

March 31, 2019

**Mr. Jonathan Kolleeny**  
**New York State Environmental Conservation**  
Division of Environmental Remediation, Region 2  
47-40 21<sup>st</sup> Street  
Long Island City, New York 11101

**Re: Citgo Service Station**  
**NYSDEC Spill # 95-06588**  
169 3<sup>rd</sup> Avenue  
Brooklyn, New York

Dear Mr. Kolleeny:

This correspondence is a summary of quarterly activities conducted by Berninger Environmental (BEI) at the Citgo Service Station site located at 169 3<sup>rd</sup> Avenue, Brooklyn, New York (area & site map included). The quarterly sampling activities were conducted on March 12<sup>th</sup>, 2019 and included well gauging to record depth to groundwater, any product thicknesses, well sampling and testing. Also while on site, BEI personnel checked the oxygen emitter vessels installed in wells EW-3 and EW-4 for operation and remaining pressure in the oxygen tanks. Well EW-1 is no longer being sampled and well EW-2 was blocked by construction during this event and could not be gauged. Sampling also included dissolved oxygen readings of each well and is provided in our quarterly report. Additionally, wells MW-2 and MW-4 could not be sampled as they have been cemented over.

On a separate site visit a survey was performed to determine the direction of groundwater flow, in which we then developed a site map with the flow direction along with the groundwater gauging data and water table elevations. Based on that survey the contours indicate that the groundwater flow direction is in a southeasterly direction. As per our meeting in March 2010, BEI informed the Department that we would start monitoring and sampling the emitter wells on a quarterly basis.

### **Quarterly Monitoring**

Each quarterly monitoring period will now be a separate report. BEI conducted the latest monitoring event on March 12, 2019 which included the following activities:

- Measure for floating product;
- Measurements of water table elevation;
- Purging and sampling of eleven on-site groundwater monitoring wells;
- Dissolved Oxygen measurements;
- Cleaning and maintenance of emitter vessel; and
- Preparation of summary report.

At the time of the sampling, depth to groundwater across the subject property was measured between 12.68 ft. and 13.21 ft. bgs. As indicated in the attached Table 1, no floating product was detected in any of the remaining four(4) groundwater monitoring wells sampled, nor has any floating product been detected since BEI became involved with this project in 2008. The water table elevation measurements were used to prepare the site specific Ground-water Flow Map (Figure 2). Based upon prior site data and our current survey data using all wells, the groundwater flow direction is southeasterly.

### **Dissolved Oxygen**

Dissolved oxygen (D.O.) was recorded at each emitter well location to determine the effectiveness of the emitter vessels installed in EW-3 and EW-4 (Table 1). D.O. measurements of the emitter wells ranged from 13.20 mg/l in EW-3 to 16.32 mg/l in EW-4. D.O. readings for the other two (2) monitoring wells ranged from 2.11 in MW- to 2.28 in MW-3. No oxygen tanks were replaced during this site visit. Overall groundwater oxygen levels are slightly higher than if no emitter was used as a remedial effort.

### **New Monitoring Well Installation**

On June 20<sup>th</sup>, 2017, BEI installed a monitoring well on the west side of 3<sup>rd</sup> avenue, in the sidewalk in front of 170 3<sup>rd</sup> Avenue, Brooklyn. This monitoring well was installed across the street from the ten original monitoring wells at the subject site, Citgo Station 169 3<sup>rd</sup> Avenue, Brooklyn. This monitoring well, MW-1B, has a depth of 20 feet, with 10 feet of PVC riser and 10 feet of slotted screen. On January 30<sup>th</sup>, 2019 an additional four(4) wells were installed at the 170 3<sup>rd</sup> Avenue site and labeled MW-2B through MW-5B. The new wells have a depth of 18 feet, with 13 feet of PVC riser and 5 feet of slotted screen. From this event forward, all sampling and monitoring for the 156-70 3<sup>rd</sup> Avenue site will be submitted as a separate report.

### **Groundwater Sampling**

Subsequent to the recording of groundwater measurements, the remaining two (2) monitoring wells and two (2) emitter wells were adequately purged and sampled for petroleum related VOCs. The samples were analyzed by American Analytical Laboratories, a NYSDOH-ELAP certified laboratory under appropriate chain of custody protocols. Laboratory data summary sheets are provided as an attachment.

The results of the laboratory analysis were compared to NYSDEC Class GA Groundwater Standards and Guidance Values (SGVs) set forth in the Division of Water Technical and operational Guidance Series (TOGS) No. 1.1.1 reissued June 1998, addenda April 2000 and June 2004. Results from the March 12, 2019 sampling event are summarized in Table 2 and reports that gasoline-related VOCs at one (1) of the four (4) wells sampled is above Standard Guidance Values (SGVs). Results from this sampling event reports non-detect or extremely minor concentrations of gasoline-related VOCs at the remaining three (3) wells sampled.

