From: Devin T Shay <DShay@gesonline.com>
Sent: Monday, November 02, 2020 12:17 PM
To: Spellman, John (DEC)
Cc: Stucker, Steven P. (Steven.Stucker@nationalgrid.com)
Subject: National Grid - Hudson - Annual Report
Attachments: NGrid_Hudson_2020 Groundwater Monitoring Report.pdf

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

John –
Attached please find the annual groundwater monitoring report for the National Grid site in Hudson.

Kindly respond to confirm receipt.
Thanks,
Devin

Devin T. Shay, PG
Program Manager / Principal Hydrogeologist

Office: 800.220.3069 ext. 4051
Mobile: 315.374.7648
dshay@GESonline.com

Groundwater & Environmental Services, Inc.
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nationalgrid

Steven P. Stucker, C.P.G.
Lead Engineer

November 2, 2020

Mr. John Spellman, PE
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C
625 Broadway
Albany, NY 12233-7013

Re: ***National Grid Hudson Water Street Site***
Hudson, New York
2020 Groundwater Monitoring Report

Dear Mr. Spellman:

Attached for your information is the 2020 Groundwater Monitoring Report detailing the annual groundwater monitoring event and OM&M activities conducted from July 1, 2019, to June 30, 2020, at the National Grid Hudson (Water Street) Site. Site activities were conducted in accordance with the NYSDEC-approved OM&M Plan (BBL/ARCADIS; January 2007) and the *Static Water Level Evaluation and Ground Water Monitoring Program Recommendation Memorandum* letter (dated August 15, 2007).

The groundwater quality has been steadily improving over the years based on the number and extent of chemical detections in the monitoring wells. Based on the annual groundwater sampling analysis report in 2020, MW-11 had detections of BTEX [totaling 26.3 µg/L]. No other detections of any compounds analyzed were noted in the remaining wells.

Please contact me at 315-428-5652 if you have any questions.

Sincerely,

for SPS

Steven P. Stucker, C.P.G.
Lead Engineer
Environmental Department

300 Erie Boulevard West, C-1, Syracuse, NY 13202
T: 315-428-5652 F: 315-428-3549 steven.stucker@us.ngrid.com www.nationalgrid.com

National Grid

2020 Groundwater Monitoring Report

National Grid Hudson Water Street Site
Water Street between Ferry Street and Broad Street
Hudson, NY 12534

November 2020

Version 1

2020 Groundwater Monitoring Report

National Grid Hudson Water Street Site
Water Street between Ferry Street & Broad Street
Hudson, NY 12534

Prepared for:
National Grid
300 Erie Boulevard West, C-1
Syracuse, NY 13202

Prepared by:
Groundwater & Environmental Services, Inc.
5 Technology Place, Suite 4
East Syracuse, NY 13057
TEL: 800-220-3069
www.gesonline.com

GES Project:
0603000.125340.221

Date:
November 2, 2020

Devin T. Shay, PG
Program Manager / Principal Hydrogeologist

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Acronyms

AWQS	Ambient Water Quality Standards
BTEX	Benzene, Toluene, Ethylbenzene, and Total Xylenes
DNAPL	Dense Non-Aqueous Phase Liquid
DUSR	Data Usability Summary Report
GES	Groundwater & Environmental Services, Inc.
gpm	Gallons per Minute
IRM	Interim Remedial Measures
LNAPL	Light Non-Aqueous Phase Liquid
MGP	Manufactured Gas Plant
NYSDEC	New York State Department of Environmental Conservation
OM&M	Operation, Maintenance, and Monitoring
OU	Operable Unit
Pace	Pace Analytical Services, LLC
PAH	Polycyclic Aromatic Hydrocarbons
POTW	Publically Owned Treatment Works
QA/QC	Quality Assurance / Quality Control
ROD	Record of Decision
SMP	Site Management Plan
USEPA	United States Environmental Protection Agency
WPCF	Water Pollution Control Facility

1 Introduction

1.1 Overview

Groundwater & Environmental Services, Inc. (GES) has prepared this 2020 Groundwater Monitoring Report (covering July 1, 2019 – June 30, 2020) for the Hudson (Water Street) Site, Hudson, New York**.** This annual report includes the requirements associated with the operation, maintenance, and monitoring of the Remedial Action Plan (RAP) at Operable Unit (OU) 1 of the Hudson (Water Street) Former Manufactured Gas Plant (MGP) Site located in Hudson, New York. Please refer to the *Operation, Maintenance, and Monitoring Plan* (OM&M Plan), dated January 2007, and the CDM Smith memorandum dated July 30, 2007, for well monitoring, groundwater sampling, site inspection requirements, and associated detailed site conditions and groundwater flow pattern documentation.

Groundwater monitoring has been conducted at the Site in order to evaluate the effectiveness of remedial activities previously completed at the Site and to monitor long-term groundwater quality trends. Currently, groundwater sampling at the Former MGP Site is performed on an annual basis.

The following Operation, Maintenance, and Monitoring (OM&M) activities conducted during this reporting period are summarized below:

- Quarterly site inspections, including checks on the surface cap, riverbank protection, security fencing, steel sheeting retaining wall, and the groundwater monitoring wells.
- Annual groundwater level measurements.
- Annual dense non-aqueous phase liquid (DNAPL) monitoring and collection, if necessary.
- Annual groundwater sampling, analysis and data validation. Water samples are submitted to Pace Analytical Services, LLC (Pace) for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) and naphthalene for comparison to New York State Department of Environmental Conservation (NYSDEC) Ambient Water Quality Standards (AWQS).
- Any site maintenance that comes about as a result of the quarterly inspections.

1.2 Site Description

The Hudson (Water Street) Former Manufactured Gas Plant Site located in Hudson, New York is comprised of approximately two acres of land and is owned by the City of Hudson (refer to **Figure 1 – Site Location Map** and **Figure 2 – Post Remediation Site Conditions** with current groundwater table elevations). The remedial action plan in place at the site was substantially completed in December 2006 and the OM&M Plan was finalized in January 2007 to provide a method for monitoring its effectiveness.

The objective of the post-construction groundwater monitoring task within the OM&M plan is to characterize post-remedy groundwater flow patterns and assess the quality of shallow groundwater as it leaves the site. Groundwater samples are analyzed for BTEX and naphthalene.

