
LD-4	279.25	10.76	8.68	11.79	9.96	9.96			
LD-5	272.94	8.69	7.84	9.42	8.54	8.54			
LS-6	274.14	9.63	7.95	10.74	9.34	9.34			
LD-6	274.03	10.01	9.32	10.65	9.40	9.40			
LD-8	272.83	7.32	6.08	8.30	7.02	7.02			
LR-2	289.85	13.19	12.96	13.42	13.06	13.06			
LR-3	278.06	7.75	7.10	8.36	7.28	7.28			
LR-6	274.39	10.15	9.44	10.66	9.94	9.94			
LR-8	273.42	9.82	9.04	10.35	9.72	9.72			
M-21	272.32	9.50	8.75	10.02	9.15	9.15			
M-22	273.88	10.16	9.38	10.64	9.92	9.92			
M-23	270.49	12.10	11.02	12.88	12.30	12.30			



D – 2  
SITE INSPECTION  
CHECKLIST



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 4-3-18

Time 7:30

Field Technician MARTIN KOENIGKE

Weather Conditions OVERCAST 35°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISIBLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		Yes
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		ON
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK

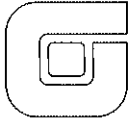


4-3-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	OK
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

Pumped 10,000 gal Leachate To Holding Tank AND DISCHARGED  
 To Oswego POTW  
 Semi Annual Discharge samples TAKEN FOR Oswego POTW  
 (John Mignotta)  
 (LCW-2 NOT OPERATIONAL)



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 5-9-18

Time 7:45

Field Technician MARTIN KOENNECKE

Weather Conditions Sunny 60°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISABLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		OK
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		TURNED off
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK

5-9-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	work in Progress
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

LCW-2 Temporarily REPAIRED 5-8-18, Quarterly well Levels TAKEN, SEMI ANNUAL well sampling Done 5-7-18 AND 5-8-18, Pumped 20,000 gal To POTW Oswego



Site Inspection Checklist (v2)

Former Pollution Abatement Services (PAS Oswego)  
Oswego, New York

Date 6-5-18

Time 7:25

Field Technician MARTIN KOENNECKE

Weather Conditions OVERCAST 55°

Check  (tasks completed in each event)

Inspection Features	Monthly	Quarterly	Remarks (indicate accomplishment of each maintenance task)
	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Land Cap</b>			
Signs of burrowing vermin	<input checked="" type="checkbox"/>		NONE VISIBLE
Land cap irregularities (note anomaly)	<input checked="" type="checkbox"/>		OK
French drainage system clear and function able	<input checked="" type="checkbox"/>		OK
Concrete trough clear and function able	<input checked="" type="checkbox"/>		OK
<b>Leachate Discharge System</b>			
City of Oswego sanitary discharge valve positioned "Open"	<input checked="" type="checkbox"/>		Yes
Discharge Pump inspected & operational	<input checked="" type="checkbox"/>		Yes
Discharge pump oil level verified prior to use.	<input checked="" type="checkbox"/>		Yes
Discharge pump drained of residual water (drained upon completion of monthly discharge)	<input checked="" type="checkbox"/>		Yes
Heat trace system operational & verified in the "ON" position (Applicable Oct - May)	<input checked="" type="checkbox"/>		off
Flow totalizer operational. Flow readings recorded onto "Leachate Discharge Form"	<input checked="" type="checkbox"/>		Yes
<b>Leachate Collection System</b>			
Leachate holding tank visually inspected for structural integrity	<input checked="" type="checkbox"/>		OK



6-5-18

Leachate holding tank metal roof inspected for structural integrity	✓	OK
Leachate tank access doors locked (post pump out)	✓	Yes
Pump power panel(s) secured	✓	Yes
<b>Monitoring Wells (MW)</b>		
Locks installed	✓	Yes
MW's marked & identifiable	✓	OK
<b>General Site Condition</b>		
Trees & brush cleared off security fence	✓	WORK IN PROGRESS
Perimeter security fence intact & free of damage	✓	OK
Site access driveway inspected & free on snow & damage	✓	OK
Security access gates / Padlock & chain serviceable	✓	Yes
Site gate signage intact	✓	Yes
Interior & exterior of utility storage shed inspected for damage & secure with locks	✓	Yes
Fire extinguisher serviceable, inspected, and inspection recorded	✓	Yes EXCHANGED WITH NEWLY INSPECTED
Spill control material inspected & adequate	✓	Yes
PPE available and utilized as required	✓	Yes
Emergency contact information posted within shed	✓	Yes

Additional remarks (use separate sheet is required)

PUMPED 20,000 GALLONS LEACHATE TO OSWEGO POTW  
 WEED WHACKED AROUND SHED AND TANK AREAS

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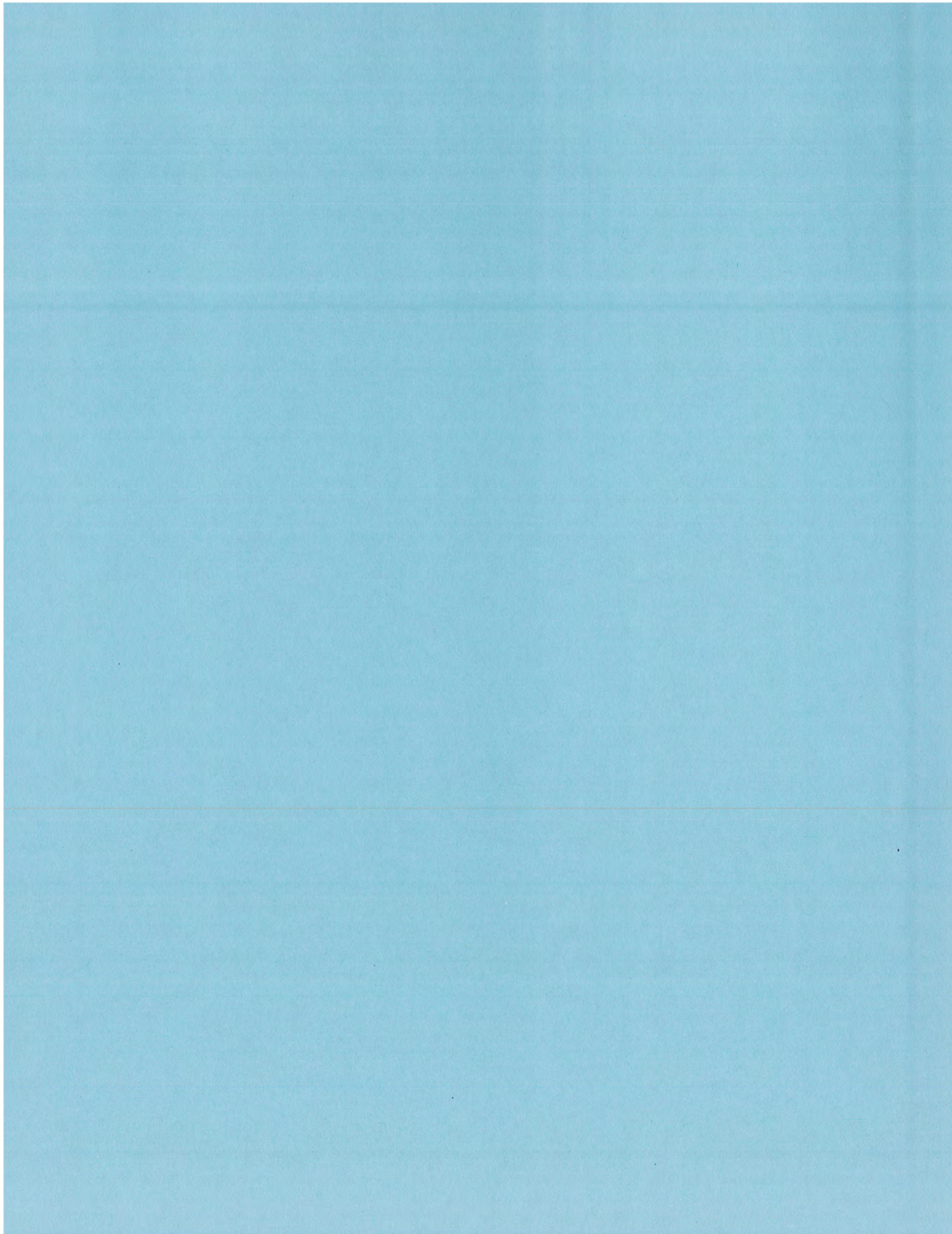


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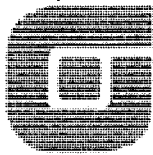


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D - 3  
LEACHATE DISCHARGE FORM



O'BRIEN & GERE

PAS Site  
Oswego, New York

Leachate Discharge Form

Date: 4-3-18

Time: 7:30

Field Technician MARTIN Koennecke

Weather Conditions overcast 35°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	9:45		73.4 GPM	
LCW-2	NOT PUMPED				
LCW-3	7:30	8:00	START - 11"		
LCW-4	7:30	9:45	STOP - 43.5" $\approx 32.5"$	73 GPM	
				Total	9,912

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:55	11:55	6.8	44°	980165	990165	10,000
Discharge #2							
Total							10,000

	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1	4-3-18	SAMPLE PWT	3g/L	11:45	6.8	44°
Sample #2 (if required)						

Jane Magrath - Oswego PWT pickup samples  
Comp - 10:00 - 11:45  
6:00 - 11:40





# O'BRIEN & GERE

PAS Site  
Oswego, New York

## Leachate Discharge Form

Date: 5-9-18

Time: 7:45

Field Technician MARTIN KOENIG

Weather Conditions SUNNY 60°

<i>Pre-Discharge Well Pumping</i>					
Well Pump	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:45	11:45		104 gpm	19,695
LCW-2	7:45	11:45			
LCW-3	7:45	8:00			
LCW-4	7:45	9:40	Intermittent		
Total					19,695

START 13" @ 920 - 45" = 104 Gpm END 12"

<i>Leachate Discharge Pumping (Monthly)</i>							
Discharge #	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:20	13:15	6.8	48°	990165	1010165	20,000
Discharge #2							
Total							20,000

<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 6-5-18

Time: 7:25

Field Technician MARTIN KOENNECKE

Weather Conditions P-Sunny-55°

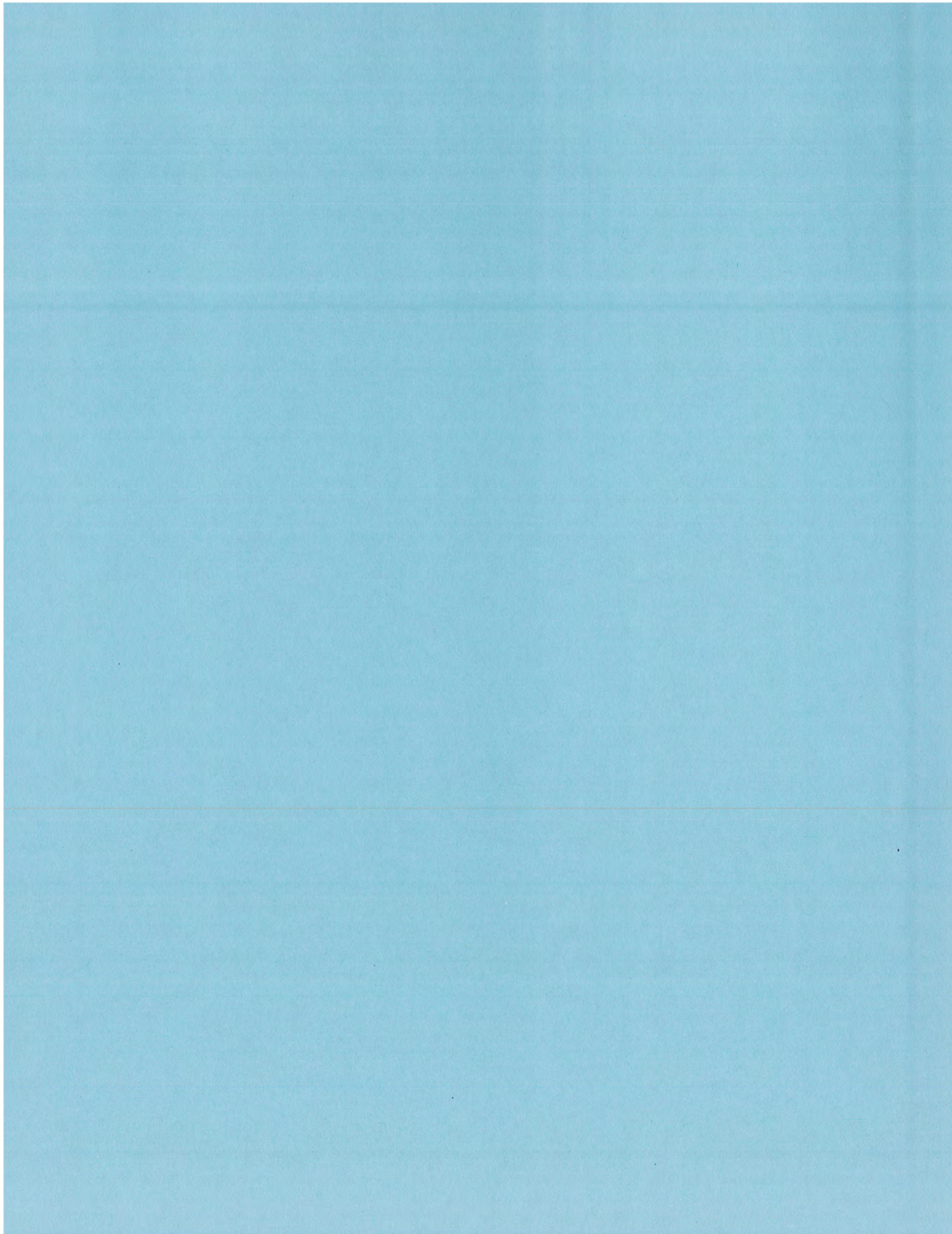
Well Pump	Pre-Discharge Well Pumping				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	11:00	START-12"	113.8 GPM	<del>20,000</del> MK
LCW-2	7:30	11:00			19,368
LCW-3	7:30	7:50			
LCW-4	7:30	9:15	INTERMITTENT	RUNNING	
Total					<del>20,000</del> MK 19,368

Post Pumpout 10"

Discharge #	Leachate Discharge Pumping (Monthly)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:10	13:05	6.8	49°	1010165	1030165	20,000
Discharge #2							
Total							20,000

	Leachate Discharge Sampling (Semi-Annually)					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						





D – 4  
SEMIANNUAL LEACHATE  
AND GROUNDWATER  
MONITORING DATA



**DATA VALIDATION**

**FOR**

**WATER MONITORING  
PAS Oswego  
OSWEGO, NEW YORK**

**ORGANIC ANALYSIS DATA  
Volatiles in Water  
Laboratory Job No.  
1806874**

**Analyses Performed**

**By:**

**Life Sciences Laboratory  
East Syracuse, NY**

**For:**

**de maximis, inc.  
Knoxville, TN 37919**

**Data Validation By:**

**ddms, inc.  
St. Paul, Minnesota 55108**

**July 9, 2018**

**1547-3131/psn  
PAS\1806874Voa**

## EXECUTIVE SUMMARY

Validation of the volatile organics analysis data prepared by Life Sciences Laboratories, Inc. for seven water samples, one equipment blank, and one trip blank supporting the PAS Oswego Semi Annual Well Sampling event has been completed by de maximis Data Management Solutions, Inc. (ddms). The data were reported by the laboratory under Laboratory Job No. 1806874. The following samples were reported:

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Equipment Blank LR-6	M-21 LCW-2	LR-8 LCW-4	OD-3 Trip Blank	X-1
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Based on the validation effort, the following qualifiers were applied:

- Results for acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane were qualified as estimated (J, UJ).
- Results for chlorobenzene in M-21, LR-8, LCW-2, and LCW-4 were qualified estimated (J+) and may be biased high.
- Results for cyclohexane in M-21 and LR-8 were qualified estimated (J) and presumptively present (N), and results for cyclohexane in the remaining samples and for Freon 113 and methyl acetate in all samples were rejected (R).

All other results were determined to be valid as reported. Details of the validation findings and conclusions based on review of the results for each quality control requirement are provided in the remaining sections of this report.

Documentation issues are discussed in Section XIII.

This report should be considered part of the data package for all future distributions of the volatiles data.

## INTRODUCTION

Analyses were performed in accordance with USEPA SW-846 Method 8260C. This method does not stipulate a reporting format, however, the laboratory provided a "CLP-type" data package for review. Results of sample analyses were reported by the laboratory without qualifications.

Since no validation guidelines specific to the analytical method employed are available, ddms' validation was performed, to the extent possible, in conformance with EPA's "Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8260B & 8260C, SOP NO. HW-24, Revision 4" as well as ddms' "Standard Operating Procedure: Validation and Review of Volatile Organic Data; ECS-SOP-003". Professional judgment was applied as necessary and appropriate.

The data validation process is intended to evaluate data on a technical basis rather than a contract compliance basis for chemical analyses conducted under the referenced methods. An initial assumption is that the data package is presented in accordance with the CLP requirements (or "CLP-like," as in this case). It is also assumed that the data package represents the best efforts of the laboratory and has already been subjected to adequate and sufficient quality review prior to submission for validation.

During the validation process, laboratory data are verified against all available supporting documentation. Based on the findings of the evaluation, qualifier codes may be added by the data validator. Validated results are, therefore, either qualified or unqualified. Unqualified results mean that the reported values may be used without reservation. Final validated results are annotated with the following codes as defined by the Region II Guidelines:

- U     The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
- J     The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+    The result is an estimated quantity, but the result may be biased high.
- J-    The result is an estimated quantity, but the result may be biased low.
- NJ    The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- R     The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) Criteria. The analyte may or may not be present in the sample.

These codes are recorded on the Data Summary Forms contained in Attachment A and the Organic Analysis Report Sheets in Attachment B of this validation report to indicate qualifications placed on the results based on the data review.

All data users should note two facts. First, the "R" qualifier means that the laboratory-reported value is unusable. In other words, due to significant quality control problems, the analysis is invalid and provides no information as to whether the analyte is present or not. Rejected values should not appear on data tables because they cannot be relied upon, even as a last resort. Second, no concentration is guaranteed to be accurate even if all associated quality control is acceptable. Strict quality control conformance serves only to increase confidence in reported results; any analytical result will always contain some error.

The data user is also cautioned that the validation effort is based on the raw data printouts as provided by the laboratory. Software manipulation cannot be routinely detected during validation; unless otherwise stated in the report, these kinds of issues are outside the scope of this review.