Wells continue to show decreases in concentrations with some minor fluctuations due to the rise and fall of groundwater. This allows the remedial equipment to address these areas during the seasonal changes. Well MW-1 exhibited extremely minor detections during this Quarter's sampling event while well MW-3 has again shown another decreases in concentrations. Well EW-3 has now decreased to non-detect concentrations and well EW-4 remains with non-detect readings. The source of the VOCs is suspected to be from the former tanks at the site. BEI will continue to monitor all wells until a decision is made regarding spill closure of the site.

After examining the well sampling results for this quarter's event, only well MW-3 is exhibiting very low MtBE concentrations at 2 ppb. The remaining three (3) wells sampled this quarter exhibited non-detect readings for MtBE during this sampling event.

### Conclusions

Based upon the results of the March 12<sup>th</sup>, 2019 quarterly groundwater sampling event, BEI offers the following conclusions:

- VOC and MtBE concentrations are at non-detect concentrations for all but two (2) of the remaining monitoring wells sampled.
- Groundwater levels have increased at all monitoring wells during this quarter. No oxygen tanks were replaced during this visit.

### Recommendations

- Based on the latest monitoring event and results of the recent laboratory data, the few remaining minor concentrations in the groundwater have continued a downward trend and only three remaining wells exhibit minor detections above standards. The remaining constituents at the subject site are expected to naturally attenuate over time and it is BEI's belief that this site no longer poses any potential threat to human health or the environment in it's current condition
- **BEI is currently requesting a spill closure of the NYSDEC Spill # 95-06588 at 169 3<sup>rd</sup> Avenue, Brooklyn.** We would like to focus our remedial efforts on NYSDEC Spill # 96-07280 located across the street at 156-170 3<sup>rd</sup> Ave, Brooklyn, NY.

Based upon the above, BEI requests your review and consideration for site closure. Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,  
**Berninger Environmental**



Justin Halpin  
Project Manager/Scientist



Alicia Patti  
Geologist

**Table 1**  
**MONITORING WELL MEASUREMENTS**  
169 3<sup>rd</sup> Avenue  
Spill #95-06588  
Brooklyn, NY

March 12, 2019

<b>Well No.</b>	<b>DTW</b>	<b>DTP</b>	<b>Tank Psi</b>	<b>Dissolved Oxygen</b>
<b>EW-2</b>	<b>Blocked</b>		<b>NA</b>	<b>NA</b>
<b>EW-3</b>	<b>12.98</b>		<b>200</b>	<b>13.20</b>
<b>EW-4</b>	<b>12.68</b>		<b>700</b>	<b>16.32</b>
<b>MW-1</b>	<b>12.55</b>			<b>2.11</b>
<b>MW-3</b>	<b>13.06</b>			<b>2.28</b>

**Abbreviation Key**

**DTW** - Depth to Water from Casing (ft)  
**DTP** - Depth to Product from Casing (ft)  
**PT** - Product Thickness (ft)  
**T** - Trace Product