2 Quarterly Site Inspections and Groundwater Monitoring Activities

2.1 Quarterly Site Inspections

GES conducted quarterly site inspections during this reporting period. These quarterly inspections include checking the surface cap, riverbank protection, security fencing, steel sheeting retaining wall, and the groundwater monitoring wells.

In general, the Site is in good condition and in compliance.

Attachment A includes the Quarterly Site Inspection Forms.

2.2 Groundwater Well Gauging

Groundwater level measurements are collected at the Site to accomplish the following:

- To determine the general groundwater flow direction on site.

Annual gauging field data is presented in **Table 2**. In general, site groundwater flows radially outward from the former gas holder area toward the Hudson River, consistent with past groundwater elevation data.

2.3 Annual DNAPL Monitoring and Collection

Annual DNAPL monitoring was conducted at RW-1, RW-2, and CW-01A. No DNAPL product was recovered in any of the wells. No odors were noted. Annual DNAPL monitoring and recovery tables are included as part of **Attachment B**. To date, no DNAPL has been recovered from these passive wells.

2.4 Groundwater Well Sampling and Analysis

Groundwater samples were collected from monitoring wells MW-03, MW-05, MW-06 and MW-11 on June 24, 2020. The wells were purged using a peristaltic pump. Field Measurements of pH, conductivity, turbidity, dissolved oxygen, temperature, total dissolved solids and oxidation-reduction potential were recorded using a Horiba U-52 water quality meter during sample collection. Samples were collected once field parameters stabilized. Field monitoring data and the chain-of-custody record are included in **Attachment B**.

Four aqueous field samples, a field duplicate, and trip blank were analyzed for BTEX (USEPA Method 8260C) and naphthalene. The samples were analyzed by Pace in accordance with the NYSDEC Analytical Services Protocol. Analytical results are summarized in **Table 1**. The Analytical Lab Report and Data Usability Summary Report are presented in **Appendix C.**

2.5 Site Maintenance

Site inspections during this reporting period indicated no maintenance was required on site. Photographs from quarterly site visits are included in **Attachment D**.

3 Conclusions and Recommendations

3.1 Conclusions

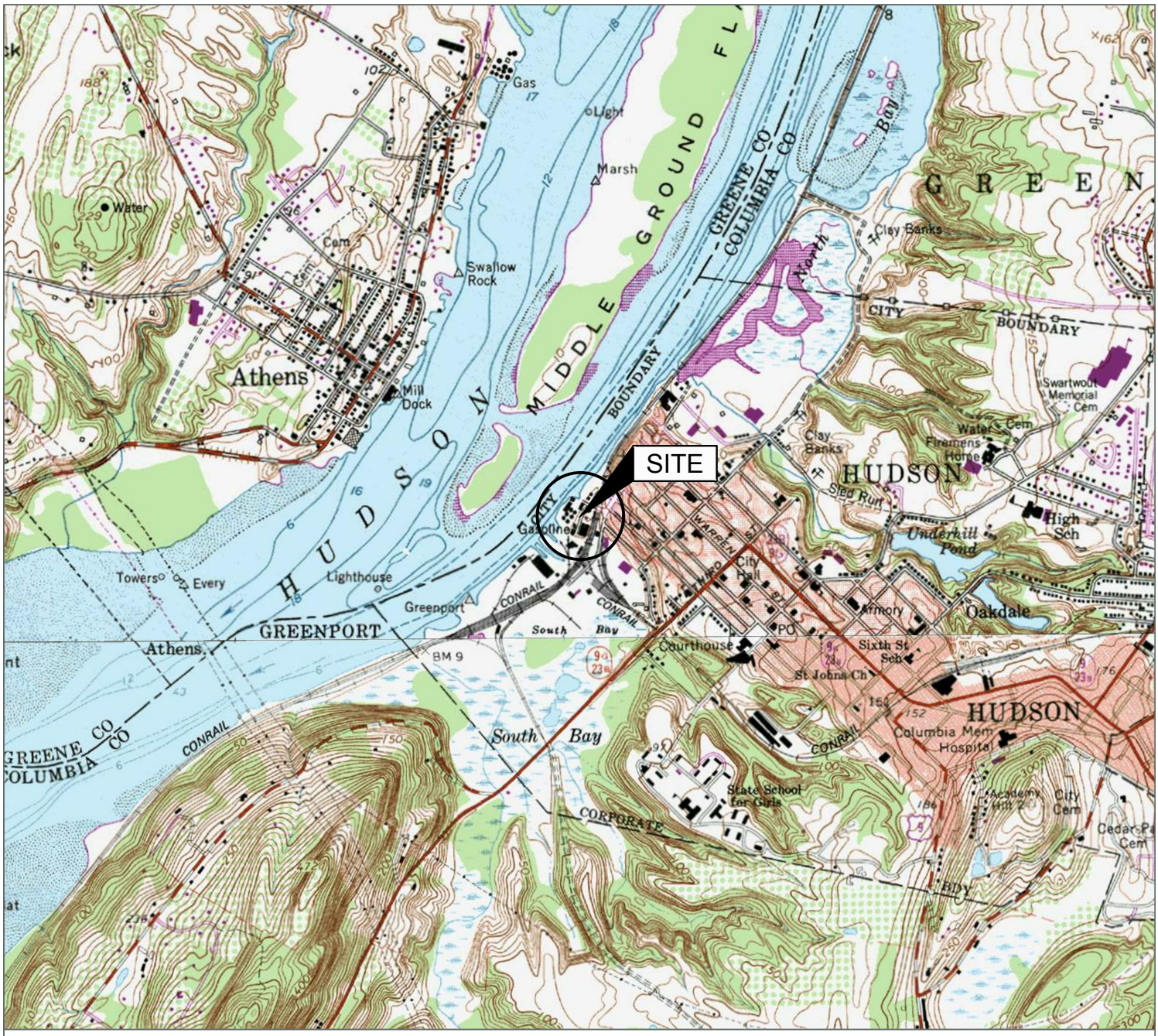
Based on the results of the past year's activities, the following conclusions were made:

- Quarterly site inspections demonstrate that the site is in good condition and in compliance.
- Annual static water level measurements show that the groundwater direction is radially outward from the former gas holder area.
- Annual DNAPL monitoring indicated no collectable product.
- MW-11 had a total BTEX concentration of 26.3 micrograms per liter (µg/L). This is the only well with a detected concentration of any parameter analyzed. Reference **Table 1** for historical data.