## **I. Holding Times, Preservation and Sample Integrity**

A copy of the applicable chain of custody (COC) record was included in the data package, documenting sample collection dates of May 7 and 8, 2018. The samples were hand delivered to the laboratory on May 8, 2018. The temperature of the cooler on receipt at the laboratory was acceptable ( $2.0^{\circ}\text{C}$ ; criteria  $4.0^{\circ}\text{C} \pm 2.0^{\circ}\text{C}$ ). Acceptable preservation of samples ( $\text{pH} < 2$ ) was noted in the narrative. The samples were analyzed on May 9, 2018, within the 14-day holding time for preserved samples.

## **II. GC/MS Instrument Performance Check**

Summary forms were provided for two bromofluorobenzene (BFB) instrument performance check run on instrument "#3MS10", representing the periods during which the samples and associated standards were analyzed. The performance checks were fully documented and acceptable.

## **III. Calibration**

Manual integrations were indicated on the IC quantitation reports for several analyte responses, however no supporting documentation was provided to verify that the integrations were appropriately performed. The validation was completed under the assumption that all manual integrations were appropriately performed.

### A. Initial Calibration (IC)

One IC was performed in support of these sample analyses. Documentation of all of ten of the individual IC standards was present in the data package and relative response factors (RRFs) as well as percent relative standard deviation (%RSD) values were accurately reported. All reported %RSD values were below the maximum acceptance limit of 20 percent for all site-specific compounds. All average RRFs were acceptable (greater than 0.05) with the exception of acetone (0.026) and 2-butanone (0.043). For 2-hexanone and 1,2-dibromo-3-chloropropane, the average RRF over the calibration range was acceptable, however the RRFs at the lower end of the calibration range were biased low. Results for acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane were qualified as estimated (J, UJ) due to excursions in the IC.

The laboratory states in the narrative that Freon 113, methyl acetate, and cyclohexane were not part of the calibration. Accurate identification and quantitation is not possible due to the absence of RFs and RTs for the target compounds. As a result, the laboratory reported cyclohexane in two of the samples using the closest internal standard to report estimated concentrations. However, positive identification is not possible in the absence of RT and mass spectra. Results for cyclohexane in M-21 and LR-8 were qualified estimated (J) and presumptively present (N). Results for cyclohexane

in the remaining samples and for Freon 113 and methyl acetate in all samples were rejected (R) because neither the presence nor absence can be verified based on the data provided. (See XIII. Documentation)

#### B. Continuing Calibration (CC)

One CC was performed on May 9, 2018. All RRF values were acceptable. The percent difference (%D) for several compounds exhibited an increase in sensitivity. In all cases except acetone (46%D), the compound was not detected in any of the samples, and no data were qualified on this basis. For acetone in M-21 and LR-8, the result is qualified as estimated (J) and may be biased high due to the increase in sensitivity from the IC.

#### **IV. Blanks**

One laboratory method blank was analyzed in support of these samples. One trip blank and one equipment blank were submitted in support of these samples. No compounds were detected in any of the blanks.

#### **V. Surrogate Compound Recovery**

Recoveries of all of the surrogate compounds were correctly calculated, accurately reported, and within acceptance limits.

#### **VI. Spike Analysis**

##### A. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses were performed on LR-8. All percent recoveries were acceptable with the exception of chlorobenzene (130%R; validation acceptance criteria 70-130%R) in the MS. Results for chlorobenzene in M-21, LR-8, LCW-2, and LCW-4 were qualified estimated (J+) and may be biased high due to MS/MSD recoveries.

##### B. Blank Spike

Two blank spikes were reported with these samples. All percent recoveries and relative percent differences (RPDs) were acceptable with the exception of acetone (31%RPD; data validation criteria 30%). Results for acetone in M-21 and LR-8 were qualified as estimated (J) due to poor precision between paired LCS results.

## **VII. Field Duplicate**

Sample OD-3 was collected as a blind field duplicate of Sample X-1. Since none of the target compounds were detected in either sample, no evaluation of precision could be made.

## **VIII. Internal Standard Performance**

All internal standard (IS) areas and retention times were within quality control limits for the applicable analyses.

## **IX. Target Compound Identification**

Target analytes were detected in five of these samples and an acceptable mass spectrum was provided for most of the compounds detected.

Analyte-specific reporting limits (RLs) are equal to at least the lowest standard in the calibration range, in most cases higher than the lowest standard, and are well supported by the IC.

## **X. Compound Quantitation and Reporting Limits**

Target compound concentrations and RLs were correctly calculated and accurately reported for all samples and spike samples, including adjustments for any dilution factors.

The Data Summary Forms in Attachment A list all individual sample analytes. Where no result is listed, the compound was not detected and the RL was not qualified. Sample-specific RLs may be calculated from the information on the data summary form by multiplying the quantitation limit (far left column) by the dilution factor.

## **XI. Tentatively Identified Compounds (TIC)**

Tentative identification of non-target compounds was not a requirement of this analytical program.

## **XII. System Performance**

The analytical system appears to have been working satisfactorily at the time of these analyses, based on evaluation of the available raw data.

### **XIII. Documentation**

The chain-of-custody record was present and accurately completed for the samples reported in this data package.

The following documentation issues were observed during the validation of these data:

- The sample identifications on the COC did not include the sample date. The laboratory appended the sample dates to the field identifications to facilitate database requirements. The sample identifications provided on the COC have been used throughout this report. While this documentation issue does not affect the usability of the data, it could be problematic if the data were used in litigation.
- The LCS/LCSD and MS/MSD summary forms report Freon 113, methyl acetate, and cyclohexane as having been spiked with no recoveries. At the request of the data user, the laboratory may be requested to submit a revised data package to reflect that these compounds were not spiked into the LCS/LCSD or MS/MSD spiking solutions.
- As discussed in the calibration section, cyclohexane, Freon 113, and methyl acetate were not included in the IC. No documentation was provided in the data package to support that the laboratory can accurately identify these compounds. In the absence of compound specific response factors, accurate quantitation is not possible. At the discretion of the data user, the laboratory may be requested to provide any available data to support the reported presence and/or absence of these compounds in the samples.

These documentation issues do affect the usability of the data, in addition to being problematic if the data were used in litigation.

### **XIV. Overall Assessment**

Based on the validation effort, the following qualifiers were applied:

- Results for acetone in M-21 and LR-8 were qualified as estimated (J+) and may be biased high due to the increase in sensitivity from the IC.
- Results for acetone, 2-butanone, 2-hexanone, and 1,2-dibromo-3-chloropropane were qualified as estimated (J, UJ) due to excursions in the IC.



- Results for chlorobenzene in M-21, LR-8, LCW-2, and LCW-4 were qualified estimated (J+) and may be biased high due to MS/MSD recoveries.
- Results for acetone in M-21 and LR-8 were qualified as estimated (J) due to poor precision between paired LCS results.
- Results for cyclohexane in M-21 and LR-8 were qualified estimated (J) and presumptively present (N), and results for cyclohexane in the remaining samples and for Freon 113 and methyl acetate in all samples were rejected (R) because neither the presence nor absence can be verified based on the data provided.

All other results are valid as reported.

Documentation issues observed in the data package are described in Section XIII.

This validation report should be considered part of the data package for all future distributions of the volatiles data.

**ATTACHMENT A**

**DATA SUMMARY FORMS  
Laboratory Job No. 1806874  
Volatiles in Water**

DATA SUMMARY FORM: VOLATILES  
SEMI-ANNUAL WELL SAMPLES  
(ug/L)

Site Name: PAS Oswego

Sampling Date: May 7, 2018

Laboratory Job No. 1806874

ddms Project No. 1547-3131

Sample Location Lab Sample ID Dilution Factor RL	Equipment Blank	M-21	OD-3	X-1	LR-8	LCW-2	LCW-4
	1806874-001	1806874-002	1806874-003	1806874-004	1806874-005	1806874-006	1806874-007
	1.0	1.0	1.0	1.0	1.0	5.0	20
1.00 Dichlorodifluoromethane							
1.00 Chloromethane							
1.00 Vinyl Chloride						26.0	
1.00 Bromomethane							
1.00 Chloroethane		1.33			3.91	3.75	62.2
1.00 Trichlorofluoromethane							
0.50 1,1-Dichloroethene							
1,1,2-Trichloro-1,2,2-trifluoroethane	R	R	R	R	R	R	R
10.0 Acetone	UJ	1.17	J	UJ	2.46	J	UJ
0.50 Carbon Disulfide							
Methyl Acetate	R	R	R	R	R	R	R
2.00 Methylene Chloride							
0.50 trans-1,2-Dichloroethene						1.15	J
1.00 MTBE							
0.50 1,1-Dichloroethane						28.3	2.60
0.50 cis-1,2-Dichloroethene						168	2.20
10.0 2-Butanone	UJ	UJ	UJ	UJ	UJ	UJ	UJ
0.50 Chloroform						3.25	
0.50 1,1,1-Trichloroethane						13.0	
Cyclohexane	R	1.30	JN	R	R	2.00	JN
0.50 Carbon Tetrachloride							
0.50 Benzene		0.17	J		0.48	J	134
0.50 1,2-Dichloroethane							458
0.50 Trichloroethene						26.6	
0.50 Methylcyclohexane		0.16	J		0.21	J	2.00
0.50 1,2-Dichloropropane							
0.50 Bromodichloromethane							
0.50 cis-1,3-Dichloropropene							
5.00 4-Methyl-2-pentanone							
0.50 Toluene		0.21	J		0.28	J	15.4
0.50 trans-1,3-Dichloropropene							
0.50 1,1,2-Trichloroethane						1.45	J
0.50 Tetrachloroethene						118	
5.00 2-Hexanone	UJ	UJ	UJ	UJ	UJ	UJ	UJ
0.50 Dibromochloromethane							
0.50 1,2-Dibromoethane							
0.50 Chlorobenzene		5.75	J+		11.6	J+	28.4
0.50 Ethylbenzene						2.60	84.0
1.00 Xylenes (total)							695.00
0.50 Styrene							
1.00 Bromoform							
0.50 Isopropylbenzene		0.48	J		0.57	1.15	J
0.50 1,1,2,2-Tetrachloroethane						4.40	4.20
0.50 1,3-Dichlorobenzene					0.11	J	
0.50 1,4-Dichlorobenzene		0.32	J		0.64		3.40
0.50 1,2-Dichlorobenzene		0.52			0.43	J	1.35
5.00 1,2-Dibromo-3-chloropropane	UJ	UJ	UJ	UJ	UJ	UJ	UJ
1.00 1,2,4-Trichlorobenzene							

DATA SUMMARY FORM: VOLATILES  
SEMI-ANNUAL WELL SAMPLES  
(ug/L)

Site Name: PAS Oswego

Sampling Date: May 7, 2018

Laboratory Job No. 1806874

ddms Project No. 1547-3131

RL	Sample Location Lab Sample ID Dilution Factor	QC Trip Blank																		
		1806874-008																		
		1.0																		
1.00	Dichlorodifluoromethane																			
1.00	Chloromethane																			
1.00	Vinyl Chloride																			
1.00	Bromomethane																			
1.00	Chloroethane																			
1.00	Trichlorofluoromethane																			
0.50	1,1-Dichloroethene																			
0.50	1,1,2-Trichloro-1,2,2-trifluoroethane	R																		
10.0	Acetone		UJ																	
0.50	Carbon Disulfide																			
5.00	Methyl Acetate	R																		
2.00	Methylene Chloride																			
0.50	trans-1,2-Dichloroethene																			
1.00	MTBE																			
0.50	1,1-Dichloroethane																			
0.50	cis-1,2-Dichloroethene																			
10.0	2-Butanone		UJ																	
0.50	Chloroform																			
0.50	1,1,1-Trichloroethane																			
0.50	Cyclohexane	R																		
0.50	Carbon Tetrachloride																			
0.50	Benzene																			
0.50	1,2-Dichloroethane																			
0.50	Trichloroethene																			
0.50	Methylcyclohexane																			
0.50	1,2-Dichloropropane																			
0.50	Bromodichloromethane																			
0.50	cis-1,3-Dichloropropene																			
5.00	4-Methyl-2-pentanone																			
0.50	Toluene																			
0.50	trans-1,3-Dichloropropene																			
0.50	1,1,2-Trichloroethane																			
0.50	Tetrachloroethene																			
5.00	2-Hexanone		UJ																	
0.50	Dibromochloromethane																			
0.50	1,2-Dibromoethane																			
0.50	Chlorobenzene																			
0.50	Ethylbenzene																			
1.00	Xylenes (total)																			
0.50	Styrene																			
1.00	Bromoform																			
0.50	Isopropylbenzene																			
0.50	1,1,2,2-Tetrachloroethane																			
0.50	1,3-Dichlorobenzene																			
0.50	1,4-Dichlorobenzene																			
0.50	1,2-Dichlorobenzene																			
5.00	1,2-Dibromo-3-chloropropane		UJ																	
1.00	1,2,4-Trichlorobenzene																			



**ATTACHMENT B**

**ORGANIC ANALYSIS REPORT SHEETS  
Laboratory Job No. 1806874  
Volatiles in Water**



# Life Science Laboratories, Inc.

5854 Butternut Drive  
East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

**Lab ID:** 1806874-001A  
**Client Sample ID:** *Equipment Blank 5/7/18*  
**Collection Date:** 05/07/18 11:40  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5081.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 14:36
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 14:36
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 14:36
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 14:36
Chloroethane	ND		1.00	0.33	µg/L	1	05/09/18 14:36
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 14:36
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/09/18 14:36
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	<del>0.10</del>	µg/L	1	05/09/18 14:36
Acetone	ND		10.0	1.00	µg/L	1	05/09/18 14:36
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 14:36
Methyl acetate	ND		<del>5.00</del>	<del>1.00</del>	µg/L	1	05/09/18 14:36
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 14:36
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 14:36
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 14:36
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 14:36
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Cyclohexane	ND		<del>0.50</del>	<del>0.10</del>	µg/L	1	05/09/18 14:36
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Benzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 14:36
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 14:36
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 14:36
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 14:36
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 14:36
Toluene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 14:36
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 14:36
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 14:36
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 14:36

**Qualifiers:** \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit  
 B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	1806874-001A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	<i>Equipment Blank 5/7/18</i>
<b>W Order:</b>	1806874	<b>Collection Date:</b>	05/07/18 11:40
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/08/18 16:05
<b>Inst. ID:</b>	MS03_10	<b>PrepDate:</b>	
<b>ColumnID:</b>	Rtx-502.2	<b>BatchNo:</b>	R32210
<b>Revision:</b>	06/11/18 13:33	<b>FileID:</b>	1-SAMP-J5081.D
<b>Col Type:</b>			

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/09/18 14:36
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/09/18 14:36
Styrene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
Bromoform	ND		1.00	0.33	µg/L	1	05/09/18 14:36
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/09/18 14:36
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 14:36
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/09/18 14:36
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/09/18 14:36
Surr: 1,2-Dichloroethane-d4	94		75-130	0.16	%REC	1	05/09/18 14:36
Surr: Toluene-d8	102		75-125	0.10	%REC	1	05/09/18 14:36
Surr: 4-Bromofluorobenzene	95		75-125	0.10	%REC	1	05/09/18 14:36

*Polly S. Newbold*  
*7/5/2018*

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-002A  
**Client Sample ID:** M-21 5/7/18  
**Collection Date:** 05/07/18 12:35  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5082.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 15:06
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 15:06
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 15:06
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 15:06
Chloroethane	1.33		1.00	0.33	µg/L	1	05/09/18 15:06
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 15:06
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/09/18 15:06
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		0.50	<del>0.10</del>	µg/L	1	05/09/18 15:06
Acetone	1.17 JS		10.0	1.00	µg/L	1	05/09/18 15:06
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 15:06
Methyl acetate	<del>ND</del>		5.00	<del>1.00</del>	µg/L	1	05/09/18 15:06
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 15:06
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 15:06
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 15:06
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 15:06
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 15:06
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Cyclohexane	1.30#		0.50	0.10	µg/L	1	05/09/18 15:06
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Benzene	0.17 J		0.50	0.10	µg/L	1	05/09/18 15:06
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 15:06
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Methylcyclohexane	0.16 J		0.50	0.10	µg/L	1	05/09/18 15:06
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 15:06
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 15:06
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 15:06
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 15:06
Toluene	0.21 J		0.50	0.10	µg/L	1	05/09/18 15:06
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 15:06
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 15:06
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 15:06
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 15:06

**Qualifiers:**  
\* Value may exceed the Acceptable Level  
E Value exceeds the instrument calibration range  
J Analyte detected below the PQL  
P Prim./Conf. column %D or RPD exceeds limit  
B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
ND Not Detected at the Practical Quantitation Limit (PQL)  
S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well Sampling  
 W Order: 1806874  
 Matrix: WATER  
 Inst. ID: MS03\_10  
 ColumnID: Rtx-502.2  
 Revision: 06/11/18 13:33  
 Col Type:

Lab ID: 1806874-002A  
 Client Sample ID: M-21 5/7/18  
 Collection Date: 05/07/18 12:35  
 Date Received: 05/08/18 16:05  
 PrepDate:  
 BatchNo: R32210  
 FileID: 1-SAMP-J5082.D

Sample Size NA  
 %Moisture:  
 TestCode: 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/09/18 15:06
Chlorobenzene	5.75		0.50	0.10	µg/L	1	05/09/18 15:06
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/09/18 15:06
Styrene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
Bromoform	ND		1.00	0.33	µg/L	1	05/09/18 15:06
Isopropylbenzene	0.48	J	0.50	0.10	µg/L	1	05/09/18 15:06
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/09/18 15:06
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 15:06
1,4-Dichlorobenzene	0.32	J	0.50	0.16	µg/L	1	05/09/18 15:06
1,2-Dichlorobenzene	0.52		0.50	0.10	µg/L	1	05/09/18 15:06
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/09/18 15:06
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/09/18 15:06
Surr: 1,2-Dichloroethane-d4	93		75-130	0.16	%REC	1	05/09/18 15:06
Surr: Toluene-d8	102		75-125	0.10	%REC	1	05/09/18 15:06
Surr: 4-Bromofluorobenzene	96		75-125	0.10	%REC	1	05/09/18 15:06

### NOTES:

#Estimated value. The associated QC criteria were not satisfied for this analyte.