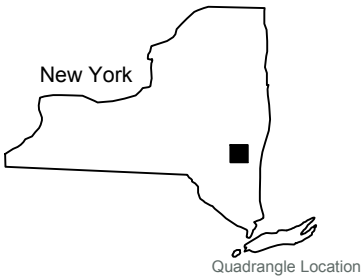
3.2 Recommendations

It is recommended that all OM&M activities continue, with the next report due in July 2021.

Figures



Source:
USGS 7.5 Minute Series
Topographic Quadrangle, 1980
Hudson North, New York
Contour Interval = 10'



Site Location Map

National Grid
Water Street
Hudson, New York

Drawn
W.G.S.
Designed

Approved

Date
7/6/18
Figure
1

N

Scale In Feet
0 2000

GES
Groundwater & Environmental Services, Inc.

M:\Graphics\0600-Syracuse\Misc\National Grid\Hudson\Hudson SLM.dwg, 7/6/2018 10:05:21 AM

LEGEND

— — — —	PROPERTY BOUNDARY
⊕	MONITORING WELL
⊠	RECOVERY WELL
(6.10)	GROUNDWATER ELEVATION (ft. amsl)
ft. amsl	FEET ABOVE MEAN SEA LEVEL
(1.88)*	ESTIMATED VALUE

HUDSON RIVER

HUDSON RIVER (9.75)

(4.35) RW1

RW2 (5.60)

MW02 (3.61)

(2.08) MW03

WATER STREET

OW01

MW04

MW06 (5.67)

CW01A (3.90)

BRICK WAREHOUSE

MW11 (3.72)

(3.97) OW4

(6.33) OW2

OW3

MW05 (6.10)

MW10 (1.88)*

MW09A (5.84)

MW08A (3.73)

MW07 (5.33)

LANDS OF CSX TRANSPORTATION

PROPOSED ACCESS LOCATION

CATCH BASIN #2
RIM = 6.15' 12"RCP
INV(S) = 3.55' 12"RCP
INV(N) = 3.50'

CATCH BASIN #1
RIM = 6.14
SILTED
TOP OF SILT = 4.5'

OLD BRIDGE

Groundwater Elevation Map
June 24, 2020

National Grid
Water Street
Hudson, New York

Drawn W.G.S.
Designed

Approved

Date 8/7/20
Figure

Scale In Feet
0 60

Groundwater & Environmental Services, Inc.

M:\Graphics\0600-Syracuse\Misc\National Grid\Hudson\Hudson SM.dwg, B60 sm, WShea

Tables

Table 1

Groundwater Analytical Data
MW-03

Parameter	EPA - Maximum Allowable (µg/L)	NYSDEC AWQS (µg/L)	Reporting Level (µg/L)	06/01/09	06/02/10	06/07/11	06/12/12	06/11/13	06/09/14	06/02/15	06/06/16	06/22/17	06/14/18	06/13/19	06/24/20
Benzene	5	1	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	1000	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	700	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Xylene (total)	10000	5	3	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)
Naphthalene	N/A	10	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	1.1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)

All values reported in µg/L.
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standards
ND (<#) = Not detected above laboratory reporting limits (indicated by #)
NR = Not Reported
Bolded = values indicate exceedance of the NYSDEC AWQS

Table 1

Groundwater Analytical Data
MW-05

Parameter	EPA - Maximum Allowable (µg/L)	NYSDEC AWQS (µg/L)	Reporting Level (µg/L)	06/01/09	06/02/10	06/07/11	06/12/12	06/11/13	06/09/14	06/02/15	06/06/16	06/22/17	06/14/18	06/13/19	06/24/20
Benzene	5	1	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	1000	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	700	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Xylene (total)	10000	5	3	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)
Naphthalene	N/A	10	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)

All values reported in µg/L.
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standards
ND (<#) = Not detected above laboratory reporting limits (indicated by #)
NR = Not Reported
Bolded = values indicate exceedance of the NYSDEC AWQS

Table 1

Groundwater Analytical Data
MW-06

Parameter	EPA - Maximum Allowable (µg/L)	NYSDEC AWQS (µg/L)	Reporting Level (µg/L)	06/01/09	06/02/10	06/07/11	06/12/12	06/11/13	06/09/14	06/02/15	06/06/16	06/22/17	06/14/18	06/13/19	06/24/20
Benzene	5	1	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Toluene	1000	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	700	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Xylene (total)	10000	5	3	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)	ND (<3.0)
Naphthalene	N/A	10	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<2.0)

All values reported in µg/L.
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standards
ND (<#) = Not detected above laboratory reporting limits (indicated by #)
NR = Not Reported
Bolded = values indicate exceedance of the NYSDEC AWQS

Table 1

Groundwater Analytical Data
MW-11

Parameter	EPA - Maximum Allowable (µg/L)	NYSDEC AWQS (µg/L)	Reporting Level (µg/L)	06/01/09	06/02/10	06/07/11	06/12/12	06/11/13	06/09/14	06/02/15	06/06/16	06/22/17	06/14/18	06/13/19	06/24/20
Benzene	5	1	1	4.6	**12**	3	2.9	ND (<1.0)	1.9	ND (<4.0)	**5.8**	2.6	**21.7**	**4.3**	**15.6**
Toluene	1000	5	1	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<4.0)	ND (<4.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<1.0)
Ethylbenzene	700	5	1	4.9	12	7	1.8	ND (<1.0)	1.1	ND (<4.0)	ND (<4.0)	ND (<1.0)	10.4	2.5	6.6
Xylene (total)	10000	5	3	ND (<2.0)	4.6	3.3	ND (<2.0)	ND (<2.0)	ND (<2.0)	ND (<8.0)	ND (<8.0)	ND (<3.0)	4.5	ND (<3.0)	4.1
Naphthalene	N/A	10	1	ND (<1.0)	2.6	2.5	ND (<1.0)	ND (<1.0)	ND (<1.0)	ND (<4.0)	ND (<4.0)	ND (<2.0)	3.3	ND (<2.0)	4.7

All values reported in µg/L.
NYSDEC = New York State Department of Environmental Conservation
AWQS = Ambient Water Quality Standards
ND (<#) = Not detected above laboratory reporting limits (indicated by #)
NR = Not Reported
Bolded = values indicate exceedance of the NYSDEC AWQS

Table 2

Water Level Elevations

Well ID.	Water Level Elevation (feet amsl)									
	06/11/07	06/20/07	06/26/07	07/24/07	08/14/07	08/19/07	09/13/07	12/01/07	03/10/08	06/10/08
MW-02	1.73	1.95	0.95	1.79	1.96	1.77	1.72	1.23	1.32	1.77
MW-03	6.66	6.72	5.28	6.87	7.10	6.96	6.60	6.59	6.91	6.71
MW-05	6.67	6.97	5.70	6.82	7.02	6.87	6.90	7.12	6.99	6.88
MW-06	6.29	6.64	6.32	6.35	6.47	6.30	6.24	6.16	5.81	6.29
MW-07	3.84	4.09	3.86	3.54	3.56	3.39	3.65	4.76	6.09	3.84
MW-08A	2.89	3.46	2.51	2.62	2.74	2.52	2.61	2.88	3.52	2.80
MW-09A	2.92	3.15	2.84	3.11	3.25	3.25	3.13	2.85	2.86	2.95
MW-10*	6.99	7.08	6.52	7.57	6.49	6.31	7.17	6.59	7.94	6.42
MW-11	6.77	6.76	6.45	6.63	6.21	6.04	6.80	7.15	8.71	6.82
OW-2	6.93	7.10	5.88	6.97	7.12	6.99	7.25	7.22	7.10	7.00
OW-4	7.14	7.33	6.66	7.18	7.32	7.16	7.24	7.38	7.31	7.21
Hudson River	0.84	2.19	0.54	0.49	-0.86	1.29	-0.21	-0.74	-0.51	2.39
CW-01A	7.55	n/a	n/a	n/a	n/a	n/a	8.02	7.67	8.89	7.97
RW-1	1.49	n/a	n/a	n/a	n/a	n/a	1.05	0.17	0.99	2.27
RW-2	0.96	n/a	n/a	n/a	n/a	n/a	0.85	-0.54	-0.14	2.40

Notes:
* = Estimated elevation; well paved over during surveying but uncovered presently and can be monitored.
amsl = Above Mean Sea Level

Table 2

Water Level Elevations

Well ID.	Water Level Elevation (feet amsl)									
	09/16/08	12/03/08	03/04/09	06/01/09	09/09/09	12/14/09	03/08/10	06/02/10	09/14/10	12/01/10
MW-02	1.70	1.36	0.54	1.90	1.92	1.75	1.17	1.98	1.97	1.59
MW-03	7.01	6.83	6.07	6.77	7.49	7.02	6.67	6.97	7.05	6.91
MW-05	7.48	7.39	6.47	6.65	7.63	7.40	6.92	6.81	7.37	7.18
MW-06	6.57	6.24	5.39	6.36	6.79	6.36	5.78	6.22	6.00	6.20
MW-07	4.41	4.92	4.27	4.05	4.67	4.94	5.19	3.83	3.64	4.29
MW-08A	2.94	2.91	2.36	2.75	2.76	2.91	3.31	2.61	1.54	1.96
MW-09A	3.17	2.80	2.22	2.90	3.17	3.02	2.75	2.88	3.20	2.98
MW-10*	6.94	6.31	5.36	5.72	6.79	7.89	5.77	5.75	6.91	5.92
MW-11	7.22	7.75	7.17	6.80	6.71	7.65	8.09	6.27	5.85	6.87
OW-2	7.62	7.45	6.57	6.78	7.82	7.47	7.02	6.90	7.00	7.25
OW-4	7.70	7.52	6.76	7.06	7.89	7.60	7.19	7.11	7.16	7.43
Hudson River	1.57	-0.87	1.79	1.03	0.61	-0.23	-0.81	1.49	2.54	3.53
CW-01A	8.02	8.26	7.87	7.67	7.40	8.27	8.67	6.65	7.92	n/a
RW-1	0.77	0.24	1.11	1.51	0.14	-0.05	0.44	1.87	2.23	3.92
RW-2	0.78	-0.66	1.77	1.19	0.48	-0.39	-0.80	1.61	2.54	3.46

Notes:
* = Estimated elevation; well paved over during surveying but uncovered presently and can be monitored.
amsl = Above Mean Sea Level

Table 2

Water Level Elevations

Well ID.	Water Level Elevation (feet amsl)									
	03/09/11	06/07/11	09/13/11	11/15/11	03/19/12	06/12/12	09/17/12	12/03/12	03/06/13	06/11/13
MW-02	0.67	2.50	3.43	1.75	1.08	2.03	1.68	1.34	1.00	2.30
MW-03	6.05	7.27	8.44	7.69	6.65	6.97	7.35	6.70	6.65	7.15
MW-05	6.35	6.92	7.82	7.85	6.74	6.77	7.12	7.07	6.62	6.89
MW-06	5.42	6.64	7.45	6.54	5.64	6.39	6.56	6.04	5.65	6.84
MW-07	5.86	4.02	5.71	4.51	4.17	3.84	4.28	4.12	4.64	5.22
MW-08A	3.66	2.83	4.10	2.86	2.51	2.71	2.84	2.66	2.76	4.01
MW-09A	2.40	3.05	4.10	3.17	2.52	3.00	3.00	2.68	2.50	3.25
MW-10*	5.91	5.81	6.58	6.47	5.27	5.79	6.23	5.38	5.07	5.56
MW-11	8.75	6.57	7.84	6.87	6.84	6.50	6.69	6.65	6.87	8.89
OW-2	6.44	7.17	8.02	8.03	6.82	6.87	7.32	7.28	6.72	7.06
OW-4	6.71	7.46	8.26	7.94	7.00	7.12	7.51	7.26	6.91	7.38
Hudson River	0.57	0.87	3.25	-1.21	2.48	1.99	-1.39	0.00	2.89	1.69
CW-01A	n/a	n/a	8.60	7.49	7.61	7.45	7.62	7.07	8.15	9.25
RW-1	1.33	1.67	3.06	-0.39	2.09	1.50	-0.61	0.92	2.27	2.31
RW-2	0.78	1.06	2.38	-1.00	2.46	1.93	-1.11	0.06	2.84	1.76