*Polly S. Newbold*  
 7/5/2018

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 06/11/18 13:36

870108

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT: O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well Sampling  
 W Order: 1806874  
 Matrix: WATER  
 Inst. ID: MS03\_10  
 ColumnID: Rtx-502.2  
 Revision: 06/11/18 13:33  
 Col Type:

Lab ID: 1806874-003A  
 Client Sample ID: OD-3 5/7/18  
 Collection Date: 05/07/18 14:15  
 Date Received: 05/08/18 16:05  
 PrepDate:  
 BatchNo: R32210  
 FileID: 1-SAMP-J5083.D

Sample Size NA  
 %Moisture:  
 TestCode: 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 15:35
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 15:35
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 15:35
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 15:35
Chloroethane	ND		1.00	0.33	µg/L	1	05/09/18 15:35
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 15:35
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/09/18 15:35
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		<del>0.50</del>	<del>0.16</del>	µg/L	1	05/09/18 15:35
Acetone	ND		10.0	1.00	µg/L	1	05/09/18 15:35
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 15:35
Methyl acetate	<del>ND</del>		<del>5.00</del>	<del>1.00</del>	µg/L	1	05/09/18 15:35
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 15:35
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 15:35
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 15:35
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 15:35
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 15:35
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 15:35
Cyclohexane	<del>ND</del>		<del>0.50</del>	<del>0.10</del>	µg/L	1	05/09/18 15:35
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 15:35
Benzene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 15:35
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/09/18 15:35
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 15:35
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 15:35
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 15:35
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 15:35
Toluene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 15:35
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 15:35
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 15:35
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 15:35
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 15:35

Qualifiers: \* Value may exceed the Acceptable Level B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-003A  
**Client Sample ID:** OD-3 5/7/18  
**Collection Date:** 05/07/18 14:15  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5083.D

**Sample Size:** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND	0.50	0.16	µg/L	1	05/09/18 15:35	
Chlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
Ethylbenzene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
Xylenes (total)	ND	1.00	0.30	µg/L	1	05/09/18 15:35	
Styrene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
Bromoform	ND	1.00	0.33	µg/L	1	05/09/18 15:35	
Isopropylbenzene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
1,1,2,2-Tetrachloroethane	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
1,3-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
1,4-Dichlorobenzene	ND	0.50	0.16	µg/L	1	05/09/18 15:35	
1,2-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 15:35	
1,2-Dibromo-3-chloropropane	ND	5.00	1.00	µg/L	1	05/09/18 15:35	
1,2,4-Trichlorobenzene	ND	1.00	0.10	µg/L	1	05/09/18 15:35	
Surr: 1,2-Dichloroethane-d4	94	75-130	0.16	%REC	1	05/09/18 15:35	
Surr: Toluene-d8	101	75-125	0.10	%REC	1	05/09/18 15:35	
Surr: 4-Bromofluorobenzene	96	75-125	0.10	%REC	1	05/09/18 15:35	

*Dolly S. Newbold*  
7/5/2018

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

State Cert No: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-004A  
**Client Sample ID:** X-1 5/7/18  
**Collection Date:** 05/07/18 0:00  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5084.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 16:05
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 16:05
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 16:05
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 16:05
Chloroethane	ND		1.00	0.33	µg/L	1	05/09/18 16:05
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 16:05
1,1-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 16:05
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		<del>0.50</del>	<del>0.16</del>	µg/L	1	05/09/18 16:05
Acetone	ND		10.0	1.00	µg/L	1	05/09/18 16:05
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 16:05
Methyl acetate	<del>ND</del>		<del>5.00</del>	<del>1.00</del>	µg/L	1	05/09/18 16:05
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 16:05
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 16:05
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 16:05
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 16:05
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 16:05
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 16:05
Cyclohexane	<del>ND</del>		<del>0.50</del>	0.10	µg/L	1	05/09/18 16:05
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 16:05
Benzene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 16:05
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/09/18 16:05
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 16:05
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 16:05
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 16:05
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 16:05
Toluene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 16:05
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 16:05
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:05
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 16:05
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 16:05

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- B Analyte detected in the associated Method Blank
- E Value exceeds the instrument calibration range
- H Holding times for preparation or analysis exceeded
- J Analyte detected below the PQL
- ND Not Detected at the Practical Quantitation Limit (PQL)
- P Prim./Conf. column %D or RPD exceeds limit
- S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

**Lab ID:** 1806874-004A  
**Client Sample ID:** X-1 5/7/18  
**Collection Date:** 05/07/18 0:00  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** I-SAMP-J5084.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND	0.50	0.16	µg/L	1	05/09/18 16:05	
Chlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
Ethylbenzene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
Xylenes (total)	ND	1.00	0.30	µg/L	1	05/09/18 16:05	
Styrene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
Bromoform	ND	1.00	0.33	µg/L	1	05/09/18 16:05	
Isopropylbenzene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
1,1,2,2-Tetrachloroethane	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
1,3-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
1,4-Dichlorobenzene	ND	0.50	0.16	µg/L	1	05/09/18 16:05	
1,2-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/09/18 16:05	
1,2-Dibromo-3-chloropropane	ND	5.00	1.00	µg/L	1	05/09/18 16:05	
1,2,4-Trichlorobenzene	ND	1.00	0.10	µg/L	1	05/09/18 16:05	
Surr: 1,2-Dichloroethane-d4	95	75-130	0.16	%REC	1	05/09/18 16:05	
Surr: Toluene-d8	101	75-125	0.10	%REC	1	05/09/18 16:05	
Surr: 4-Bromofluorobenzene	97	75-125	0.10	%REC	1	05/09/18 16:05	

*Colly S. Newbold*  
7/5/2018

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %Dr or RPD exceeds limit      S Spike Recovery outside accepted recovery limits

Print Date: 06/11/18 13:36

870110

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well Sampling  
 W Order: 1806874  
 Matrix: WATER  
 Inst. ID: MS03\_10  
 ColumnID: Rtx-502.2  
 Revision: 06/11/18 13:33  
 Col Type:

Lab ID: 1806874-005A  
 Client Sample ID: LR-8 5/7/18  
 Collection Date: 05/08/18 9:30  
 Date Received: 05/08/18 16:05  
 PrepDate:  
 BatchNo: R32210  
 FileID: 1-SAMP-J5085.D

Sample Size NA  
 %Moisture:  
 TestCode: 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 16:34
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 16:34
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 16:34
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 16:34
Chloroethane	3.91		1.00	0.33	µg/L	1	05/09/18 16:34
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 16:34
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/09/18 16:34
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		<del>0.50</del>	<del>0.16</del>	µg/L	1	05/09/18 16:34
Acetone	2.46		10.0	1.00	µg/L	1	05/09/18 16:34
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 16:34
Methyl acetate	<del>ND</del>		<del>5.00</del>	<del>1.00</del>	µg/L	1	05/09/18 16:34
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 16:34
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 16:34
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 16:34
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 16:34
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 16:34
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Cyclohexane	2.00		0.50	0.10	µg/L	1	05/09/18 16:34
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Benzene	0.48		0.50	0.10	µg/L	1	05/09/18 16:34
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 16:34
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Methylcyclohexane	0.21		0.50	0.10	µg/L	1	05/09/18 16:34
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 16:34
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 16:34
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 16:34
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 16:34
Toluene	0.28		0.50	0.10	µg/L	1	05/09/18 16:34
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 16:34
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 16:34
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 16:34
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 16:34

Qualifiers: \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit  
 B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-005A  
**Client Sample ID:** LR-8 5/7/18  
**Collection Date:** 05/08/18 9:30  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5085.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/09/18 16:34
Chlorobenzene	11.6		0.50	0.10	µg/L	1	05/09/18 16:34
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/09/18 16:34
Styrene	ND		0.50	0.10	µg/L	1	05/09/18 16:34
Bromoform	ND		1.00	0.33	µg/L	1	05/09/18 16:34
Isopropylbenzene	0.57		0.50	0.10	µg/L	1	05/09/18 16:34
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/09/18 16:34
1,3-Dichlorobenzene	0.11	J	0.50	0.10	µg/L	1	05/09/18 16:34
1,4-Dichlorobenzene	0.64		0.50	0.16	µg/L	1	05/09/18 16:34
1,2-Dichlorobenzene	0.43	J	0.50	0.10	µg/L	1	05/09/18 16:34
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/09/18 16:34
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/09/18 16:34
Surr: 1,2-Dichloroethane-d4	95		75-130	0.16	%REC	1	05/09/18 16:34
Surr: Toluene-d8	101		75-125	0.10	%REC	1	05/09/18 16:34
Surr: 4-Bromofluorobenzene	97		75-125	0.10	%REC	1	05/09/18 16:34

### NOTES:

#Estimated value. The associated QC criteria were not satisfied for this analyte.

*Polly S. Newbold*  
7/5/2018

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-006A  
**Client Sample ID:** LCW-2 5/7/18  
**Collection Date:** 05/08/18 12:45  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5079.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		5.00	0.50	µg/L	5	05/09/18 13:37
Chloromethane	ND		5.00	1.65	µg/L	5	05/09/18 13:37
Vinyl chloride	26.0		5.00	1.65	µg/L	5	05/09/18 13:37
Bromomethane	ND		5.00	1.65	µg/L	5	05/09/18 13:37
Chloroethane	3.75 J		5.00	1.65	µg/L	5	05/09/18 13:37
Trichlorofluoromethane	ND		5.00	0.50	µg/L	5	05/09/18 13:37
1,1-Dichloroethene	ND		2.50	0.80	µg/L	5	05/09/18 13:37
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		<del>2.50</del>	<del>0.50</del>	µg/L	5	05/09/18 13:37
Acetone	6.85 J		50.0	5.00	µg/L	5	05/09/18 13:37
Carbon disulfide	ND		2.50	0.55	µg/L	5	05/09/18 13:37
Methyl acetate	<del>ND</del>		<del>25.0</del>	<del>5.00</del>	µg/L	5	05/09/18 13:37
Methylene chloride	ND		10.0	0.80	µg/L	5	05/09/18 13:37
trans-1,2-Dichloroethene	1.15 J		2.50	0.50	µg/L	5	05/09/18 13:37
Methyl tert-butyl ether	ND		5.00	0.80	µg/L	5	05/09/18 13:37
1,1-Dichloroethane	28.3		2.50	0.50	µg/L	5	05/09/18 13:37
cis-1,2-Dichloroethene	168		2.50	0.50	µg/L	5	05/09/18 13:37
2-Butanone	ND		50.0	5.00	µg/L	5	05/09/18 13:37
Chloroform	3.25		2.50	0.50	µg/L	5	05/09/18 13:37
1,1,1-Trichloroethane	13.0		2.50	0.50	µg/L	5	05/09/18 13:37
Cyclohexane	<del>ND</del>		<del>2.50</del>	<del>0.60</del>	µg/L	5	05/09/18 13:37
Carbon tetrachloride	ND		2.50	0.50	µg/L	5	05/09/18 13:37
Benzene	134		2.50	0.50	µg/L	5	05/09/18 13:37
1,2-Dichloroethane	ND		2.50	0.80	µg/L	5	05/09/18 13:37
Trichloroethene	26.6		2.50	0.50	µg/L	5	05/09/18 13:37
Methylcyclohexane	ND		2.50	0.50	µg/L	5	05/09/18 13:37
1,2-Dichloropropane	ND		2.50	0.80	µg/L	5	05/09/18 13:37
Bromodichloromethane	ND		2.50	0.50	µg/L	5	05/09/18 13:37
cis-1,3-Dichloropropene	ND		2.50	0.80	µg/L	5	05/09/18 13:37
4-Methyl-2-pentanone	ND		25.0	5.00	µg/L	5	05/09/18 13:37
Toluene	ND		2.50	0.50	µg/L	5	05/09/18 13:37
trans-1,3-Dichloropropene	ND		2.50	0.80	µg/L	5	05/09/18 13:37
1,1,2-Trichloroethane	1.45 J		2.50	0.80	µg/L	5	05/09/18 13:37
Tetrachloroethene	118		2.50	0.50	µg/L	5	05/09/18 13:37
2-Hexanone	ND		25.0	5.00	µg/L	5	05/09/18 13:37
Dibromochloromethane	ND		2.50	0.50	µg/L	5	05/09/18 13:37

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

State Cert No: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-006A  
**Client Sample ID:** LCW-2 5/7/18  
**Collection Date:** 05/08/18 12:45  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5079.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		2.50	0.80	µg/L	5	05/09/18 13:37
Chlorobenzene	28.4		2.50	0.50	µg/L	5	05/09/18 13:37
Ethylbenzene	2.60		2.50	0.50	µg/L	5	05/09/18 13:37
Xylenes (total)	ND		5.00	1.50	µg/L	5	05/09/18 13:37
Styrene	ND		2.50	0.50	µg/L	5	05/09/18 13:37
Bromoform	ND		5.00	1.65	µg/L	5	05/09/18 13:37
Isopropylbenzene	1.15	J	2.50	0.50	µg/L	5	05/09/18 13:37
1,1,2,2-Tetrachloroethane	4.40		2.50	0.50	µg/L	5	05/09/18 13:37
1,3-Dichlorobenzene	ND		2.50	0.50	µg/L	5	05/09/18 13:37
1,4-Dichlorobenzene	ND		2.50	0.80	µg/L	5	05/09/18 13:37
1,2-Dichlorobenzene	1.35	J	2.50	0.50	µg/L	5	05/09/18 13:37
1,2-Dibromo-3-chloropropane	ND		25.0	5.00	µg/L	5	05/09/18 13:37
1,2,4-Trichlorobenzene	ND		5.00	0.50	µg/L	5	05/09/18 13:37
Surr: 1,2-Dichloroethane-d4	92		75-130	0.80	%REC	5	05/09/18 13:37
Surr: Toluene-d8	102		75-125	0.50	%REC	5	05/09/18 13:37
Surr: 4-Bromofluorobenzene	94		75-125	0.50	%REC	5	05/09/18 13:37

*Collyer Newbold*  
7/5/2018

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

State Cert No: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-007A  
**Client Sample ID:** LCW-4 5/7/18  
**Collection Date:** 05/08/18 13:50  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5080.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		20.0	2.00	µg/L	20	05/09/18 14:07
Chloromethane	ND		20.0	6.60	µg/L	20	05/09/18 14:07
Vinyl chloride	ND		20.0	6.60	µg/L	20	05/09/18 14:07
Bromomethane	ND		20.0	6.60	µg/L	20	05/09/18 14:07
Chloroethane	62.2		20.0	6.60	µg/L	20	05/09/18 14:07
Trichlorofluoromethane	ND		20.0	2.00	µg/L	20	05/09/18 14:07
1,1-Dichloroethene	ND		10.0	3.20	µg/L	20	05/09/18 14:07
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		<del>10.0</del>	<del>2.00</del>	µg/L	20	05/09/18 14:07
Acetone	ND		200	20.0	µg/L	20	05/09/18 14:07
Carbon disulfide	ND		10.0	2.20	µg/L	20	05/09/18 14:07
Methyl acetate	<del>ND</del>		<del>100</del>	<del>20.0</del>	µg/L	20	05/09/18 14:07
Methylene chloride	ND		40.0	3.20	µg/L	20	05/09/18 14:07
trans-1,2-Dichloroethene	ND		10.0	2.00	µg/L	20	05/09/18 14:07
Methyl tert-butyl ether	ND		20.0	3.20	µg/L	20	05/09/18 14:07
1,1-Dichloroethane	2.60 J		10.0	2.00	µg/L	20	05/09/18 14:07
cis-1,2-Dichloroethane	2.20 J		10.0	2.00	µg/L	20	05/09/18 14:07
2-Butanone	ND		200	20.0	µg/L	20	05/09/18 14:07
Chloroform	ND		10.0	2.00	µg/L	20	05/09/18 14:07
1,1,1-Trichloroethane	ND		10.0	2.00	µg/L	20	05/09/18 14:07
Cyclohexane	<del>ND</del>		<del>10.0</del>	<del>2.00</del>	µg/L	20	05/09/18 14:07
Carbon tetrachloride	ND		10.0	2.00	µg/L	20	05/09/18 14:07
Benzene	458		10.0	2.00	µg/L	20	05/09/18 14:07
1,2-Dichloroethane	ND		10.0	3.20	µg/L	20	05/09/18 14:07
Trichloroethene	ND		10.0	2.00	µg/L	20	05/09/18 14:07
Methylcyclohexane	2.00 J		10.0	2.00	µg/L	20	05/09/18 14:07
1,2-Dichloropropane	ND		10.0	3.20	µg/L	20	05/09/18 14:07
Bromodichloromethane	ND		10.0	2.00	µg/L	20	05/09/18 14:07
cis-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/09/18 14:07
4-Methyl-2-pentanone	ND		100	20.0	µg/L	20	05/09/18 14:07
Toluene	15.4		10.0	2.00	µg/L	20	05/09/18 14:07
trans-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/09/18 14:07
1,1,2-Trichloroethane	ND		10.0	3.20	µg/L	20	05/09/18 14:07
Tetrachloroethene	ND		10.0	2.00	µg/L	20	05/09/18 14:07
2-Hexanone	ND		100	20.0	µg/L	20	05/09/18 14:07
Dibromochloromethane	ND		10.0	2.00	µg/L	20	05/09/18 14:07

**Qualifiers:** \* Value may exceed the Acceptable Level B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

## Analytical Results

State Cert No: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-007A  
**Client Sample ID:** LCW-4 5/7/18  
**Collection Date:** 05/08/18 13:50  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5080.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		10.0	3.20	µg/L	20	05/09/18 14:07
Chlorobenzene	342		10.0	2.00	µg/L	20	05/09/18 14:07
Ethylbenzene	84.0		10.0	2.00	µg/L	20	05/09/18 14:07
Xylenes (total)	695		20.0	6.00	µg/L	20	05/09/18 14:07
Styrene	ND		10.0	2.00	µg/L	20	05/09/18 14:07
Bromoform	ND		20.0	6.60	µg/L	20	05/09/18 14:07
isopropylbenzene	4.20 J		10.0	2.00	µg/L	20	05/09/18 14:07
1,1,2,2-Tetrachloroethane	ND		10.0	2.00	µg/L	20	05/09/18 14:07
1,3-Dichlorobenzene	ND		10.0	2.00	µg/L	20	05/09/18 14:07
1,4-Dichlorobenzene	3.40 J		10.0	3.20	µg/L	20	05/09/18 14:07
1,2-Dichlorobenzene	24.2		10.0	2.00	µg/L	20	05/09/18 14:07
1,2-Dibromo-3-chloropropane	ND		100 <i>WJ</i>	20.0	µg/L	20	05/09/18 14:07
1,2,4-Trichlorobenzene	ND		20.0	2.00	µg/L	20	05/09/18 14:07
Surr: 1,2-Dichloroethane-d4	90		75-130	3.20	%REC	20	05/09/18 14:07
Surr: Toluene-d8	102		75-125	2.00	%REC	20	05/09/18 14:07
Surr: 4-Bromofluorobenzene	92		75-125	2.00	%REC	20	05/09/18 14:07