Notes:
* = Estimated elevation; well paved over during surveying but uncovered presently and can be monitored.
amsl = Above Mean Sea Level

Table 2

Water Level Elevations

Well ID.	Water Level Elevation (feet amsl)											
	09/16/13	12/10/13	03/09/14	06/09/14	09/08/14	12/01/14	06/02/15	06/06/16	06/22/17	06/14/18	06/13/19	06/24/20
MW-02	1.77	2.05	n/a	2.17	1.70	1.17	1.61	2.03	2.33	2.30	2.40	3.61
MW-03	7.05	6.57	6.24	7.04	6.95	6.90	6.67	7.77	7.44	6.17	6.72	2.08
MW-05	6.92	6.57	6.39	6.67	6.75	6.92	6.37	6.62	6.99	6.37	6.62	6.10
MW-06	6.38	6.58	5.38	6.64	6.29	6.27	6.34	6.24	7.10	6.39	6.29	5.67
MW-07	3.70	4.07	3.65	3.96	3.73	4.61	3.97	4.02	4.44	3.69	4.20	5.33
MW-08A	2.65	2.86	2.90	2.84	2.58	3.06	2.86	2.96	3.04	2.96	2.92	3.73
MW-09A	2.97	2.83	2.28	2.82	2.92	2.95	2.60	3.05	2.98	3.00	2.60	5.84
MW-10*	5.67	5.29	4.75	6.47	6.79	6.27	6.18	6.49	5.71	5.54	5.79	1.88
MW-11	6.11	6.99	7.47	6.52	5.74	7.70	7.10	6.75	7.09	6.02	6.63	3.72
OW-2	7.07	6.56	6.41	6.82	6.82	7.02	6.52	6.72	7.04	6.54	6.87	6.33
OW-4	7.20	6.81	6.56	7.14	7.01	7.18	6.74	6.91	7.32	6.80	7.04	3.97
Hudson River	1.69	0.87	n/a	1.49	1.51	2.29	1.87	0.49	1.85	-1.46	2.67	9.75
CW-01A	6.89	8.09	n/a	7.27	5.99	8.54	8.15	8.23	8.02	6.62	7.17	3.90
RW-1	1.09	1.37	1.14	1.05	1.07	1.81	1.24	0.43	0.50	0.59	2.16	4.35
RW-2	1.56	0.96	0.11	1.38	1.66	2.21	1.76	0.36	0.64	-0.94	2.52	5.60

Notes:
* = Estimated elevation; well paved over during surveying but uncovered presently and can be monitored.
amsl = Above Mean Sea Level

Appendix A – Quarterly Inspection Forms

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 9/12/2019 Time: 10:30
Technician: KL Weather: Cloudy 62

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS:
Cracks or Potholes Observed	YES	NO	
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS:
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 12/17/2019 Time: 11:30
Technician: PD Weather: Rain 28

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS:
Cracks or Potholes Observed	YES	NO	
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS:
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 3/26/2020 Time: 11:30
Technician: KL Weather: Sunny 47

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS:
Cracks or Potholes Observed	YES	NO	
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS:
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Site Inspection
Hudson-Water Street
Operable Unit 1
Hudson, New York

Date: 6/24/2020 Time: 12:30
Technician: KL/BH Weather: Sunny 80

Surface Cover Areas			
Excessive Settlement Observed	YES	NO	COMMENTS:
Cracks or Potholes Observed	YES	NO	
Depressions and/or Rutting Observed	YES	NO	
Exposed subbase materials Observed	YES	NO	

Erosion Controls (Rip-Rap or Sod)			
Exposed or damaged Geotextile layer(s) Observed	YES	NO	COMMENTS:
Excessive Settlement Observed	YES	NO	
Stressed Vegetation Observed	YES	NO	

Steel Sheetpile Retaining Wall			
Settlement of Wall	YES	NO	COMMENTS:
Subsidence or Cracking of Soils Behind the Wall	YES	NO	
Cracking or Separation of Wall Joints	YES	NO	

Trees, Shrubs and other Planting Materials			
Strong Growth Observed	YES	NO	COMMENTS:

Surface Water Quality					
Sheens Observed On:	Rip-Rap	NONE	MINOR	SIGNIFICANT	COMMENTS:
	Sheetpile Wall	NONE	MINOR	SIGNIFICANT	
	Other Water Surfaces	NONE	MINOR	SIGNIFICANT	

General Comments:

Appendix B – Well Sampling Field Data

National Grid
Water Street-Operable Unit 1
Hudson, New York

Annual Groundwater Sampling

Well ID.	Sample?	Well Size	Well Material	Stickup-Flush	DTP	DTW	DTB	Sump ?	Comments
MW-02	No	2"	PVC	Flush	NP	3.61	20.50	No	
MW-03	Yes	2"	PVC	Flush	NP	2.08	25.50	No	
MW-05	Yes	2"	PVC	Stickup	NP	6.10	28.10	No	Duplicate Sample
MW-06	Yes	2"	PVC	Stickup	NP	5.67	26.10	Yes	MS/MSD
MW-07	No	2"	PVC	Stickup	NP	5.33	24.55	Yes	
MW-08A	No	2"	PVC	Flush	NP	3.73	25.85	No	
MW-09A	No	2"	PVC	Stickup	NP	5.84	25.07	Yes	
MW-10	No	2"	PVC	Flush	NP	1.88	28.70	Yes	
MW-11	Yes	2"	PVC	Flush	NP	3.72	8.10	Yes	
OW-2	No	2"	PVC	Stickup	NP	6.33	27.55	Yes	
OW-4	No	2"	PVC	Stickup	NP	5.97	28.05	Yes	
Hudson River	No				NP	9.75	N/C	No	Chiseled square adjacent to the 8th railing post on top of the sheetpile wall.
CW-01A	No	4"	Steel	Flush	NP	3.90	30.90	Yes	
RW-1	No	4"	PVC	Flush	NP	4.35	26.50	Yes	
RW-2	No	4"	PVC	Flush	NP	5.60	22.35	Yes	

National Grid
Water Street, Hudson, New York

Sampling Personnel: JA

Job Number: 0603123-125340-221

Well Id. **MW-03**

Date: 06/24/20

Weather: 73°F, sunny

Time In: 1105 Time Out: 1145

Well Information

		TOC	Other
Depth to Water:	(feet)	2.08	
Depth to Product:	(feet)	~~23.42~~	NP
Depth to Bottom:	(feet)	25.50	
Length of Water Column:	(feet)	23.42	
Volume of Water in Well:	(gal)	3.9	
Three Well Volumes:	(gal)	11.7	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other: ____
Well Diameter: 1" [ ] 2" [X] Other: ____
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	
Sampling Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Average Pumping Rate:	200 (ml/min)				
Duration of Pumping:	30 (min)				
Total Volume Removed:	2 (gal)				

Did well go dry? Yes [ ] No [X]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1110	2.33	19.30	5.99	-39	1.06	2.5	3.57	0.743
1115	3.16	20.47	6.98	-135	1.07	1.1	0.72	0.689
1120	3.90	20.11	6.96	-138	1.08	0.9	0.66	0.690
1125	4.76	20.30	6.94	-141	1.08	0.7	0.43	0.690
1130	5.48	20.63	6.93	-141	1.08	0.5	0.39	0.689
1135	6.10	21.18	6.93	-142	1.07	0.3	0.40	0.686
1140	6.61	21.49	6.92	-141	1.07	0.2	0.38	0.683

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 3 - 40 mL vials Yes [X] No [ ]

Sample ID: **MW-03-0620** Duplicate? Yes [ ] No [X]
Sample Time: 1140 MS/MSD? Yes [ ] No [X]

Shipped: Pace Courier Pickup [X]
Drop-off Albany Service Center [ ]

Comments/Notes:

Laboratory: Pace Analytical
Greensburg, PA

National Grid
Water Street, Hudson, New York

Sampling Personnel: JK
Job Number: 0603123-125340-221
Well Id. **MW-05**

Date: 6/24/20
Weather: Sunny
Time In: 09:45 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	6.10	
Depth to Product:	(feet)	—	
Depth to Bottom:	(feet)	28.10	
Length of Water Column:	(feet)	22.0	
Volume of Water in Well:	(gal)	3.52	
Three Well Volumes:	(gal)	10.56	

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Tubing/Bailer Material:		Teflon ☐	Stainless St. ☐	Polyethylene ☒	
Sampling Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Average Pumping Rate:	(ml/min)	200			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	2	Did well go dry?	Yes ☐	No ☒

Horiba U-52 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
10:20	7.48	16.55	7.76	-174	0.682	11.4	0.17	0.437
10:25	9.54	16.60	7.52	-170	0.685	4.2	0.00	0.439
10:30	11.01	14.56	7.43	-166	0.678	5.0	0.00	0.434
10:35	12.58	14.45	7.27	-157	0.679	7.0	0.00	0.434
10:40	13.85	14.41	7.24	-154	0.678	6.8	0.00	0.434
10:45	16.14	14.28	7.13	-147	0.680	6.7	0.68	0.436
10:50	17.08	14.24	7.09	-144	0.681	5.7	0.62	0.436

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 6 - 40 mL vials Yes ☒ No ☐

Sample ID: **MW-05-0620** Duplicate? Yes ☒ No ☐ **FD-0620** Shipped: Pace Courier Pickup ☒
Sample Time: 10:50 MS/MSD? Yes ☐ No ☒ Drop-off Albany Service Center ☐

Comments/Notes:

Laboratory: Pace Analytical Greensburg, PA

National Grid
Water Street, Hudson, New York

Sampling Personnel: SM
Job Number: 0603123-125340-221
Well Id. **MW-06**

Date: 06/24/20
Weather: 70° F, overcast
Time In: 1010 Time Out: 1100

Well Information

		TOC	Other
Depth to Water:	(feet)	5.67	
Depth to Product:	(feet)	NP	
Depth to Bottom:	(feet)	26.10	
Length of Water Column:	(feet)	~~20.43~~	20.43
Volume of Water in Well:	(gal)	~~3.5~~	3.4
Three Well Volumes:	(gal)	~~10.5~~	10.25

Well Type: Flushmount ☐ Stick-Up ☒
Well Locked: Yes ☒ No ☐
Measuring Point Marked: Yes ☒ No ☐
Well Material: PVC ☒ SS ☐ Other:
Well Diameter: 1" ☐ 2" ☒ Other:
Comments:

Purging Information

Purging Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Tubing/Bailer Material:		Teflon ☐	Stainless St. ☐	Polyethylene ☒	
Sampling Method:		Bailer ☐	Peristaltic ☒	Grundfos Pump ☐	
Average Pumping Rate:	200 (ml/min)				
Duration of Pumping:	30 (min)				
Total Volume Removed:	2 (gal)				

Did well go dry? Yes ☐ No ☒

Horiba U-52 Water Quality Meter Used? Yes ☒ No ☐

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
1020	6.70	19.90	6.67	-129	1.20	1.0	2.66	0.768
1025	7.90	17.12	6.58	-122	1.23	5.3	2.21	0.786
1030	8.02	16.74	6.58	-121	1.23	3.0	1.82	0.788
1035	8.73	16.49	6.58	-121	1.24	4.2	1.40	0.791
1040	9.36	16.30	6.57	-120	1.23	6.0	1.45	0.790
1045	9.91	16.17	6.57	-120	1.23	4.4	0.88	0.788
1050	10.36	16.11	6.57	-120	1.24	5.3	0.72	0.790

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 9 - 40 mL vials Yes ☒ No ☐

MW-06-MS-0620 **MW-06-MSD-0620**

Sample ID: **MW-06-0620** Duplicate? Yes ☐ No ☒
Sample Time: 1050 MS/MSD? Yes ☒ No ☐

Shipped: Pace Courier Pickup ☒
Drop-off Albany Service Center ☐

Comments/Notes:

Laboratory: Pace Analytical Greensburg, PA

National Grid
Water Street, Hudson, New York

Sampling Personnel: [illegible]
Job Number: 0603123-125340-221
Well Id. **MW-11**

Date: 6/24/20
Weather: Sunny
Time In: 11:00 Time Out:

Well Information

		TOC	Other
Depth to Water:	(feet)	3.72	
Depth to Product:	(feet)		
Depth to Bottom:	(feet)	8.10	
Length of Water Column:	(feet)	4.38	
Volume of Water in Well:	(gal)	0.70	
Three Well Volumes:	(gal)	2.10	