*Coily S. Newbold*  
*7/5/2018*

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 06/11/18 13:36

870106

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

State Cert No: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-008A  
**Client Sample ID:** QC Trip Blank 5/7/18  
**Collection Date:** 05/03/18 0:00  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** 1-SAMP-J5086.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 17:04
Chloromethane	ND		1.00	0.33	µg/L	1	05/09/18 17:04
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/09/18 17:04
Bromomethane	ND		1.00	0.33	µg/L	1	05/09/18 17:04
Chloroethane	ND		1.00	0.33	µg/L	1	05/09/18 17:04
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/09/18 17:04
1,1-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 17:04
1,1,2-Trichloro-1,2,2-trifluoroethane	<del>ND</del>		0.50	<del>0.10</del>	µg/L	1	05/09/18 17:04
Acetone	ND		10.0	1.00	µg/L	1	05/09/18 17:04
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/09/18 17:04
Methyl acetate	<del>ND</del>		5.00	<del>1.00</del>	µg/L	1	05/09/18 17:04
Methylene chloride	ND		2.00	0.16	µg/L	1	05/09/18 17:04
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/09/18 17:04
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 17:04
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
2-Butanone	ND		10.0	1.00	µg/L	1	05/09/18 17:04
Chloroform	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Cyclohexane	<del>ND</del>		0.50	<del>0.10</del>	µg/L	1	05/09/18 17:04
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Benzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 17:04
Trichloroethene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/09/18 17:04
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/09/18 17:04
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 17:04
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/09/18 17:04
Toluene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/09/18 17:04
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/09/18 17:04
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
2-Hexanone	ND		5.00	1.00	µg/L	1	05/09/18 17:04
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/09/18 17:04

**Qualifiers:**

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits

Print Date: 06/11/18 13:36

870112

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** 1806874  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 06/11/18 13:33  
**Col Type:**

**Lab ID:** 1806874-008A  
**Client Sample ID:** QC Trip Blank 5/7/18  
**Collection Date:** 05/03/18 0:00  
**Date Received:** 05/08/18 16:05  
**PrepDate:**  
**BatchNo:** R32210  
**FileID:** I-SAMP-J5086.D

**Sample Size** NA  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/09/18 17:04
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/09/18 17:04
Styrene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
Bromoform	ND		1.00	0.33	µg/L	1	05/09/18 17:04
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/09/18 17:04
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/09/18 17:04
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/09/18 17:04
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/09/18 17:04
Surr: 1,2-Dichloroethane-d4	95		75-130	0.16	%REC	1	05/09/18 17:04
Surr: Toluene-d8	100		75-125	0.10	%REC	1	05/09/18 17:04
Surr: 4-Bromofluorobenzene	99		75-125	0.10	%REC	1	05/09/18 17:04

*Polly S. Newbold*

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



SEMIANNUAL  
FIELD  
DATA  
MAY 2018



**Life Science Laboratories, Inc.**  
**Central Lab**

5854 Butternut Drive  
East Syracuse, New York 13057  
(315) 445-1105

**Chain of Custody**

Client: <i>OBRIEN &amp; GERE OPERATIONS</i>						Analysis/Method											
Project: <i>PAS OSWEGO Semi ANNUAL Well Sampling</i>																	
Sampled by: <i>MARTIN Koennecke</i>						<div style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC 8260</div>											
Client Contact:			Phone #														
<b>Sample Description</b>																	
Sample Location	Date Collected	Time Collected	Sample Matrix	Comp. or Grab	No. of Containers	Comments											
<i>Equipment Blank</i>	<i>5-7-18</i>	<i>11:40</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>M-21</i>	<i>5-7-18</i>	<i>12:35</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>OD-3</i>	<i>5-7-18</i>	<i>14:15</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>X-1</i>	<i>5-7-18</i>	<i>—</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>LR-8</i>	<i>5-8-18</i>	<i>9:30</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>LR-8 MS</i>	<i>5-8-18</i>	<i>9:30</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>LR-8 MSD</i>	<i>5-8-18</i>	<i>9:30</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>LCW-2</i>	<i>5-8-18</i>	<i>12:45</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>LCW-4</i>	<i>5-8-18</i>	<i>13:50</i>	<i>W</i>	<i>G</i>	<i>3</i>	<i>3</i>											
<i>QC TRIP Blanks</i>			<i>W</i>		<i>2</i>	<i>2</i>											
Relinquished by: <i>Martin Koennecke</i>			Date: <i>5-8-18</i> Time: <i>16:05</i>			Received by:			Date:			Time:					
Relinquished by:			Date:			Time:			Received by:			Date:			Time:		
Relinquished by:			Date:			Time:			Received by Lab: <i>Ry VanDerWater</i>			Date: <i>5/8/18</i>			Time: <i>1605</i>		
Shipment Method: <i>HAND</i>						Airbill Number:											

Turnaround Time Required:  
 Routine   X    
 Rush \_\_\_\_\_  
 Cooler Temperature: \_\_\_\_\_

Comments:

*2.0°C*

Samples Received

On Ice

Original - Laboratory  
Copy - Client



Date	5-17-18	Weather	P-Sunny
Site Name	PAS Oswego	Well #	M-21
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	Martin Koeneke		

WELL INFORMATION

Depth of Well	ft	9.15	Water Vol/ft for:
Depth of Water	ft	9.15	2" Diameter Well = 0.163 X LWC
Length of Water Column	ft		4" Diameter Well = 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well = 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well = 2.282 X LWC

Volume removed before Sampling	gals	3
Did Well go dry?		

Measurements Taken From:  Well Casting  Protective Casting  Other:

INSTRUMENT CALIBRATION

pH Buffer Readings	Conductivity Standard Ratings
4.0 Standard	84 S Standard
7.0 Standard	1413 S Standard
10.0 Standard	

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS START 12:00 Sample = 12:35

Time	Depth to Water	Temperature C	pH	Conductivity $\mu S/cm$	ORP	DO $mg/L$	Turbidity (NTU)	Flow Rate
12:05	9.16	8.6	7.18	1.113	-102.4	1.55	1.64	300 ml
10 min	9.16	8.7	7.19	1.114	-75.7	2.60	2.22	300 ml
15 min	9.16	8.5	7.15	1.112	-93.6	1.58	2.29	300 ml
20 min	9.16	8.5	7.15	1.110	-98.6	1.51	2.31	300 ml
25 min	9.16	8.6	7.14	1.111	-102.6	1.46	2.26	300 ml
30 min	9.16	8.6	7.14	1.109	-105.2	1.44	2.20	300 ml

WATER SAMPLE *M-21*

Time Collected: *12:35*

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	<i>clear</i>	<i>clear</i>
Odor	<i>NO</i>	<i>NO</i>
Turbidity <100 (NTU)	<i>NO</i>	<i>NO</i>
Sheen/Free Product	<i>NO</i>	<i>NO</i>

**SAMPLES COLLECTED**

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
<i>40 ml</i>	<i>glass</i>	<i>3</i>	<i>NO</i>	<i>HCL</i>	

**NOTES**

*PID Reading 0.0*

Date	5-7-18	Weather	Sunny 52°
Site Name	PAS Oswego	Well #	OD-3
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Koenig		

**WELL INFORMATION**

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	13.90	2" Diameter Well = 0.163 X LWC	X
Length of Water Column	ft		4" Diameter Well = 0.653 X LWC	
Volume of Water in Well	gal		6" Diameter Well = 1.469 X LWC	
3x Volume of Water in Well	gal		14" Diameter Well = 2.282 X LWC	

Volume removed before Sampling	gals	3
Did Well go dry?		

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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**INSTRUMENT CALIBRATION**

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

**TEST EQUIPMENT DEPTHS WITHIN WELL**

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

**WATER PARAMETERS**

START = 13:30 / STOP 14:10 Sample - 14:15

Time	Depth to Water	Temperature C°	pH	Conductivity $\mu S/cm$	ORP	DO (%) $mg/L$	Turbidity (NTU)	Flow Rate $ML/M$
5 min	14.25	9.2	7.42	0.179	90.0	7.70	5.33	300
10 min	14.30	9.3	7.16	0.174	98.9	7.45	3.98	300
15 min	14.36	9.3	6.97	0.171	106.0	7.40	2.24	300
20 min	14.36	9.3	6.83	0.168	112.1	7.40	2.16	300
25 min	14.36	9.3	6.77	0.169	115.6	7.42	1.52	300
30 min	14.36	9.4	6.69	0.172	121.4	7.34	1.48	300
35 min	14.36	9.4	6.68	0.176	123.3	7.36	1.39	300
40 min	14.36	9.4	6.68	0.178	124.0	7.33	1.40	300

WATER SAMPLE **OD-3**

Time Collected: **14:15**

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	<i>clear</i>	<i>clear</i>
Odor	<i>NO</i>	<i>NO</i>
Turbidity <100 (NTU)	<i>NO</i>	<i>NO</i>
Sheen/Free Product	<i>NO</i>	<i>NO</i>

**SAMPLES COLLECTED**

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
<i>40ml</i>	<i>glass</i>	<i>6</i>	<i>NO</i>	<i>HCL</i>	

**NOTES**

*PID Reading - 0.0*  
*X-1 collected*



Date	5-8-18	5-8-18	Weather	Sunny 55°
Site Name	PAS Oswego		Well #	LR-8
Location	55 East Seneca St		Evacuation Method	Grundfos Low Flow Equip.
Project Number			Sampling Method	EPA Low Flow Method II
Personnel	M. Koennecke			

**WELL INFORMATION**

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	9.72	2" Diameter Well	= 0.163 X LWC
Length of Water Column	ft		4" Diameter Well	= 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well	= 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well	= 2.282 X LWC

Volume removed before Sampling	gals	3.5
Did Well go dry?		

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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**INSTRUMENT CALIBRATION**

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

**TEST EQUIPMENT DEPTHS WITHIN WELL**

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS START 8:45 STOP - 9:25 Sample - 9:30

Time	Depth to Water	Temperature C°	pH	Conductivity ms/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate
5 min	9.82	9.3	8.24	0.741	-41.9	1.90	3.95	300 mL
10 min	9.86	9.8	7.79	0.835	-116.0	1.64	4.27	300
15 min	9.92	9.9	7.66	0.845	-130.9	1.58	3.11	300
20 min	9.94	10.1	7.38	0.892	-153.8	1.48	2.13	300
25 min	9.95	10.2	7.18	0.960	-161.1	1.43	1.54	300
30 min	9.95	10.2	7.08	1.002	-162.9	1.39	1.07	300
35 min	9.95	10.3	7.00	1.030	-165.1	1.35	0.74	300
40 min	9.95	10.3	6.99	1.032	-165.2	1.35	0.82	300

WATER SAMPLE LR-8

Time Collected: 9:30

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	clear	clear
Odor	NO	NO
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	9	NO	HCL	-

NOTES

MS/MSD collected

PID Reading 0.0

Date	5-8-18	Weather	Sunny 63°
Site Name	PAS Oswego	Well #	LCW-2
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Koenweide		

WELL INFORMATION

Depth of Well	ft		Water Vol/ft for:
Depth of Water	ft	9.30	2" Diameter Well = 0.163 X LWC
Length of Water Column	ft		4" Diameter Well = 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well = 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well = 2.282 X LWC X

Volume removed before Sampling	gals	3 gal
Did Well go dry?		

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings	
4.0 Standard		84 S Standard	
7.0 Standard		1413 S Standard	
10.0 Standard			

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS START 12:10 STOP-12:40 Sample 12:45

Time	Depth to Water	Temperature °C	pH	Conductivity	ORP	DO (mg/L)	Turbidity (NTU)	Flow Rate
5 min	9.30	8.6°	6.81	1.665	-94.3	1.64	2.53	300 mL
10 min	9.30	8.7	6.77	1.665	-94.7	1.57	0.91	300 mL
15 min	9.30	8.7	6.72	1.662	-95.3	1.50	0.88	300
20 min	9.30	8.7	6.70	1.663	-95.9	1.48	1.23	300
25 min	9.30	8.7	6.69	1.662	-96.3	1.45	0.93	300
30 min	9.30	8.6	6.68	1.664	-96.8	1.46	0.96	300

WATER SAMPLE LCW-2

Time Collected:

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	SLight Yellow	SLight Yellow
Odor	SLight	SLight
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	glass	3	NO	HCL	-

NOTES

PID READY O<sub>2</sub>O mL

Date	5-8-18	Weather	Sunny 68°
Site Name	PAS Oswego	Well #	LCW-4
Location	55 East Seneca St	Evacuation Method	Grundfos Low Flow Equip.
Project Number		Sampling Method	EPA Low Flow Method II
Personnel	M. Koennecke		

WELL INFORMATION

Depth of Well	ft			Water Vol/ft for:
Depth of Water	ft	16.96	2" Diameter Well	= 0.163 X LWC
Length of Water Column	ft		4" Diameter Well	= 0.653 X LWC
Volume of Water in Well	gal		6" Diameter Well	= 1.469 X LWC
3x Volume of Water in Well	gal		14" Diameter Well	= 2.282 X LWC
				X

Volume removed before Sampling	gals	3
Did Well go dry?		

Measurements Taken From:	<input checked="" type="checkbox"/> Well Casting	<input type="checkbox"/> Protective Casting	<input type="checkbox"/> Other:
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INSTRUMENT CALIBRATION

pH Buffer Readings		Conductivity Standard Ratings
4.0 Standard		84 S Standard
7.0 Standard		1413 S Standard
10.0 Standard		

TEST EQUIPMENT DEPTHS WITHIN WELL

Time	Well Screen Depth	Depth of Intake Pump	Blank	BLANK	BLANK	BLANK	BLANK

WATER PARAMETERS

START 13:10 STOP - 13:45

Sample - 1350

Time	Depth to Water	Temperature C	pH	Conductivity MS/cm	ORP	DO (%) mg/L	Turbidity (NTU)	Flow Rate ml/min
5 min	16.96	10.5	6.67	2.963	-119.2	1.55	1.79	300
10 min	16.96	10.6	6.64	2.922	-127.0	1.44	2.48	300
15 min	16.96	10.7°	6.63	2.910	-131.2	1.39	1.95	300
20 min	16.96	10.7°	6.62	2.895	-133.9	1.36	2.04	300
25 min	16.96	10.7	6.62	2.864	-138.3	1.32	2.16	300
30 min	16.96	10.7°	6.62	2.858	-139.0	1.31	2.10	300
35 min	16.96	10.8°	6.62	2.859	-139.6	1.30	1.96	300



WATER SAMPLE

LCW-4

Time Collected:

Characteristics	Physical Appearance At Start	Physical Appearance At Sampling
Color	Slight Yellow	Slight Yellow
Odor	Slight	Slight
Turbidity <100 (NTU)	NO	NO
Sheen/Free Product	NO	NO

SAMPLES COLLECTED

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	Glass	3	NO	HCL	—

NOTES

PID READING 0.0



SEMIANNUAL  
LAB  
DATA  
MAY 2018



**Life Science Laboratories, Inc.**

5854 Butternut Drive  
East Syracuse, NY 13057

(315) 445-1900

Sunday, June 12, 2016

Mark Byrne  
O'Brien & Gere Operations, LLC  
7600 Morgan Road  
Liverpool, NY 13090

TEL: 315-437-6100

Project: PAS OSWEGO-SEMI-ANNUAL WELL SAMPLING

RE: Analytical Results

Order No.: K1605031

Dear Mark Byrne:

Life Science Laboratories, Inc. received 10 sample(s) on 5/4/2016 for the analyses presented in the following report. Sample results relate only to the samples as received by the laboratory.

Very truly yours,  
Life Science Laboratories, Inc.

A handwritten signature in black ink, appearing to read "David J Prichard", is written over a horizontal line.

David J Prichard  
Project Manager

# **Laboratory Report**



## Project Management Case Narrative

### INTRODUCTION/ANALYTICAL RESULTS

This report summarizes the laboratory results for O'Brien & Gere Inc. Operations, LLC. semi-annual samples from the PAS site located in Oswego, NY.

### CONDITION UPON RECEIPT/CHAIN OF CUSTODY

The cooler(s) were received intact. When the cooler(s) were received by the laboratory, the sample custodian(s) opened and inspected the shipment(s) for damage, custody inconsistencies and proper preservation. Chains of custody documenting receipt are presented in the chain of custody section. Each sample was assigned a unique laboratory number and a custody file created. The samples were placed in a secured walk-in cooler and signed in and out by the chemists performing the tests. The sign out record, or lab chronicle, is presented in the chain of custody section.

No discrepancies were noted upon receipt. The temperature of the iced cooler was 1.0°C.

### METHODOLOGY

The following methods were used to perform the analyses:

PARAMETER	METHOD	REFERENCE
Volatile Organics	8260C	1

- 1) Test Methods for Evaluating Solid Wastes, SW-846 Third Edition, 9/1986 as amended by final updates.

### QUALITY CONTROL

QA/QC results are summarized in the Laboratory Report Package and are also included in the raw data.

### RAW DATA

The raw data is organized in a format similar to the US EPA Contract Laboratory Program order of data requirements.

Total # of Pages \_\_\_\_\_

**GC/MS Volatile Organics Case Narrative - Page 1**

Client: OGINA PAS  
 Project/Order: PAS Oswego0-Semi-Annual Well Sampling  
 Work Order #: K1605031  
 Methodology: 8260C/5030C

Analyzed/Reviewed by (Initials/Date): MD 6/8/16

Supervisor/Reviewed by (Initials/Date): MD 6/8/16

QA/QC Review (Initials/Date): DR 6/13/16

File Name: Z:\Narratives\MSVoa\K1605031msnar.doc

**GC/MS Volatile Organics**

The GC/MS Volatile instruments are equipped with a Restek Rtx-VMS, 60 m x 0.25 mm ID capillary column (MS01, MS04, MSK, and MSN), Restek Rtx-502.2, 105 m x 0.53 mm ID capillary column (MS02), and a Restek Rtx-502.2, 60 m x 0.25 mm ID capillary column (MS03).

**Holding Times and Sample Preservation**

All samples were prepared and analyzed within the method and/or QAPP specified holding time requirements. Samples had a pH of < 2.

**Laboratory Control Sample**

The following compound(s) did not meet laboratory control sample recovery criteria:

LCS No.	Compound	Corrective Action
LCS/LCSD-29836	Acetone	1
	several	2

- 1 The recovery exceeded the upper control limit and was detected > RL in sample *Equipment Blank 5/2/16* [K1605031-001A]. Results may be biased high. No corrective action was taken.
- 2 The recovery exceeded the upper control limit and was not detected > RL in the associated samples. Results may be biased high. No corrective action was taken.