Well Type: Flushmount [X] Stick-Up [ ]
Well Locked: Yes [X] No [ ]
Measuring Point Marked: Yes [X] No [ ]
Well Material: PVC [X] SS [ ] Other:
Well Diameter: 1" [ ] 2" [X] Other:
Comments:

Purging Information

Purging Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Tubing/Bailer Material:		Teflon [ ]	Stainless St. [ ]	Polyethylene [X]	
Sampling Method:		Bailer [ ]	Peristaltic [X]	Grundfos Pump [ ]	
Average Pumping Rate:	(ml/min)	200			
Duration of Pumping:	(min)	30			
Total Volume Removed:	(gal)	2			

Did well go dry? Yes [ ] No [X]

Horiba U-52 Water Quality Meter Used? Yes [X] No [ ]

Conversion Factors				
gal/ft. of water	1" ID	2" ID	4" ID	6" ID
	0.04	0.16	0.66	1.47
1 gallon=3.785L=3785mL=1337cu. feet				

Time	DTW (feet)	Temp (°C)	pH	ORP (mV)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	TDS (g/L)
11:10	4.09	17.90	7.41	-90	2.01	10.5	4.98	1.28
11:15	4.08	17.89	7.37	-90	1.93	10.5	4.56	1.23
11:20	4.08	18.01	7.31	-94	1.91	9.4	3.99	1.16
11:25	4.08	18.26	7.30	-103	1.94	1.8	3.46	1.18
11:30	4.06	18.39	7.30	-111	2.03	5.5	2.64	1.31
11:35	4.08	18.43	7.30	-112	2.12	6.4	2.38	1.36
11:40	4.06	18.47	7.30	-113	2.13	7.1	2.04	1.36

Sampling Information:

USEPA SW-846 Method 8260 VOC's BTEX Including Naphthalene 3 - 40 mL vials Yes [X] No [ ]

Sample ID: **MW-11-0620** Duplicate? Yes [ ] No [X]
Sample Time: 11:40 MS/MSD? Yes [ ] No [X]

Shipped: Pace Courier Pickup [X]
Drop-off Albany Service Center [ ]

Laboratory: Pace Analytical Greensburg, PA

Comments/Notes:

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A
Required Client Information

Company: GES - Syracuse	
Address: 5 Technology Place, Suite 4	
East Syracuse, New York 13057	
Email To: dshay@gesonline.com	
Phone: 800 220 3069 x4251	Fax: None
Requested Due Date/TAT: Standard	

Section B
Required Project Information

Report To: Devin Shay (GES) dshay@gesonline.com
Report To: Tim Beaumont (GES) tbeaumont@gesonline.com
Purchase Order No
Project Name: National Grid - Water Street Hudson NY
Project Number: 0603123-125340-221-1106

Section C
Invoice Information

Attention: Accounts Payable via email at ges-invoices@gesonline.com
Company Name: Groundwater & Environmental Services, Inc.
Address: 5 Technology Place, Suite 4, East Syracuse, NY 13057
Pace Quote Reference:
Pace Project Manager: Rachel Christner
Pace Profile #: Annual GWS

REGULATORY AGENCY		
NPDES	GROUND WATER	DRINKING WATER
UST	RCRA	OTHER_______

SITE LOCATION				
GA	IL	IN	MI	NC
OH	SC	WI	OTHER___	

Filtered (Y/N)
Requested Analysis:

Section D Required Client Information

SAMPLE ID
One Character per box (A-Z, 0-9 / ,-)
Samples IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	GRAB DATE	GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	NaOH and Zn Acetate	Benzylkonium Chloride	BTEX (8260) + Naphthalene	Pace Project Number Lab I.D.
1	MW-3-0620	WT	G	[redacted]		6/24/12	11:40		3				3					3	
2	MW-5-0620	WT	G			↓	10:55		3				3					3	
3	MW- 520	WT	G				10:50		3				3					3	
4	MW-6-MS-0620	WT	G				10:50		3				3					3	
5	MW-6-MSD-0620	WT	G				10:50		3				3					3	
6	MW-11-0620	WT	G				11:40		3				3					3	
7	Field Duplicate - 0620	WT	G				~~—~~		3				3					3	
8	Trip Blank	WT	G			↓	11:50		2				2					2	
9		WT	G																
10		WT	G																
11		WT	G																
12		WT	G																
13		WT	Lab																

Additional Comments

SAMPLES WILL ARRIVE IN # 1 COOLERS

Please send reports to dshay@gesonline.com, tbeaumont@gesonline.com
NERegion@gesonline.com, ges@equisonline.com

SPECIFIC EDD NAME:
GolHudsonWater-labnumber 28351 EQEDD.zip

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	6/24/12				

SAMPLE CONDITIONS			
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
	Y/N	Y/N	Y/N
Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Kevin Leo
SIGNATURE of SAMPLER: [signature] DATE Signed: 6/24/12

Appendix C – Data Usability Summary Report and Analytical Data

Groundwater & Environmental Services, Inc.
708 North Main Street, Suite 201
Blacksburg, VA 24060
T. 800.662.5067

August 5, 2020

Devin Shay
Groundwater & Environmental Services, Inc.
5 Technology Place, Suite 4
East Syracuse, New York 13057

RE: Data Usability Summary Report for National Grid: Water Street, Hudson, NY Site Data Package Pace Analytical Job No. **30369855**

Groundwater & Environmental Services, Inc. (GES) reviewed one data package (Laboratory Project Number **30369855**) from Pace Analytical Services, Inc., for the analysis of groundwater samples collected on June 20, 2020 from monitoring wells located at the National Grid: Water Street, Hudson, NY Site. Four aqueous samples and a field duplicate were analyzed for select volatile organic compounds (VOCs). Methodologies utilized were USEPA SW846 methods 8260C, with additional QC requirements of the NYSDEC ASP.

The data were reported as part of a complete full deliverable type B data validation. This usability report is generated from review of the following:

- Laboratory Narrative Discussion
- Custody Documentation
- Holding Times
- Surrogate and Internal Standard Recoveries
- Matrix Spike Recoveries/Duplicate: (MS/MSD) Correlations
- Field Duplicate Correlations
- Laboratory Control Sample (LCS)
- Preparation/Calibration Blanks
- Calibration/Low Level Standard Responses
- Instrumental Tunes
- Instrument MDLs
- Sample Quantitation and Identification

All items are determined to be acceptable for the DUSR level review and sample results are usable as reported. No data was qualified.