**MS/MSD**

The following compound(s) did not meet matrix spike or matrix spike duplicate percent recovery and/or RPD criteria:

Sample Description	Sample #	Compound	% REC	RPD	Corrective Action
M-21 5/3/16	K1605031-002A	Chloromethane	X		1

## GC/MS Volatile Organics Case Narrative - Page 2

Client: OGINA PAS  
Project/Order: PAS Oswego-Semi-Annual Well Sampling  
Work Order #: K1605031  
Methodology: 8260C/5030C

- 1 The recovery exceeded the upper control limit and was not detected > RL in the associated samples. The associated LCS was also outside control limits. No corrective action was taken.

### Surrogate Standards

All surrogate standard recoveries met method and/or project specific QC criteria.

### Internal Standards

The internal standard abundances for *Equipment Blank 5/2/16* [K1605031-001A] were below the 50% control limit. It was determined after the analytical holding time had expired that the autosampler had malfunctioned during this sample analysis only and a reduced sample volume was removed from the sample vial for analysis. The internal standard method of quantitation can accurately account for small fluctuations in sample analysis volume, and although this volume deviation was large the acceptable surrogate recoveries indicate a good estimate of sample concentrations for target analytes. No target analytes that were detected in associated samples above the RL were detected in this equipment blank. No corrective action was taken due to expired holding time.

### Calibrations

The following continuing calibration compound(s) exceeded method percent drift and/or RRF criteria:

Calibration ID	Instrument	Compound	%D	RRF	Corrective Action
CCV-2836	MS03 10/#3MS10	Acetone	48.5		1
		multiple	x		2

- 1 The recovery exceeded the upper control limit and was detected > RL in sample *Equipment Blank 5/2/16* [K1605031-001A]. Results may be biased high. No corrective action was taken.
- 2 The recovery exceeded the upper control limit and was not detected > RL in the associated samples. Results may be biased high. No corrective action was taken.

### Preparation Blanks

All preparation blanks met method and/or project specific QC criteria.

**CLIENT:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**Lab Order:** K1605031

**Work Order Sample Summary**

---

<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
K1605031-001A	Equipment Blank	5/2/16	5/2/2016	5/4/2016
K1605031-002A	M-21	5/3/16	5/3/2016	5/4/2016
K1605031-003A	LR-8	5/3/16	5/3/2016	5/4/2016
K1605031-004A	OD-3	5/3/16	5/3/2016	5/4/2016
K1605031-005A	LCW-4	5/3/16	5/3/2016	5/4/2016
K1605031-006A	M-22	5/4/16	5/4/2016	5/4/2016
K1605031-007A	LR-6	5/4/16	5/4/2016	5/4/2016
K1605031-008A	LCW-2	5/4/16	5/4/2016	5/4/2016
K1605031-009A	X-1	5/4/16	5/4/2016	5/4/2016
K1605031-010A	QC Trip Blank	5/4/16	5/4/2016	5/4/2016

**Lab Order:** K1605031  
**Client:** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well S

**DATES REPORT**

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
K1605031-001A	Equipment Blank 5/2/16	5/2/2016 1:30:00 PM	Water Q	Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-002A	M-21 5/3/16	5/3/2016 8:30:00 AM	Water	Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-003A	LR-8 5/3/16	5/3/2016 9:45:00 AM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-004A	OD-3 5/3/16	5/3/2016 11:15:00 AM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-005A	LCW-4 5/3/16	5/3/2016 1:45:00 PM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-006A	M-22 5/4/16	5/4/2016 1:40:00 PM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-007A	LR-6 5/4/16	5/4/2016 2:10:00 PM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-008A	LCW-2 5/4/16	5/4/2016 3:05:00 PM		Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-009A	X-1 5/4/16	5/4/2016	Water Q	Volatile Organic Compounds by GC/MS			5/6/2016
K1605031-010A	QC Trip Blank 5/4/16			Volatile Organic Compounds by GC/MS			5/6/2016



# **Chain of Custody**

## **External Chain of Custody**



Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

Phone # (315) 445-1900

Telefax # (315) 445-1104

Client: OBRIEN & GERE

Phone # 315-956-6100

Address: 333 West Washington St

Fax # \_\_\_\_\_

PO Box 4873  
Syracuse NY 13221-4873

Authorization: \_\_\_\_\_

Contact Person:  
MARK BYRNE  
315-842-7024  
MARK.BYRNE  
@OBG.com

LSL Project #:

K1605031

Client's Site I.D.:

PAS Oswego Semi Annual well sampling

Client's Project I.D.:

LSL Sample Number	Client's Sample Identifications	Sample Date	Sample Time	Type		Matrix	Preserv. Added	Containers		Analyses	Free Cl (mg/L)	Pres. Check
				grab	comp.			#	size/type			
001	Equipment Blank	5-2-16	13:30	✓		water	HCL	3	40ml Glass	8260		
002	M-21, MS, MS2	5-3-16	8:30	✓		water		9		8260		
003	LR-8	5-3-16	9:45	✓		water		3		8260		
004	CD-3	5-3-16	11:15	✓		water		3		8260		
005	LCW-4	5-3-16	13:45	✓		water		3		8260		
006	m-22	5-4-16	13:40	✓		water		3		8260		
007	LR-6	5-4-16	14:10	✓				3		8260		
008	LCW-2	5-4-16	15:05	✓				3		8260		
009	X-1	5-4-16	—	✓		water		3		8260		
010	QC Trip Blank	5				w		2		8260		

SAMPLES MUST BE RECEIVED ON ICE

SAMPLES MUST BE RECEIVED ON ICE

SAMPLES MUST BE RECEIVED ON ICE

Notes and Hazard Identifications:

Custody Transfers		Date	Time
Sampled and Relinquished By:			
Print Name: <u>MARTIN KOENIGKE</u>	Signature: <u>Martin Koenigke</u>	<u>5-4-16</u>	<u>16:10</u>
Received By:			
Relinquished By:			
Received By:			
Relinquished By:	Received for Lab By: <u>R. Deh</u>	<u>5-4-16</u>	<u>16:10</u>
Shipment Method:		Samples Received Intact: <u>Y N</u> <u>100</u> <u>on ice</u>	



## **Internal Chain of Custody**



Client/Project OBG Pas Oswego / K1605031

Recd 5-4-16

Sample Control Record						
Sample ID	Frac	Client Sample ID	Removed By	Date and Time Removed	Analysis	Date and Time Returned
001 → 10	A		Stored in Fridge (B)		8260	5/4/16 1730
001 → 10	A		(initials)	5/6/16 0800	8260	N/R

## **Analytical Results**



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-001A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	<i>Equipment Blank 5/2/16</i>
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/02/16 13:30
<b>Matrix:</b>	WATER Q	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1852.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 10:05
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 10:05
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 10:05
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 10:05
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 10:05
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 10:05
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 10:05
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Acetone	13.6		10.0	1.00	µg/L	1	05/06/16 10:05
Carbon disulfide	0.20 J		0.50	0.11	µg/L	1	05/06/16 10:05
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 10:05
Methylene chloride	2.10		2.00	0.16	µg/L	1	05/06/16 10:05
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 10:05
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 10:05
Chloroform	0.21 J		0.50	0.10	µg/L	1	05/06/16 10:05
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 10:05
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 10:05
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 10:05
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 10:05
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 10:05
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 10:05
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 10:05
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753541

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

**Lab ID:** K1605031-001A  
**Client Sample ID:** *Equipment Blank 5/2/16*  
**Collection Date:** 05/02/16 13:30  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1852.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 10:05
Chlorobenzene	0.11	J	0.50	0.10	µg/L	1	05/06/16 10:05
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 10:05
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 10:05
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 10:05
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 10:05
1,3-Dichlorobenzene	0.28	J	0.50	0.10	µg/L	1	05/06/16 10:05
1,4-Dichlorobenzene	0.34	J	0.50	0.16	µg/L	1	05/06/16 10:05
1,2-Dichlorobenzene	0.18	J	0.50	0.10	µg/L	1	05/06/16 10:05
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 10:05
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 10:05
Surr: 1,2-Dichloroethane-d4	118		75-130	0.16	%REC	1	05/06/16 10:05
Surr: Toluene-d8	98		75-125	0.10	%REC	1	05/06/16 10:05
Surr: 4-Bromofluorobenzene	99		75-125	0.10	%REC	1	05/06/16 10:05

Qualifiers:	*	B
	Value may exceed the Acceptable Level	Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753541

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive  
East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

**Lab ID:** K1605031-002A  
**Client Sample ID:** M-21 5/3/16  
**Collection Date:** 05/03/16 8:30  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1853.D

**Sample Size** 10 mL  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND	1.00	0.10	µg/L	1	05/06/16 10:35	
Chloromethane	ND	1.00	0.33	µg/L	1	05/06/16 10:35	
Vinyl chloride	ND	1.00	0.33	µg/L	1	05/06/16 10:35	
Bromomethane	ND	1.00	0.33	µg/L	1	05/06/16 10:35	
Chloroethane	1.57	1.00	0.33	µg/L	1	05/06/16 10:35	
Trichlorofluoromethane	ND	1.00	0.10	µg/L	1	05/06/16 10:35	
1,1-Dichloroethene	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
Acetone	1.65 J	10.0	1.00	µg/L	1	05/06/16 10:35	
Carbon disulfide	ND	0.50	0.11	µg/L	1	05/06/16 10:35	
Methyl acetate	ND	5.00	1.00	µg/L	1	05/06/16 10:35	
Methylene chloride	ND	2.00	0.16	µg/L	1	05/06/16 10:35	
trans-1,2-Dichloroethene	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
Methyl tert-butyl ether	ND	1.00	0.16	µg/L	1	05/06/16 10:35	
1,1-Dichloroethane	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
cis-1,2-Dichloroethene	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
2-Butanone	ND	10.0	1.00	µg/L	1	05/06/16 10:35	
Chloroform	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
1,1,1-Trichloroethane	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
Cyclohexane	0.65	0.50	0.10	µg/L	1	05/06/16 10:35	
Carbon tetrachloride	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
Benzene	0.15 J	0.50	0.10	µg/L	1	05/06/16 10:35	
1,2-Dichloroethane	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
Trichloroethene	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
Methylcyclohexane	0.17 J	0.50	0.10	µg/L	1	05/06/16 10:35	
1,2-Dichloropropane	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
Bromodichloromethane	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
cis-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
4-Methyl-2-pentanone	ND	5.00	1.00	µg/L	1	05/06/16 10:35	
Toluene	0.19 J	0.50	0.10	µg/L	1	05/06/16 10:35	
trans-1,3-Dichloropropene	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
1,1,2-Trichloroethane	ND	0.50	0.16	µg/L	1	05/06/16 10:35	
Tetrachloroethene	ND	0.50	0.10	µg/L	1	05/06/16 10:35	
2-Hexanone	ND	5.00	1.00	µg/L	1	05/06/16 10:35	
Dibromochloromethane	ND	0.50	0.10	µg/L	1	05/06/16 10:35	

**Qualifiers:**

*	Value may exceed the Acceptable Level	B	Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND	Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S	Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

**Lab ID:** K1605031-002A  
**Client Sample ID:** M-21 5/3/16  
**Collection Date:** 05/03/16 8:30  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1853.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 10:35
Chlorobenzene	4.49		0.50	0.10	µg/L	1	05/06/16 10:35
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 10:35
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 10:35
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 10:35
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 10:35
Isopropylbenzene	0.52		0.50	0.10	µg/L	1	05/06/16 10:35
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 10:35
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 10:35
1,4-Dichlorobenzene	0.27 J		0.50	0.16	µg/L	1	05/06/16 10:35
1,2-Dichlorobenzene	0.47 J		0.50	0.10	µg/L	1	05/06/16 10:35
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 10:35
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 10:35
Surr: 1,2-Dichloroethane-d4	104		75-130	0.16	%REC	1	05/06/16 10:35
Surr: Toluene-d8	99		75-125	0.10	%REC	1	05/06/16 10:35
Surr: 4-Bromofluorobenzene	100		75-125	0.10	%REC	1	05/06/16 10:35

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753542

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling

**Lab ID:** K1605031-003A

**Client Sample ID:** LR-8 5/3/16

**W Order:** K1605031

**Collection Date:** 05/03/16 9:45

**Matrix:** WATER

**Date Received:** 05/04/16 16:10

**Inst. ID:** MS03\_10

**Sample Size** 10 mL

**PrepDate:**

**ColumnID:** Rtx-502.2

**%Moisture:**

**BatchNo:** R29836

**Revision:** 05/27/16 9:51

**TestCode:** 8260W\_OLM42

**FileID:** 1-SAMP-J1857.D

**Col Type:**

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 12:37
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 12:37
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 12:37
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 12:37
Chloroethane	2.67		1.00	0.33	µg/L	1	05/06/16 12:37
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 12:37
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 12:37
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Acetone	3.22 J		10.0	1.00	µg/L	1	05/06/16 12:37
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 12:37
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 12:37
Methylene chloride	ND		2.00	0.16	µg/L	1	05/06/16 12:37
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 12:37
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 12:37
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 12:37
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Cyclohexane	0.14 J		0.50	0.10	µg/L	1	05/06/16 12:37
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Benzene	0.39 J		0.50	0.10	µg/L	1	05/06/16 12:37
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 12:37
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 12:37
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 12:37
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 12:37
Toluene	0.17 J		0.50	0.10	µg/L	1	05/06/16 12:37
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 12:37
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 12:37
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 12:37
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

**Lab ID:** K1605031-003A  
**Client Sample ID:** LR-8 5/3/16  
**Collection Date:** 05/03/16 9:45  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1857.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 12:37
Chlorobenzene	4.10		0.50	0.10	µg/L	1	05/06/16 12:37
Ethylbenzene	0.26 J		0.50	0.10	µg/L	1	05/06/16 12:37
Xylenes (total)	1.52		1.00	0.30	µg/L	1	05/06/16 12:37
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 12:37
isopropylbenzene	0.25 J		0.50	0.10	µg/L	1	05/06/16 12:37
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 12:37
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 12:37
1,4-Dichlorobenzene	0.24 J		0.50	0.16	µg/L	1	05/06/16 12:37
1,2-Dichlorobenzene	0.16 J		0.50	0.10	µg/L	1	05/06/16 12:37
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 12:37
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 12:37
Surr: 1,2-Dichloroethane-d4	106		75-130	0.16	%REC	1	05/06/16 12:37
Surr: Toluene-d8	98		75-125	0.10	%REC	1	05/06/16 12:37
Surr: 4-Bromofluorobenzene	99		75-125	0.10	%REC	1	05/06/16 12:37

### Qualifiers:

- \* Value may exceed the Acceptable Level
- E Value exceeds the instrument calibration range
- J Analyte detected below the PQL
- P Prim./Conf. column %D or RPD exceeds limit

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Practical Quantitation Limit (PQL)
- S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753546

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well Sampling  
 W Order: K1605031  
 Matrix: WATER  
 Inst. ID: MS03\_10  
 ColumnID: Rtx-502.2  
 Revision: 05/27/16 9:51  
 Col Type:

Lab ID: K1605031-004A  
 Client Sample ID: OD-3 5/3/16  
 Collection Date: 05/03/16 11:15  
 Date Received: 05/04/16 16:10  
 PrepDate:  
 BatchNo: R29836  
 FileID: 1-SAMP-J1858.D

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 13:07
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 13:07
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 13:07
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 13:07
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 13:07
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 13:07
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 13:07
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Acetone	ND		10.0	1.00	µg/L	1	05/06/16 13:07
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 13:07
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 13:07
Methylene chloride	ND		2.00	0.16	µg/L	1	05/06/16 13:07
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 13:07
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 13:07
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 13:07
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 13:07
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 13:07
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 13:07
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 13:07
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 13:07
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 13:07
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07

Qualifiers: \* Value may exceed the Acceptable Level B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-004A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	OD-3 5/3/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/03/16 11:15
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1858.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 13:07
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 13:07
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 13:07
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/06/16 13:07
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:07
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 13:07
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 13:07
Surr: 1,2-Dichloroethane-d4	107		75-130	0.16	%REC	1	05/06/16 13:07
Surr: Toluene-d8	98		75-125	0.10	%REC	1	05/06/16 13:07
Surr: 4-Bromofluorobenzene	102		75-125	0.10	%REC	1	05/06/16 13:07

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-005A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	LCW-4 5/3/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/03/16 13:45
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1855.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		20.0	2.00	µg/L	20	05/06/16 11:36
Chloromethane	ND		20.0	6.60	µg/L	20	05/06/16 11:36
Vinyl chloride	ND		20.0	6.60	µg/L	20	05/06/16 11:36
Bromomethane	ND		20.0	6.60	µg/L	20	05/06/16 11:36
Chloroethane	59.6		20.0	6.60	µg/L	20	05/06/16 11:36
Trichlorofluoromethane	ND		20.0	2.00	µg/L	20	05/06/16 11:36
1,1-Dichloroethene	ND		10.0	3.20	µg/L	20	05/06/16 11:36
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Acetone	ND		200	20.0	µg/L	20	05/06/16 11:36
Carbon disulfide	ND		10.0	2.20	µg/L	20	05/06/16 11:36
Methyl acetate	ND		100	20.0	µg/L	20	05/06/16 11:36
Methylene chloride	3.40 J		40.0	3.20	µg/L	20	05/06/16 11:36
trans-1,2-Dichloroethene	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Methyl tert-butyl ether	ND		20.0	3.20	µg/L	20	05/06/16 11:36
1,1-Dichloroethane	3.00 J		10.0	2.00	µg/L	20	05/06/16 11:36
cis-1,2-Dichloroethene	6.60 J		10.0	2.00	µg/L	20	05/06/16 11:36
2-Butanone	ND		200	20.0	µg/L	20	05/06/16 11:36
Chloroform	ND		10.0	2.00	µg/L	20	05/06/16 11:36
1,1,1-Trichloroethane	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Cyclohexane	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Carbon tetrachloride	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Benzene	518		10.0	2.00	µg/L	20	05/06/16 11:36
1,2-Dichloroethane	ND		10.0	3.20	µg/L	20	05/06/16 11:36
Trichloroethene	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Methylcyclohexane	2.20 J		10.0	2.00	µg/L	20	05/06/16 11:36
1,2-Dichloropropane	ND		10.0	3.20	µg/L	20	05/06/16 11:36
Bromodichloromethane	ND		10.0	2.00	µg/L	20	05/06/16 11:36
cis-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/06/16 11:36
4-Methyl-2-pentanone	ND		100	20.0	µg/L	20	05/06/16 11:36
Toluene	10.4		10.0	2.00	µg/L	20	05/06/16 11:36
trans-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/06/16 11:36
1,1,2-Trichloroethane	ND		10.0	3.20	µg/L	20	05/06/16 11:36
Tetrachloroethene	ND		10.0	2.00	µg/L	20	05/06/16 11:36
2-Hexanone	ND		100	20.0	µg/L	20	05/06/16 11:36
Dibromochloromethane	ND		10.0	2.00	µg/L	20	05/06/16 11:36

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753544

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	<b>K1605031-005A</b>
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	<b>LCW-4 5/3/16</b>
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/03/16 13:45
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1855.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		10.0	3.20	µg/L	20	05/06/16 11:36
Chlorobenzene	275		10.0	2.00	µg/L	20	05/06/16 11:36
Ethylbenzene	44.4		10.0	2.00	µg/L	20	05/06/16 11:36
Xylenes (total)	531		20.0	6.00	µg/L	20	05/06/16 11:36
Styrene	ND		10.0	2.00	µg/L	20	05/06/16 11:36
Bromoform	ND		20.0	6.60	µg/L	20	05/06/16 11:36
Isopropylbenzene	4.00 J		10.0	2.00	µg/L	20	05/06/16 11:36
1,1,2,2-Tetrachloroethane	ND		10.0	2.00	µg/L	20	05/06/16 11:36
1,3-Dichlorobenzene	ND		10.0	2.00	µg/L	20	05/06/16 11:36
1,4-Dichlorobenzene	3.60 J		10.0	3.20	µg/L	20	05/06/16 11:36
1,2-Dichlorobenzene	22.4		10.0	2.00	µg/L	20	05/06/16 11:36
1,2-Dibromo-3-chloropropane	ND		100	20.0	µg/L	20	05/06/16 11:36
1,2,4-Trichlorobenzene	ND		20.0	2.00	µg/L	20	05/06/16 11:36
Surr: 1,2-Dichloroethane-d4	104		75-130	3.20	%REC	20	05/06/16 11:36
Surr: Toluene-d8	100		75-125	2.00	%REC	20	05/06/16 11:36
Surr: 4-Bromofluorobenzene	101		75-125	2.00	%REC	20	05/06/16 11:36

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753544

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-006A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	M-22 5/4/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/04/16 13:40
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1859.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 13:38
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 13:38
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 13:38
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 13:38
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 13:38
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 13:38
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 13:38
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Acetone	1.18 J		10.0	1.00	µg/L	1	05/06/16 13:38
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 13:38
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 13:38
Methylene chloride	ND		2.00	0.16	µg/L	1	05/06/16 13:38
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 13:38
1,1-Dichloroethane	0.30 J		0.50	0.10	µg/L	1	05/06/16 13:38
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 13:38
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 13:38
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 13:38
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 13:38
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 13:38
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 13:38
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 13:38
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 13:38
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 13:38

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

**Sample Size** 10 mL

**%Moisture:**

**TestCode:** 8260W\_OLM42

**Lab ID:** K1605031-006A  
**Client Sample ID:** M-22 5/4/16  
**Collection Date:** 05/04/16 13:40  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1859.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 13:38
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 13:38
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 13:38
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/06/16 13:38
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 13:38
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 13:38
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 13:38
Surr: 1,2-Dichloroethane-d4	107		75-130	0.16	%REC	1	05/06/16 13:38
Surr: Toluene-d8	99		75-125	0.10	%REC	1	05/06/16 13:38
Surr: 4-Bromofluorobenzene	102		75-125	0.10	%REC	1	05/06/16 13:38

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753548

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

**Lab ID:** K1605031-007A  
**Client Sample ID:** LR-6 5/4/16  
**Collection Date:** 05/04/16 14:10  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1860.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>				<b>SW8260C/5030C</b>			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 14:08
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 14:08
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 14:08
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 14:08
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 14:08
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 14:08
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 14:08
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Acetone	1.22 J		10.0	1.00	µg/L	1	05/06/16 14:08
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 14:08
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 14:08
Methylene chloride	ND		2.00	0.16	µg/L	1	05/06/16 14:08
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 14:08
1,1-Dichloroethane	0.60		0.50	0.10	µg/L	1	05/06/16 14:08
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 14:08
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 14:08
Trichloroethene	0.11 J		0.50	0.10	µg/L	1	05/06/16 14:08
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 14:08
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 14:08
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 14:08
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 14:08
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 14:08
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 14:08
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 14:08

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

**Sample Size** 10 mL  
**%Moisture:**  
**TestCode:** 8260W\_OLM42

**Lab ID:** K1605031-007A  
**Client Sample ID:** LR-6 5/4/16  
**Collection Date:** 05/04/16 14:10  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1860.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				SW8260C/5030C			
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 14:08
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 14:08
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 14:08
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/06/16 14:08
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 14:08
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 14:08
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 14:08
Surr: 1,2-Dichloroethane-d4	109		75-130	0.16	%REC	1	05/06/16 14:08
Surr: Toluene-d8	98		75-125	0.10	%REC	1	05/06/16 14:08
Surr: 4-Bromofluorobenzene	101		75-125	0.10	%REC	1	05/06/16 14:08

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753549

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER  
**Inst. ID:** MS03\_10 **Sample Size** 10 mL  
**ColumnID:** Rtx-502.2 **%Moisture:**  
**Revision:** 05/27/16 9:51 **TestCode:** 8260W\_OLM42  
**Col Type:**

**Lab ID:** K1605031-008A  
**Client Sample ID:** LCW-2 5/4/16  
**Collection Date:** 05/04/16 15:05  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** 1-SAMP-J1856.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		20.0	2.00	µg/L	20	05/06/16 12:06
Chloromethane	ND		20.0	6.60	µg/L	20	05/06/16 12:06
Vinyl chloride	ND		20.0	6.60	µg/L	20	05/06/16 12:06
Bromomethane	ND		20.0	6.60	µg/L	20	05/06/16 12:06
Chloroethane	ND		20.0	6.60	µg/L	20	05/06/16 12:06
Trichlorofluoromethane	ND		20.0	2.00	µg/L	20	05/06/16 12:06
1,1-Dichloroethene	ND		10.0	3.20	µg/L	20	05/06/16 12:06
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		10.0	2.00	µg/L	20	05/06/16 12:06
Acetone	ND		200	20.0	µg/L	20	05/06/16 12:06
Carbon disulfide	ND		10.0	2.20	µg/L	20	05/06/16 12:06
Methyl acetate	ND		100	20.0	µg/L	20	05/06/16 12:06
Methylene chloride	ND		40.0	3.20	µg/L	20	05/06/16 12:06
trans-1,2-Dichloroethene	ND		10.0	2.00	µg/L	20	05/06/16 12:06
Methyl tert-butyl ether	ND		20.0	3.20	µg/L	20	05/06/16 12:06
1,1-Dichloroethane	19.6		10.0	2.00	µg/L	20	05/06/16 12:06
cis-1,2-Dichloroethene	42.6		10.0	2.00	µg/L	20	05/06/16 12:06
2-Butanone	ND		200	20.0	µg/L	20	05/06/16 12:06
Chloroform	2.40	J	10.0	2.00	µg/L	20	05/06/16 12:06
1,1,1-Trichloroethane	8.40	J	10.0	2.00	µg/L	20	05/06/16 12:06
Cyclohexane	ND		10.0	2.00	µg/L	20	05/06/16 12:06
Carbon tetrachloride	ND		10.0	2.00	µg/L	20	05/06/16 12:06
Benzene	90.0		10.0	2.00	µg/L	20	05/06/16 12:06
1,2-Dichloroethane	ND		10.0	3.20	µg/L	20	05/06/16 12:06
Trichloroethene	27.8		10.0	2.00	µg/L	20	05/06/16 12:06
Methylcyclohexane	ND		10.0	2.00	µg/L	20	05/06/16 12:06
1,2-Dichloropropane	ND		10.0	3.20	µg/L	20	05/06/16 12:06
Bromodichloromethane	ND		10.0	2.00	µg/L	20	05/06/16 12:06
cis-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/06/16 12:06
4-Methyl-2-pentanone	ND		100	20.0	µg/L	20	05/06/16 12:06
Toluene	ND		10.0	2.00	µg/L	20	05/06/16 12:06
trans-1,3-Dichloropropene	ND		10.0	3.20	µg/L	20	05/06/16 12:06
1,1,2-Trichloroethane	ND		10.0	3.20	µg/L	20	05/06/16 12:06
Tetrachloroethene	97.0		10.0	2.00	µg/L	20	05/06/16 12:06
2-Hexanone	ND		100	20.0	µg/L	20	05/06/16 12:06
Dibromochloromethane	ND		10.0	2.00	µg/L	20	05/06/16 12:06

**Qualifiers:** \* Value may exceed the Acceptable Level      B Analyte detected in the associated Method Blank  
 E Value exceeds the instrument calibration range      H Holding times for preparation or analysis exceeded  
 J Analyte detected below the PQL      ND Not Detected at the Practical Quantitation Limit (PQL)  
 P Prim./Conf. column %D or RPD exceeds limit      S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-008A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	LCW-2 5/4/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/04/16 15:05
<b>Matrix:</b>	WATER	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>PrepDate:</b>	
		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1856.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS					SW8260C/5030C		
1,2-Dibromoethane	ND		10.0	3.20	µg/L	20	05/06/16 12:06
Chlorobenzene	28.0		10.0	2.00	µg/L	20	05/06/16 12:06
Ethylbenzene	3.60 J		10.0	2.00	µg/L	20	05/06/16 12:06
Xylenes (total)	18.4 J		20.0	6.00	µg/L	20	05/06/16 12:06
Styrene	ND		10.0	2.00	µg/L	20	05/06/16 12:06
Bromoform	ND		20.0	6.60	µg/L	20	05/06/16 12:06
Isopropylbenzene	2.60 J		10.0	2.00	µg/L	20	05/06/16 12:06
1,1,2,2-Tetrachloroethane	6.20 J		10.0	2.00	µg/L	20	05/06/16 12:06
1,3-Dichlorobenzene	ND		10.0	2.00	µg/L	20	05/06/16 12:06
1,4-Dichlorobenzene	ND		10.0	3.20	µg/L	20	05/06/16 12:06
1,2-Dichlorobenzene	2.60 J		10.0	2.00	µg/L	20	05/06/16 12:06
1,2-Dibromo-3-chloropropane	ND		100	20.0	µg/L	20	05/06/16 12:06
1,2,4-Trichlorobenzene	ND		20.0	2.00	µg/L	20	05/06/16 12:06
Surr: 1,2-Dichloroethane-d4	105		75-130	3.20	%REC	20	05/06/16 12:06
Surr: Toluene-d8	98		75-125	2.00	%REC	20	05/06/16 12:06
Surr: 4-Bromofluorobenzene	99		75-125	2.00	%REC	20	05/06/16 12:06

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-009A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	X-1 5/4/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/04/16 0:00
<b>Matrix:</b>	WATER Q	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>Sample Size</b>	10 mL
<b>ColumnID:</b>	Rtx-502.2	<b>%Moisture:</b>	
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>BatchNo:</b>	R29836
		<b>FileID:</b>	1-SAMP-J1854.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 11:06
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 11:06
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 11:06
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 11:06
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 11:06
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 11:06
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 11:06
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Acetone	1.32 J		10.0	1.00	µg/L	1	05/06/16 11:06
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 11:06
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 11:06
Methylene chloride	ND		2.00	0.16	µg/L	1	05/06/16 11:06
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 11:06
1,1-Dichloroethane	0.28 J		0.50	0.10	µg/L	1	05/06/16 11:06
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 11:06
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 11:06
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 11:06
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 11:06
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 11:06
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 11:06
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 11:06
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 11:06
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 11:06

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

<b>CLIENT</b>	O'Brien & Gere Operations, LLC	<b>Lab ID:</b>	K1605031-009A
<b>Project:</b>	PAS Oswego-Semi-Annual Well Sampling	<b>Client Sample ID:</b>	X-1 5/4/16
<b>W Order:</b>	K1605031	<b>Collection Date:</b>	05/04/16 0:00
<b>Matrix:</b>	WATER Q	<b>Date Received:</b>	05/04/16 16:10
<b>Inst. ID:</b>	MS03_10	<b>PrepDate:</b>	
<b>ColumnID:</b>	Rtx-502.2	<b>BatchNo:</b>	R29836
<b>Revision:</b>	05/27/16 9:51	<b>TestCode:</b>	8260W_OLM42
<b>Col Type:</b>		<b>FileID:</b>	1-SAMP-J1854.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
<b>VOLATILE ORGANIC COMPOUNDS BY GC/MS</b>					<b>SW8260C/5030C</b>		
1,2-Dibromoethane	ND		0.50	0.16	µg/L	1	05/06/16 11:06
Chlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Ethylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Xylenes (total)	ND		1.00	0.30	µg/L	1	05/06/16 11:06
Styrene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
Bromoform	ND		1.00	0.33	µg/L	1	05/06/16 11:06
Isopropylbenzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,1,2,2-Tetrachloroethane	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,3-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,4-Dichlorobenzene	ND		0.50	0.16	µg/L	1	05/06/16 11:06
1,2-Dichlorobenzene	ND		0.50	0.10	µg/L	1	05/06/16 11:06
1,2-Dibromo-3-chloropropane	ND		5.00	1.00	µg/L	1	05/06/16 11:06
1,2,4-Trichlorobenzene	ND		1.00	0.10	µg/L	1	05/06/16 11:06
Surr: 1,2-Dichloroethane-d4	105		75-130	0.16	%REC	1	05/06/16 11:06
Surr: Toluene-d8	99		75-125	0.10	%REC	1	05/06/16 11:06
Surr: 4-Bromofluorobenzene	102		75-125	0.10	%REC	1	05/06/16 11:06

<b>Qualifiers:</b>	* Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
	E Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
	J Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
	P Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753543

Project Supervisor: David J Prichard





# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

CLIENT O'Brien & Gere Operations, LLC  
 Project: PAS Oswego-Semi-Annual Well Sampling  
 W Order: K1605031  
 Matrix: WATER Q  
 Inst. ID: MS03\_10  
 ColumnID: Rtx-502.2  
 Revision: 05/27/16 9:51  
 Col Type:

Sample Size 10 mL  
 %Moisture:  
 TestCode: 8260W\_OLM42

Lab ID: K1605031-010A  
 Client Sample ID: QC Trip Blank 5/4/16  
 Collection Date: 05/04/16 0:00  
 Date Received: 05/04/16 16:10  
 PrepDate:  
 BatchNo: R29836  
 FileID: 1-SAMP-J1861.D

Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				SW8260C/5030C			
Dichlorodifluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 14:39
Chloromethane	ND		1.00	0.33	µg/L	1	05/06/16 14:39
Vinyl chloride	ND		1.00	0.33	µg/L	1	05/06/16 14:39
Bromomethane	ND		1.00	0.33	µg/L	1	05/06/16 14:39
Chloroethane	ND		1.00	0.33	µg/L	1	05/06/16 14:39
Trichlorofluoromethane	ND		1.00	0.10	µg/L	1	05/06/16 14:39
1,1-Dichloroethene	ND		0.50	0.16	µg/L	1	05/06/16 14:39
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Acetone	ND		10.0	1.00	µg/L	1	05/06/16 14:39
Carbon disulfide	ND		0.50	0.11	µg/L	1	05/06/16 14:39
Methyl acetate	ND		5.00	1.00	µg/L	1	05/06/16 14:39
Methylene chloride	0.20	J	2.00	0.16	µg/L	1	05/06/16 14:39
trans-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Methyl tert-butyl ether	ND		1.00	0.16	µg/L	1	05/06/16 14:39
1,1-Dichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
cis-1,2-Dichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
2-Butanone	ND		10.0	1.00	µg/L	1	05/06/16 14:39
Chloroform	ND		0.50	0.10	µg/L	1	05/06/16 14:39
1,1,1-Trichloroethane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Cyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Carbon tetrachloride	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Benzene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
1,2-Dichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 14:39
Trichloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
Methylcyclohexane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
1,2-Dichloropropane	ND		0.50	0.16	µg/L	1	05/06/16 14:39
Bromodichloromethane	ND		0.50	0.10	µg/L	1	05/06/16 14:39
cis-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 14:39
4-Methyl-2-pentanone	ND		5.00	1.00	µg/L	1	05/06/16 14:39
Toluene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
trans-1,3-Dichloropropene	ND		0.50	0.16	µg/L	1	05/06/16 14:39
1,1,2-Trichloroethane	ND		0.50	0.16	µg/L	1	05/06/16 14:39
Tetrachloroethene	ND		0.50	0.10	µg/L	1	05/06/16 14:39
2-Hexanone	ND		5.00	1.00	µg/L	1	05/06/16 14:39
Dibromochloromethane	ND		0.50	0.10	µg/L	1	05/06/16 14:39

Qualifiers: \* Value may exceed the Acceptable Level  
 E Value exceeds the instrument calibration range  
 J Analyte detected below the PQL  
 P Prim./Conf. column %D or RPD exceeds limit

B Analyte detected in the associated Method Blank  
 H Holding times for preparation or analysis exceeded  
 ND Not Detected at the Practical Quantitation Limit (PQL)  
 S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753550

Project Supervisor: David J Prichard



# Life Science Laboratories, Inc.

5854 Butternut Drive

East Syracuse, NY 13057

(315) 445-1900

# Analytical Results

StateCertNo: 10248

**CLIENT** O'Brien & Gere Operations, LLC  
**Project:** PAS Oswego-Semi-Annual Well Sampling  
**W Order:** K1605031  
**Matrix:** WATER Q  
**Inst. ID:** MS03\_10  
**ColumnID:** Rtx-502.2  
**Revision:** 05/27/16 9:51  
**Col Type:**

Sample Size 10 mL

%Moisture:

TestCode: 8260W\_OLM42

**Lab ID:** K1605031-010A  
**Client Sample ID:** QC Trip Blank 5/4/16  
**Collection Date:** 05/04/16 0:00  
**Date Received:** 05/04/16 16:10  
**PrepDate:**  
**BatchNo:** R29836  
**FileID:** I-SAMP-J1861.D