The laboratory case narratives and sample identification summary forms are attached to this text, and should be reviewed in conjunction with this report.

Table 1. Laboratory – Field Cross Reference

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Comments
30369855001	MW-3-0620	Water	06/24/20 11:40	06/26/20 09:30	
30369855002	MW-5-0620	Water	06/24/20 10:55	06/26/20 09:30	
30369855003	MW-6-0620	Water	06/24/20 10:50	06/26/20 09:30	MS/MSD
30369855004	MW-6-MS-0620	Water	06/24/20 10:50	06/26/20 09:30	
30369855005	MW-6-MSD-0620	Water	06/24/20 10:50	06/26/20 09:30	
30369855006	MW-11-0620	Water	06/24/20 11:40	06/26/20 09:30	
30369855007	FIELD DUPLICATE-0620	Water	06/24/20 00:01	06/26/20 09:30	DUP MW-5
30369855008	TRIP BLANK	Water	06/24/20 11:50	06/26/20 09:30	

BTEX and TCL Volatiles by EPA 8260C/NYSDEC ASP

Sample holding times were met and instrumental tune fragmentations were within acceptance ranges. There were no positive detections in the field blank, trip blank, or method blank.

Calibrations standards show acceptable responses within analytical protocol and validation action limits. The blind field duplicate correlations were not calculated for MW-5-0620 and the duplicate sample, as neither sample reported above detection level concentrations.

The MS/MSD recoveries and relative percent differences are within laboratory specification. No qualification was necessary.

1 Data Package Completeness

Complete NYSDEC Category B deliverables were included in the laboratory data package, all information required for validation of the data is present.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Bonnie Janowiak, Ph.D.
Senior Project Chemist
708 N Main St, Suite 201
Blacksburg, VA 24060

VALIDATION DATA QUALIFIER DEFINITIONS

U The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.

J The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.

J- The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.

J+ The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.

UJ The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.

NJ The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.

2 Sample Summaries
3 and
4 Laboratory Case Narratives

Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: National Grid-Water Street, Hu
Pace Project No.: 30369855

Lab ID	Sample ID	Matrix	Date Collected	Date Received
30369855001	**MW-3-0620**	Water	06/24/20 11:40	06/26/20 09:30
30369855002	**MW-5-0620**	Water	06/24/20 10:55	06/26/20 09:30
30369855003	**MW-6-0620**	Water	06/24/20 10:50	06/26/20 09:30
30369855004	**MW-6-MS-0620**	Water	06/24/20 10:50	06/26/20 09:30
30369855005	**MW-6-MSD-0620**	Water	06/24/20 10:50	06/26/20 09:30
30369855006	**MW-11-0620**	Water	06/24/20 11:40	06/26/20 09:30
30369855007	**FIELD DUPLICATE-0620**	Water	06/24/20 00:01	06/26/20 09:30
30369855008	**TRIP BLANK**	Water	06/24/20 11:50	06/26/20 09:30

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Pace Analytical Services, LLC
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: National Grid-Water Street, Hu
Pace Project No.: 30369855

Method: **EPA 8260C**
Description: 8260C MSV
Client: Groundwater & Environmental Services, Inc. (Syracuse)
Date: July 06, 2020

General Information:
8 samples were analyzed for EPA 8260C by Pace Analytical Services Greensburg. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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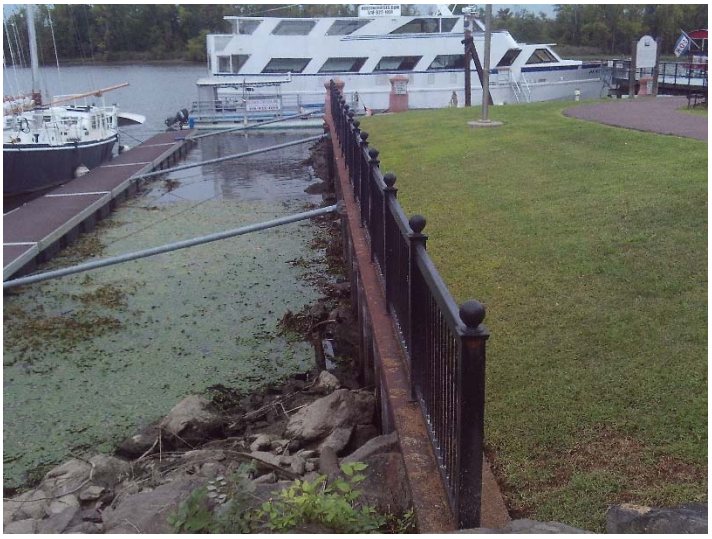
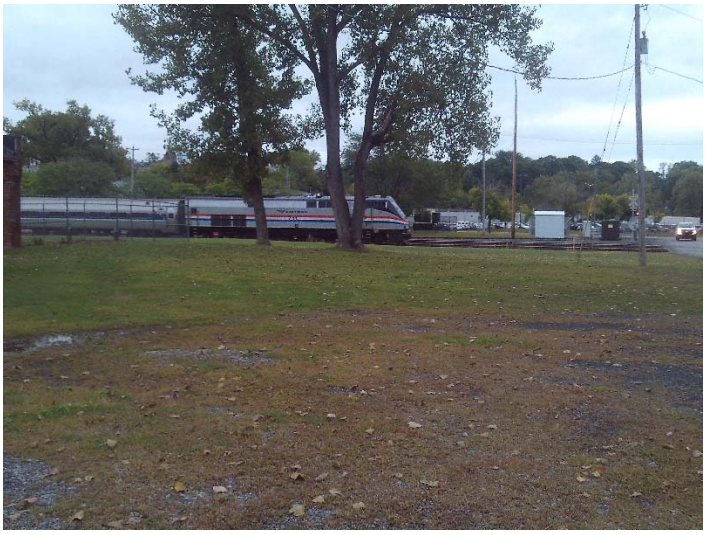
Appendix D – Photograph Log



Site Photo – September 2019



Site Photo – September 2019

Site Photo – December 2019

Site Photo – December 2019

Site Photo – March 2020

Site Photo – March 2020

Site Photo – June 2020

Site Photo – June 2020