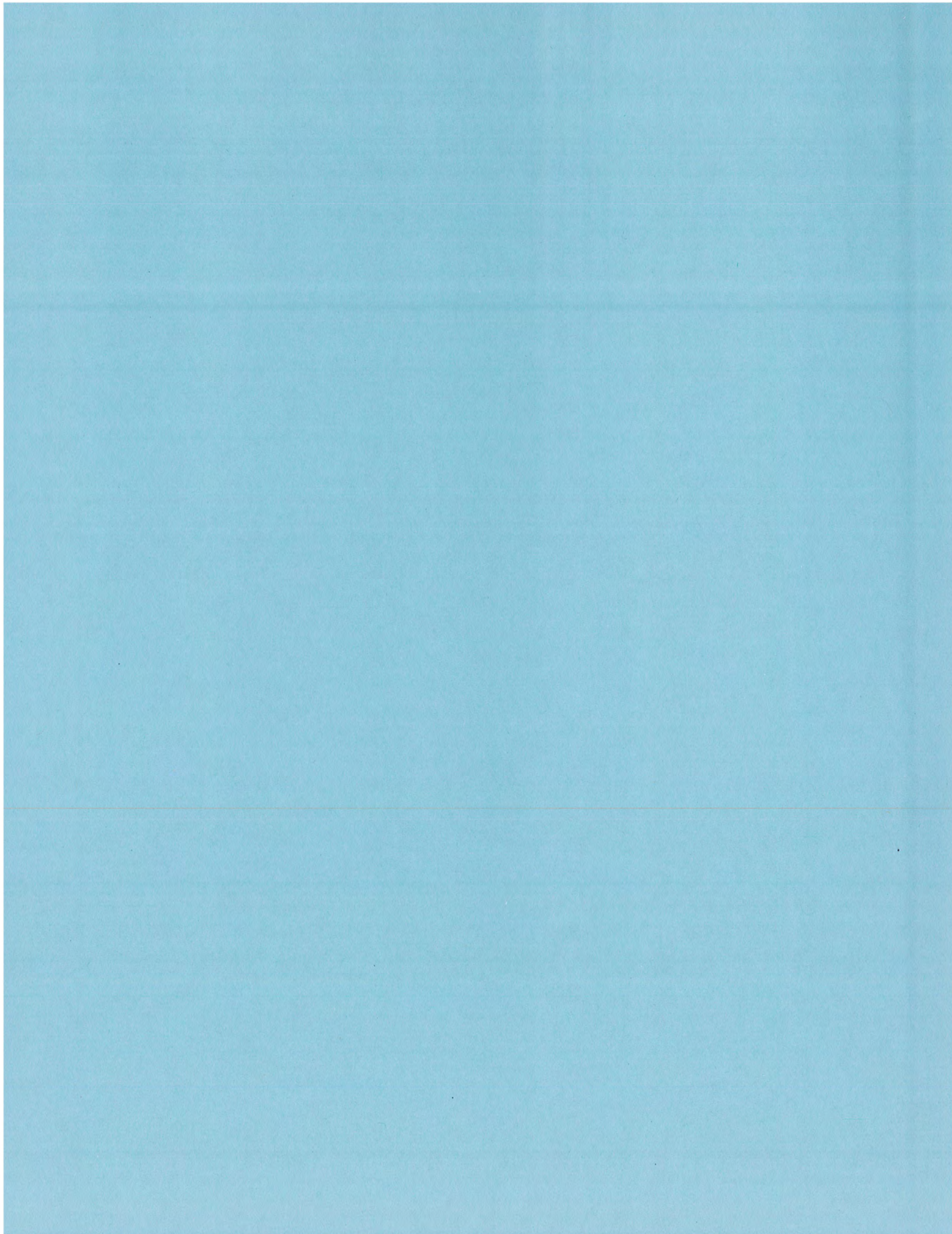
Analyte	Result	Qual	PQL	MDL	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS				SW8260C/5030C			
1,2-Dibromoethane	ND	0.50	0.16	µg/L	1	05/06/16 14:39	
Chlorobenzene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
Ethylbenzene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
Xylenes (total)	ND	1.00	0.30	µg/L	1	05/06/16 14:39	
Styrene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
Bromoform	ND	1.00	0.33	µg/L	1	05/06/16 14:39	
Isopropylbenzene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
1,1,2,2-Tetrachloroethane	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
1,3-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
1,4-Dichlorobenzene	ND	0.50	0.16	µg/L	1	05/06/16 14:39	
1,2-Dichlorobenzene	ND	0.50	0.10	µg/L	1	05/06/16 14:39	
1,2-Dibromo-3-chloropropane	ND	5.00	1.00	µg/L	1	05/06/16 14:39	
1,2,4-Trichlorobenzene	ND	1.00	0.10	µg/L	1	05/06/16 14:39	
Surr: 1,2-Dichloroethane-d4	108	75-130	0.16	%REC	1	05/06/16 14:39	
Surr: Toluene-d8	98	75-125	0.10	%REC	1	05/06/16 14:39	
Surr: 4-Bromofluorobenzene	103	75-125	0.10	%REC	1	05/06/16 14:39	

Qualifiers:		
*	Value may exceed the Acceptable Level	B Analyte detected in the associated Method Blank
E	Value exceeds the instrument calibration range	H Holding times for preparation or analysis exceeded
J	Analyte detected below the PQL	ND Not Detected at the Practical Quantitation Limit (PQL)
P	Prim./Conf. column %D or RPD exceeds limit	S Spike Recovery outside accepted recovery limits

Print Date: 05/27/16 9:55

753550

Project Supervisor: David J Prichard



D - 5  
QUARTERLY POTW  
DISCHARGE REPORTS





***de maximis, inc.***

450 Montbrook Lane  
Knoxville, TN 37919  
(865)691-5052  
(865)691-9835 FAX

***Via electronic mail***

July 13, 2018

Mr. John McGrath  
Chief Operator  
Westside Wastewater Treatment Plant  
First Avenue & West Schuyler Streets  
Oswego, New York 13126  
Labmanager @oswegony.org

**Re: Quarterly Discharge Report – 2nd Quarter 2018  
Pollution Abatement Services Site – Oswego, New York  
City of Oswego Wastewater Discharge Permit 6-2017-18**

Dear Mr. Johnson:

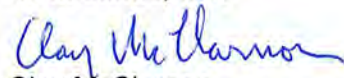
This quarterly report is submitted in accordance with the City of Oswego Wastewater Discharge Permit 6-2017-18 (Permit) for discharge of leachate from the Pollution Abatement Services (PAS) Site into the City of Oswego's Eastside Wastewater Treatment Facility. This report covers the reporting period from April 2018 through June 2018.

The PAS Site discharged a total of 50,000 gallons of leachate to the Oswego sewer system during the first quarter of 2018.

Discharge to City of Oswego April 2018 – June 2018      50,000 gallons

If you need additional information please call me at (865) 691-5052.

Sincerely,  
***de maximis, inc.***

  
Clay McClarnon

cc: Dan Ramer – Chief Operator Eastside Wastewater Treatment Plant  
Robert Johnson – City Engineer  
PAS Oswego Site Management Committee

F:\PROJECTS\3131 - PAS\10 Permits-POTW\2018\Oswego\2nd Qtr\Oswego 2nd Qtr 2018 rpt.doc

Allentown, PA • Clinton, NJ • Greensboro, GA • Knoxville, TN • San Diego, CA  
Cortland, NY • Wheaton, IL • Sarasota, FL • Houston, TX • Windsor, CT • Waltham, MA





**TABLE 1 - PAS OSWEGO SITE QUARTERLY REPORT FOR CITY OF OSWEGO (2018)**  
**LEACHATE DISCHARGE TO OSWEGO EASTSIDE WASTEWATER TREATMENT FACILITY**  
**(Oswego SIU Wastewater Discharge Permit No.6-2017-18)**

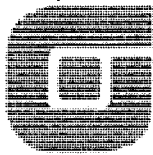
<i>Discharge Quarter</i>	<b>3Q 2017</b>		<b>4Q 2017</b>		<b>1Q 2017</b>		<b>2Q 2018</b>	
	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>	<i>Date Discharged (temp/pH)</i>	<i>Gallons Discharged</i>
	7/11/17	20,005	10/3/17	20,005	1/9/18	10,000	4/3/18	10,000
	54/6.8		54/6.8		48/6.8		44/6.8	
	8/8/17	20,005	11/15/17	10,005	2/6/18	10,000	5/9/18	20,000
	54/6.8		48.5/6.7		48/6.8		48/6.8	
	9/6/17	19,895	12/5/17	10,000	3/6/18	10,000	6/5/18	20,000
	54/6.8		54/6.7		6.8/44		6.8/49	
<b>Total Discharged</b>		59,905		40,010		30,000		50,000
<b>Date Sampled*</b>	<b>Permit Limit</b>		11/15/2017				4/3/2017	
<b>Analytes</b>	<b>mg/L</b>		<b>mg/L</b>				<b>mg/L</b>	
<i>Antimony</i>	<i>0.107</i>		ND <0.010				0.00041	
<i>Arsenic</i>	<i>0.358</i>		0.021				0.0129	
<i>Beryllium</i>	<i>0.107</i>		ND <0.010				ND <0.003	
<i>Cadmium</i>	<i>0.43</i>		ND <0.010				ND <0.001	
<i>Chromium (total)</i>	<i>0.67</i>		0.017				ND <0.014	
<i>Copper</i>	<i>0.43</i>		0.026				ND <0.004	
<i>Cyanide</i>	<i>0.67</i>		ND <0.010				ND <0.010	
<i>Lead</i>	<i>0.19</i>		ND <0.010				ND <0.001	
<i>Mercury</i>	<i>0.0002</i>		ND <0.0020				0.00000246	
<i>Nickel</i>	<i>0.69</i>		0.41				0.316	
<i>Selenium</i>	<i>0.282</i>		ND <0.010				ND <0.004	
<i>Silver</i>	<i>0.65</i>		ND <0.010				ND <0.001	
<i>Thallium</i>	<i>0.073</i>		ND <0.020				ND <0.0003	
<i>Zinc</i>	<i>1</i>		ND <0.020				ND <0.005	
<i>VOC**</i>			NA				NA	
<i>SVOC**</i>			NA				NA	
<i>BOD<sub>5</sub></i>	<i>200</i>		15				<66.7	
<i>TSS</i>	<i>400</i>		45				66	
<i>Phenolics</i>	<i>0.375</i>		ND <0.010				0.0761	
<i>pH</i>	<i>5 &gt; and &lt;10</i>		6.7				6.8	

\* Semi-annual sampling of PAS leachate discharge conducted in accordance with SIU Wastewater Discharge Permit No.6-2017-18.

\*\* Analytes included for permit pollutant analysis performed every three years

Analyte values in bold exceed limit

**ATTACHMENT I**



O'BRIEN & GERE

PAS Site  
Oswego, New York

Leachate Discharge Form

Date: 4-3-18

Time: 7:30

Field Technician MARTIN Koennecke

Weather Conditions overcast 35°

Well Pump	<i>Pre-Discharge Well Pumping</i>				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	9:45		73.4 GPM	
LCW-2	NOT PUMPED				
LCW-3	7:30	8:00	START - 11"		
LCW-4	7:30	9:45	STOP - 43.5" $\approx 32.5"$	73 GPM	
				Total	9,912

Discharge #	<i>Leachate Discharge Pumping (Monthly)</i>						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:55	11:55	6.8	44°	980165	990165	10,000
Discharge #2							
Total							10,000

	<i>Leachate Discharge Sampling (Semi-Annually)</i>					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1	4-3-18	SAMPLE PWT	3g/L	11:45	6.8	44°
Sample #2 (if required)						

Jane Magrath - Oswego PWT pickup samples  
Comp - 10:00 - 11:45  
6:00 - 11:40



# O'BRIEN & GERE

PAS Site  
Oswego, New York

## Leachate Discharge Form

Date: 5-9-18

Time: 7:45

Field Technician MARTIN KOENNAEKE

Weather Conditions SUNNY 60°

<i>Pre-Discharge Well Pumping</i>					
Well Pump	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:45	11:45		104 gpm	19,695
LCW-2	7:45	11:45			
LCW-3	7:45	8:00			
LCW-4	7:45	9:40	Intermittent		
Total					19,695

START 13" @ 920-45" = 104 Gpm END 12"

<i>Leachate Discharge Pumping (Monthly)</i>							
Discharge #	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:20	13:15	6.8	48°	990165	1010165	20,000
Discharge #2							
Total							20,000

<i>Leachate Discharge Sampling (Semi-Annually)</i>						
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



# O'BRIEN & GERE

## PAS Site Oswego, New York

### Leachate Discharge Form

Date: 6-5-18

Time: 7:25

Field Technician MARTIN KOENNECKE

Weather Conditions P-Sunny-55°

Well Pump	Pre-Discharge Well Pumping				
	Pump Start Time	Pump Stop Time	Tank Elevation	Flow Rate (est)	Gallons Pumped (est)
LCW-1	7:30	11:00	START-12"	113.8 GPM	<del>20,000</del> MK
LCW-2	7:30	11:00			19,368
LCW-3	7:30	7:50			
LCW-4	7:30	9:15	INTERMITTENT	RUNNING	
Total					<del>20,000</del> MK 19,368

Post Pumpout 10"

Discharge #	Leachate Discharge Pumping (Monthly)						
	Start Time	Stop Time	pH	Temp	Totalizer Flow Total (Start)	Totalizer Flow Total (End)	Gallons Discharge
Discharge #1	9:10	13:05	6.8	49°	1010165	1030165	20,000
Discharge #2							
Total							20,000

	Leachate Discharge Sampling (Semi-Annually)					
	Date	Sample Location	Sample Volume	Sample Time	pH	Temperature
Sample #1						
Sample #2 (if required)						



## ATTACHMENT II

April 26, 2018

John McGrath  
City of Oswego Waste Water Treatment  
Facilities  
2 First Ave  
Oswego, NY 13126

RE: Project: SEMI ANNUAL IPP MONITORING  
Pace Project No.: 7047516

Dear John McGrath:

Enclosed are the analytical results for sample(s) received by the laboratory on April 06, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Method 4500 CNE for total Cyanide was run out of hold due to an oversight by a new analyst. Extra help in this department has been scheduled to aid new staff members in their duties. This was not a conscious excursion from our SOP, but a mistake made during training with the new analyst

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

Sincerely,



James Murphy  
james.murphy@pacelabs.com  
(518)346-4592  
Project Manager

Enclosures

cc: Gary Hallinan, City of Oswego Waste Water Treatment  
Facilities



## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

## CERTIFICATIONS

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

---

### Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512

Minnesota Department of Health, Certificate #1385941

Arkansas Department of Environmental Quality, Certificate #17-046-0

Georgia Environmental Protection Division, Stipulation

Illinois Environmental Protection Agency, Certificate

#004325

Michigan Department of Environmental Quality, Laboratory #0034

New York State Department of Health, Serial #56192 and 56193

North Carolina Division of Water Resources, Certificate #659

Virginia Department of General Services, Certificate #9028

Wisconsin Department of Natural Resources, Laboratory #999472650

U.S. Department of Agriculture Permit to Receive Soil, Permit #P330-17-00278

---

### Long Island Certification IDs

575 Broad Hollow Rd, Melville, NY 11747

New York Certification #: 10478 Primary Accrediting Body

New Jersey Certification #: NY158

Pennsylvania Certification #: 68-00350

Connecticut Certification #: PH-0435

Maryland Certification #: 208

Rhode Island Certification #: LAO00340

Massachusetts Certification #: M-NY026

New Hampshire Certification #: 2987

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## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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### SAMPLE ANALYTE COUNT

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
7047516001	PAS TOTAL DISCHARGE COMPOSITE	EPA 200.8	SK2	12	PACE-MV
		SM22 2540D	STH	1	PACE-MV
		SM22 5210B	VNS	1	PACE-MV
7047516002	PAS TOTAL DISCHARGE GRAB	EPA 1631E	KLV	1	PASI-GRMI
		EPA 420.1	STH	1	PACE-MV
		SM22 4500-CN-E	JS3	1	PACE-MV

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
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## ANALYTICAL RESULTS

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

**Sample: PAS TOTAL DISCHARGE COMPOSITE**      **Lab ID: 7047516001**      Collected: 04/03/18 11:45      Received: 04/06/18 09:20      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS</b>		Analytical Method: EPA 200.8    Preparation Method: EPA 200.8						
Antimony	0.41	ug/L	0.40	1	04/07/18 11:19	04/09/18 15:21	7440-36-0	
Arsenic	12.9	ug/L	2.0	2	04/07/18 11:19	04/10/18 13:19	7440-38-2	M1
Beryllium	<0.30	ug/L	0.30	1	04/07/18 11:19	04/09/18 15:21	7440-41-7	
Cadmium	<1.0	ug/L	1.0	1	04/07/18 11:19	04/09/18 15:21	7440-43-9	
Chromium	<14.0	ug/L	14.0	2	04/07/18 11:19	04/10/18 13:19	7440-47-3	M1
Copper	<4.0	ug/L	4.0	2	04/07/18 11:19	04/10/18 13:19	7440-50-8	M1
Lead	<1.0	ug/L	1.0	1	04/07/18 11:19	04/09/18 15:21	7439-92-1	
Nickel	316	ug/L	1.0	2	04/07/18 11:19	04/10/18 13:19	7440-02-0	D6,M1
Selenium	<4.0	ug/L	4.0	2	04/07/18 11:19	04/10/18 13:19	7782-49-2	M1
Silver	<1.0	ug/L	1.0	1	04/07/18 11:19	04/09/18 15:21	7440-22-4	
Thallium	<0.30	ug/L	0.30	1	04/07/18 11:19	04/09/18 15:21	7440-28-0	
Zinc	<5.0	ug/L	5.0	1	04/07/18 11:19	04/09/18 15:21	7440-66-6	M1
<b>2540D Total Suspended Solids</b>		Analytical Method: SM22 2540D						
Total Suspended Solids	66.0	mg/L	20.0	1		04/09/18 17:08		
<b>5210B BOD, 5 day</b>		Analytical Method: SM22 5210B    Preparation Method: SM22 5210B						
BOD, 5 day	<66.7	mg/L	66.7	33.33	04/06/18 17:16	04/11/18 13:37		H3

## REPORT OF LABORATORY ANALYSIS

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## ANALYTICAL RESULTS

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

**Sample: PAS TOTAL DISCHARGE GRAB**      **Lab ID: 7047516002**      Collected: 04/03/18 11:45      Received: 04/06/18 09:20      Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>1631E Mercury, Low Level</b>								
Analytical Method: EPA 1631E    Preparation Method: EPA 1631E								
Mercury	<b>2.46</b>	ng/L	0.20	1	04/11/18 15:00	04/12/18 12:41	7439-97-6	
<b>Phenolics, Total Recoverable</b>								
Analytical Method: EPA 420.1    Preparation Method: EPA 420.1								
Phenolics, Total Recoverable	<b>76.1</b>	ug/L	20.0	4	04/23/18 12:00	04/23/18 16:15		M1
<b>SM 4500 CNE Cyanide, Total</b>								
Analytical Method: SM22 4500-CN-E    Preparation Method: SM20/22 4500-CN-C								
Cyanide	<b>&lt;10.0</b>	ug/L	10.0	1	04/18/18 07:30	04/18/18 15:54	57-12-5	H1,H2

## REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

QC Batch: 20144

Analysis Method: EPA 1631E

QC Batch Method: EPA 1631E

Analysis Description: 1631E Mercury

Associated Lab Samples: 7047516002

METHOD BLANK: 80075

Matrix: Water

Associated Lab Samples: 7047516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.20	0.20	04/12/18 11:06	

METHOD BLANK: 80076

Matrix: Water

Associated Lab Samples: 7047516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.20	0.20	04/12/18 12:07	

METHOD BLANK: 80077

Matrix: Water

Associated Lab Samples: 7047516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ng/L	<0.20	0.20	04/12/18 13:09	

LABORATORY CONTROL SAMPLE: 80078

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ng/L	4	3.66	91	77-123	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 80079

80080

Parameter	Units	4610387002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Mercury	ng/L	2.61	4	4	6.08	6.19	87	89	71-125	2	

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**REPORT OF LABORATORY ANALYSIS**

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### QUALITY CONTROL DATA

Project: SEMI ANNUAL IPP MONITORING  
Pace Project No.: 7047516

QC Batch: 62474 Analysis Method: EPA 200.8  
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET  
Associated Lab Samples: 7047516001

METHOD BLANK: 286892 Matrix: Water  
Associated Lab Samples: 7047516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	<0.40	0.40	04/09/18 15:07	
Arsenic	ug/L	<1.0	1.0	04/09/18 15:07	
Beryllium	ug/L	<0.30	0.30	04/09/18 15:07	
Cadmium	ug/L	<1.0	1.0	04/09/18 15:07	
Chromium	ug/L	<7.0	7.0	04/09/18 15:07	
Copper	ug/L	<2.0	2.0	04/09/18 15:07	
Lead	ug/L	<1.0	1.0	04/09/18 15:07	
Nickel	ug/L	<0.50	0.50	04/09/18 15:07	
Selenium	ug/L	<2.0	2.0	04/09/18 15:07	
Silver	ug/L	<1.0	1.0	04/09/18 15:07	
Thallium	ug/L	<0.30	0.30	04/09/18 15:07	
Zinc	ug/L	<5.0	5.0	04/09/18 15:07	

LABORATORY CONTROL SAMPLE: 286893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	50	50.6	101	85-115	
Arsenic	ug/L	50	49.8	100	85-115	
Beryllium	ug/L	50	51.2	102	85-115	
Cadmium	ug/L	50	48.1	96	85-115	
Chromium	ug/L	50	50.6	101	85-115	
Copper	ug/L	50	49.7	99	85-115	
Lead	ug/L	50	50.6	101	85-115	
Nickel	ug/L	50	49.8	100	85-115	
Selenium	ug/L	50	49.8	100	85-115	
Silver	ug/L	50	49.0	98	85-115	
Thallium	ug/L	50	52.4	105	85-115	
Zinc	ug/L	50	48.9	98	85-115	

MATRIX SPIKE SAMPLE: 286895

Parameter	Units	7047516001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	0.41	10	10.2	98	70-130	
Arsenic	ug/L	12.9	4	13.2	8	70-130	M1
Beryllium	ug/L	<0.30	5	5.1	102	70-130	
Cadmium	ug/L	<1.0	5	5.0	98	70-130	
Chromium	ug/L	<14.0	20	23.3	63	70-130	M1
Copper	ug/L	<4.0	25	18.9	61	70-130	M1

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**QUALITY CONTROL DATA**

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

MATRIX SPIKE SAMPLE: 286895		7047516001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% Rec	Limits	Qualifiers
Lead	ug/L	<1.0	2	2.4	107	70-130	
Nickel	ug/L	316	50	281	-70	70-130	M1
Selenium	ug/L	<4.0	1	4.1	15	70-130	M1
Silver	ug/L	<1.0	5	4.2	83	70-130	
Thallium	ug/L	<0.30	5	5.6	111	70-130	
Zinc	ug/L	<5.0	50	34.7	63	70-130	M1

SAMPLE DUPLICATE: 286894

Parameter	Units	7047516001	Dup	RPD	Qualifiers
		Result	Result		
Antimony	ug/L	0.41	0.43	5	
Arsenic	ug/L	12.9	10.5	20	
Beryllium	ug/L	<0.30	<0.30		
Cadmium	ug/L	<1.0	<1.0		
Chromium	ug/L	<14.0	8.7		
Copper	ug/L	<4.0	2.9		
Lead	ug/L	<1.0	<1.0		
Nickel	ug/L	316	257	21	D6
Selenium	ug/L	<4.0	3.3		
Silver	ug/L	<1.0	<1.0		
Thallium	ug/L	<0.30	<0.30		
Zinc	ug/L	<5.0	<5.0		

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### QUALITY CONTROL DATA

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

QC Batch: 62628	Analysis Method: SM22 2540D
QC Batch Method: SM22 2540D	Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 7047516001	

METHOD BLANK: 287585 Matrix: Water

Associated Lab Samples: 7047516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	<1.0	1.0	04/09/18 16:57	

LABORATORY CONTROL SAMPLE: 287586

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Suspended Solids	mg/L	200	192	96	85-115	

SAMPLE DUPLICATE: 287587

Parameter	Units	7047598001 Result	Dup Result	RPD	Qualifiers
Total Suspended Solids	mg/L	244	200	20	

SAMPLE DUPLICATE: 287588

Parameter	Units	7047690002 Result	Dup Result	RPD	Qualifiers
Total Suspended Solids	mg/L	136	138	1	

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### QUALITY CONTROL DATA

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

QC Batch: 62413

Analysis Method: SM22 5210B

QC Batch Method: SM22 5210B

Analysis Description: 5210B BOD, 5 day

Associated Lab Samples: 7047516001

METHOD BLANK: 286578

Matrix: Water

Associated Lab Samples: 7047516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	<2.0	2.0	04/11/18 13:07	

LABORATORY CONTROL SAMPLE: 286579

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	92	84.5-115.4	

SAMPLE DUPLICATE: 286580

Parameter	Units	7047493001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	190	179	6	

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### QUALITY CONTROL DATA

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

QC Batch: 64559

Analysis Method: EPA 420.1

QC Batch Method: EPA 420.1

Analysis Description: 420.1 Phenolics Macro

Associated Lab Samples: 7047516002

METHOD BLANK: 296282

Matrix: Water

Associated Lab Samples: 7047516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenolics, Total Recoverable	ug/L	<5.0	5.0	04/23/18 15:51	

LABORATORY CONTROL SAMPLE: 296283

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	30	29.8	99	90-110	

MATRIX SPIKE SAMPLE: 296284

Parameter	Units	7047903001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	<5.0	20	21.3	105	75-125	

MATRIX SPIKE SAMPLE: 296286

Parameter	Units	7047516002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	ug/L	76.1	20	132	278	75-125	M1

SAMPLE DUPLICATE: 296285

Parameter	Units	7047903001 Result	Dup Result	RPD	Qualifiers
Phenolics, Total Recoverable	ug/L	<5.0	<5.0		

SAMPLE DUPLICATE: 296287

Parameter	Units	7047516002 Result	Dup Result	RPD	Qualifiers
Phenolics, Total Recoverable	ug/L	76.1	67.2	13	

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### QUALITY CONTROL DATA

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

QC Batch: 63836

Analysis Method: SM22 4500-CN-E

QC Batch Method: SM20/22 4500-CN-C

Analysis Description: 4500 CNE Cyanide, Total

Associated Lab Samples: 7047516002

METHOD BLANK: 292938

Matrix: Water

Associated Lab Samples: 7047516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	<10.0	10.0	04/18/18 15:53	

LABORATORY CONTROL SAMPLE: 292939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	75	74.8	100	85-115	

MATRIX SPIKE SAMPLE: 292940

Parameter	Units	7047424003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	<10.0	100	92.4	92	75-125	

SAMPLE DUPLICATE: 292941

Parameter	Units	7047424003 Result	Dup Result	RPD	Qualifiers
Cyanide	ug/L	<10.0	<10.0		

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## QUALIFIERS

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### LABORATORIES

PACE-MV Pace Analytical Services - Melville

PASI-GRMI Pace Analytical Grand Rapids

### ANALYTE QUALIFIERS

D6 The precision between the sample and sample duplicate exceeded laboratory control limits.

H1 Analysis conducted outside the EPA method holding time.

H2 Extraction or preparation conducted outside EPA method holding time.

H3 Sample was received or analysis requested beyond the recognized method holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: SEMI ANNUAL IPP MONITORING

Pace Project No.: 7047516

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
7047516002	PAS TOTAL DISCHARGE GRAB	EPA 1631E	20144	EPA 1631E	20187
7047516001	PAS TOTAL DISCHARGE COMPOSITE	EPA 200.8	62474	EPA 200.8	62485
7047516001	PAS TOTAL DISCHARGE COMPOSITE	SM22 2540D	62628		
7047516001	PAS TOTAL DISCHARGE COMPOSITE	SM22 5210B	62413	SM22 5210B	63183
7047516002	PAS TOTAL DISCHARGE GRAB	EPA 420.1	64559	EPA 420.1	64568
7047516002	PAS TOTAL DISCHARGE GRAB	SM20/22 4500-CN-C	63836	SM22 4500-CN-E	63962

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WO#: 7047516



7047516

CHAIN-OF-CUSTODY / Analytical Request Document

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



<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:		Page: 1 of 1	
City of Oswego East Side WWTP		Report To: Clay McClamon-clay@demaximis.com		Attention: Kelly Coad		REGULATORY AGENCY	
71 Mercer Street		cc: Mark Byrne-mark.byrne@obg.com		Company Name: City of Oswego WWTP		<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input type="checkbox"/> DRINKING WATER <input type="checkbox"/> UST <input type="checkbox"/> RCRA <input type="checkbox"/> OTHER _____	
Oswego, NY 13126		cc: Ken Scherrieble-info@camdengroupusa.com;		2 First Avenue Oswego, NY 13126		SITE	
labmanager@oswegony.org		cc: Dan Ramer-info@camdengroupusa.com		Pace Quote Reference:		<input type="checkbox"/> GA <input type="checkbox"/> IL <input type="checkbox"/> IN <input type="checkbox"/> MI <input type="checkbox"/> NC <input type="checkbox"/> OH <input type="checkbox"/> SC <input type="checkbox"/> WI <input checked="" type="checkbox"/> OTHER NY	
315-342-8196   315-342-8233		Purchase Order No.:		Pace Project Manager:		LOCATION	
Requested Due Date/TAT: 14 days		Project Name: PAS Semi Annual IPP Monitoring		Pace Profile #:		Filtered (Y/N)	
		Project Number:				Requested Anal:	

ITEM #	Section D Required Client Information				MATRIX CODE	SAMPLE TYPE	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Request	Filtered (Y/N)	Pace Project Number Lab I.D.							
	SAMPLE ID						COMPOSITE START		COMPOSITE ENDGRAB				Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>8</sub>	Methanol	Other				TSS	BOD	T. CYANIDE	** METALS	PHENOLS	LL MERCURY	Residual Chlorine (Y/N)
	One Character per box (A-Z, 0-9 / , -) Samples IDs MUST BE UNIQUE						DATE	TIME	DATE	TIME																				
	DRINKING WATER	WATER	WASTE WATER	PRODUCT			DATE	TIME	DATE	TIME																				
1	PAS	TOTAL	DISCHARGE	WW C	4/3/18	1000	4/3/18	1145	1	X													N	001						
2	PAS	TOTAL	DISCHARGE	WW C	4/3/18	1000	4/3/18	1145	1	X								X					N	002						
3	PAS	TOTAL	DISCHARGE	WW G	NA	NA	4/3/18	1145	1				X					X					N	001						
4	PAS	TOTAL	DISCHARGE	WW C	4/3/18	1000	4/3/18	1145	1		X								X				N	002						
5	PAS	TOTAL	DISCHARGE	WW G	NA	NA	4/3/18	1145	1		X									X			N	002						
6	PAS	TOTAL	DISCHARGE	WW G	NA	NA	4/3/18	1145	1				X							X			N							

Additional Comments: \*\* Metals: As,Ag,Sb,Be,Cd,Cr,Cu,Ni,Pb,Se,Ti,Zn by 200.8

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
John McGrath	4/4/18	10:20	Johnny Pace	4/4/18	10:20	Y/N
Johnny Pace	4/6/18	12:00	John McGrath	4/6/18	9:20	Y/N

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
Print Name of SAMPLER: John McGrath							
SIGNATURE of SAMPLER: <i>John McGrath</i> DATE Signed: 04 / 03 / 2018							

7719 22885 1557





# Sample Condition Upon Receipt

Client Name: COWWTF

Project **WO#: 7047516**  
 PM: JM2 Due Date: 04/26/18  
 CLIENT: COWWTF

Courier:  Fed Ex  UPS  USPS  Client  Commercial  Pace  Other

Tracking #: 7719 1557 2285

Custody Seal on Cooler/Box Present:  Yes  No      Seals intact:  Yes  No

Packing Material:  Bubble Wrap  Bubble Bags  Ziploc  None  Other

Thermometer Used: TH091      Correction Factor: 0.0

Cooler Temperature (°C): 4.4      Cooler Temperature Corrected (°C): 4.4

Temp should be above freezing to 6.0°C

USDA Regulated Soil  N/A, water sample

Date and Initials of person examining contents: JB 4/6/18

Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)?  YES  NO

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)?  Yes  No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: (Triple volume provided for MS/MSD)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes date/time/ID/Analysis Matrix SL WT OIL		
All containers needing preservation have been checked	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO <sub>3</sub> <input type="checkbox"/> H <sub>2</sub> SO <sub>4</sub> <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
pH paper Lot # <u>HC727135</u>		Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO <sub>3</sub> , H <sub>2</sub> SO <sub>4</sub> , HCl, NaOH>9 Sulfide, NAOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed:    Lot # of added preservative:    Date/Time preservative added
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis		
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Positive for Res. Chlorine? Y N
KI starch test strips Lot #		
Residual chlorine strips Lot #		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable):		

Client Notification/ Resolution: \_\_\_\_\_      Field Data Required?      Y / N

Person Contacted: \_\_\_\_\_      Date/Time: \_\_\_\_\_

Comments/ Resolution: Low level mercury sample was not received  
double bagged

# **ATTACHMENT III**

## **ACTIONS PLANNED**

## **ANNUAL PROGRESS REPORT – Future**

### ***Operation, Maintenance and Long-term Monitoring Activities***

**PROJECT NAME:** *Pollution Abatement Services Site  
Oswego, New York*

**PERIOD COVERED:** JULY 2018 – JUNE 2019

#### **ACTIONS PLANNED FOR THE YEAR**

- Leachate removal activities will be performed during the period July 2018 through June 2019 at the PAS Oswego Site in accordance with the Operation, Maintenance and Long-term Monitoring (OM&M) Activities Plan (BBL, 1998 revised July 2012) (Work Plan). The OM&M activities will include pumping approximately 20,000 gallons per month from May through October, and 10,000 gallons per month for the winter and spring months November through April. In addition, during the months of July 2018 through September 2018 an additional 500 gallons per month will be removed from LCW-2 to adjust for the observations in the LCW-2 area during June 2018. If August 2018 elevation monitoring indicates outward gradients remain in the LCW-2 area, the need for additional pumping will be evaluated and EPA will be notified of the determination and any suggested action.
- The leachate will be discharged to the Eastside Wastewater Treatment Plant in Oswego, New York (Oswego WWTP) under an approved permit consistent with the schedule presented below. However, the Wastewater Treatment Plant in the City of Auburn, New York will continue to be retained as an alternate leachate treatment and disposal facility.
- Additional leachate sampling will be conducted as needed for treatment and disposal at the Oswego Wastewater Treatment Plant under the approved permit.
- Quarterly ground-water elevation monitoring is scheduled to be conducted on August 6, 2018, November 5, 2018, February 4, 2019 and May 6, 2019.
- Site maintenance activities will be conducted along with other monitoring and removal activities. Maintenance activities include cap vegetation control and inspection and maintenance of the storage shed, spill control materials and the perimeter fence. Snow removal will be performed on an as needed basis throughout the winter months. These activities will be performed in accordance with the approved Work Plan.
- Semi-annual groundwater and leachate quality sampling is scheduled to be conducted on November 5, 2018 and May 6, 2019. Only 1,1 dichloroethane was observed at MW-22 and LR-6 in the recent sampling events and these results were at or near detection limits. Therefore, MW-22, OD-3 and LR-6 will be sampled in the fall of 2022 to provide data for the next 5 year review. We will sample LR-8, M-21 for the semi-annual sampling events over the 2018-2019 period.
- The Institutional Control Implementation Plan (ICIP) includes the inspection requirements for the period following the execution and recording of the Easement, which were documented in the approved Remedial Action Completion Report. It states that following implementation of institutional controls on the Industrial Precision Products Property, the Site will be inspected on an annual basis to determine whether any intrusive activities have occurred. In addition, building and property records will be reviewed to ascertain whether or not any filings have been made for such activities. The ICIP provides for an annual report summarizing the findings of the inspection

and record review to be prepared, along with a certification confirming that operation and maintenance activities will continue, and that the annual report would be included in the annual OM&M progress report to be submitted to EPA in July of each year.

- The schedule for leachate removal events and tasks is provided below.

GROUND-WATER REMOVAL EVENT SCHEDULE 2018/2019						
	July 2018 Removal Events		August 2018 Removal Events		September 2018 Removal Events	
	First Event		First Event		First Event	
Removal	July 11		Aug 8		Sep 5	

GROUND-WATER REMOVAL EVENT SCHEDULE 2018/2019						
	October 2018 Removal Events		November 2018 Removal Events		December 2018 Removal Events	
	First Event		First Event		First Event	
Removal	Oct 3		Nov 7		Dec 5	

GROUND-WATER REMOVAL EVENT SCHEDULE 2018/2019						
	January 2019 Removal Events		February 2019 Removal Events		March 2019 Removal Events	
	First Event		First Event		First Event	
Removal	Jan 9		Feb 13		Mar 6	

GROUND-WATER REMOVAL EVENT SCHEDULE 2018/2019						
	April 2019 Removal Events		May 2019 Removal Events		June 2019 Removal Events	
	First Event		First Event		First Event	
Removal	April 3		May 8		June 5	