**D** - Dry  
**C** - Cannot Locate  
**G** - Gone / Destroyed  
**n/d** - non-detect

**V** - Disabled Vehicle over Well  
**R** - Recovery Pump in Well



Building

Third Avenue

IP

50 ft



Butler Street

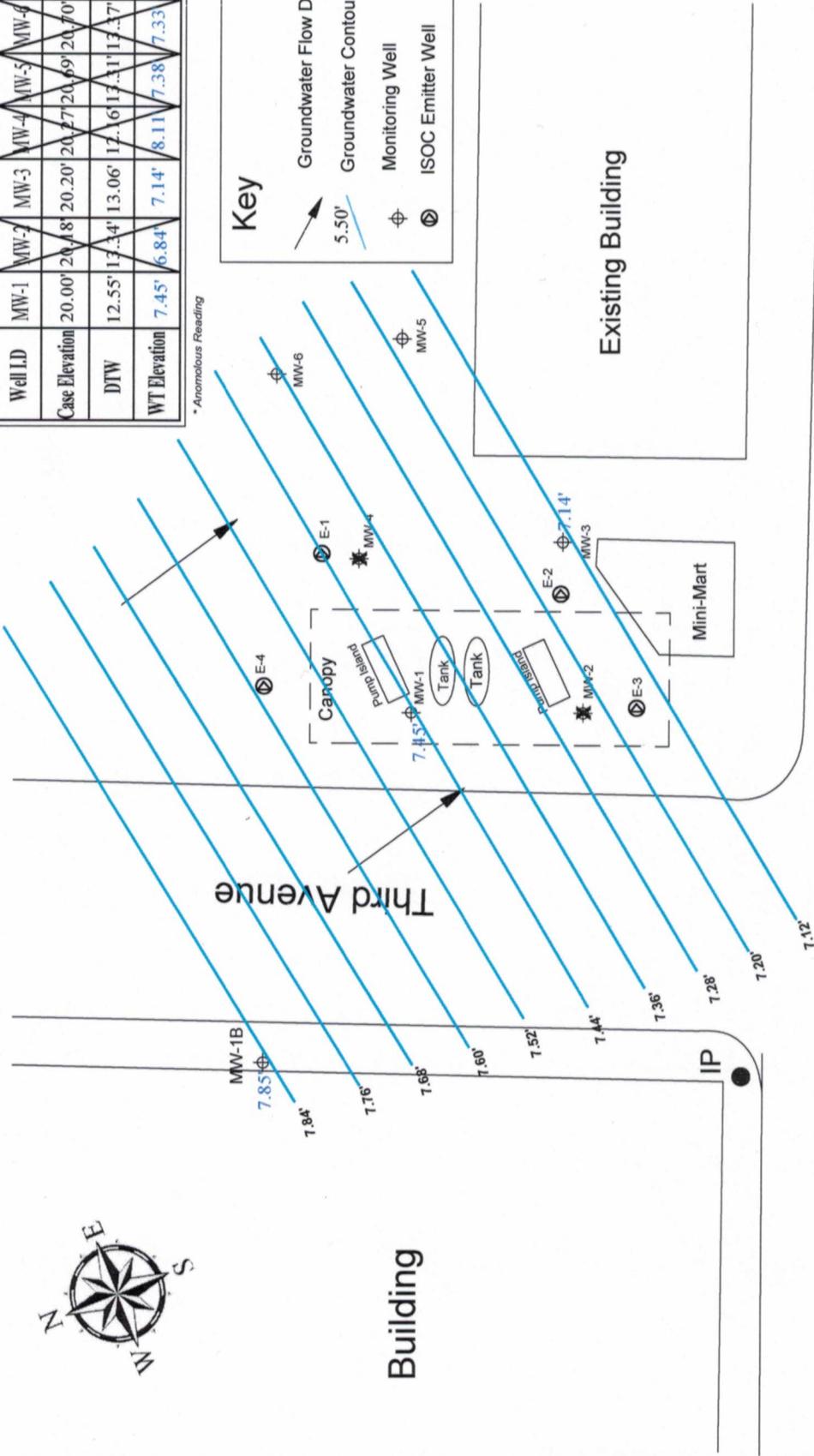
Existing Building

Well ID	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-1B
Case Elevation	20.00'	20.18'	20.20'	20.27'	20.69'	20.70'	20.86'
DTW	12.55'	13.34'	13.06'	17.61'	13.11'	13.37'	13.01'
WT Elevation	7.45'	6.84'	7.14'	8.11'	7.38'	7.33'	7.85'

\* Anomalous Reading

Key

- Groundwater Flow Direction
- 5.50' Groundwater Contour Interval
- Monitoring Well
- ISOC Emitter Well



Groundwater  
Gradient Map  
Figure-1

Revised March 2019

Citgo S/S  
169 - 170 Third Ave.  
Brooklyn, NY



**Berninger Environmental**  
groundwater consultants, geologists and scientists  
A WRS Environmental Services Company  
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Table 2 Quarterly Sampling Results  
 C1rge S/S SPILL #95-06588  
 169 3rd Ave., Brooklyn, NY  
 As of March 2019

ALL RESULTS SHOWN IN ppb (parts per billion)									
WW-1	DTW	Total VOCs	STXs	MBE	WW-4	DTW	Total VOCs	STXs	MBE
March 2019	13.21	<1	n/a	n/a	March 2019	Covered	n/a	n/a	concrete
December 2018	13.46	n/a	n/a	n/a	December 2018	Covered	n/a	n/a	concrete
June 2018	13.43	n/a	n/a	n/a	June 2018	13.15	2	1	<1
March 2018	14.21	n/a	n/a	n/a	March 2018	14.94	1	n/a	n/a
December 2017	14.26	23	16	<1	December 2017	15.61	1	n/a	1
Sept 2017	14.28	3	2	<1	Sept 2017	15.63	6	2	1
June 2017	14.64	19	18	<1	June 2017	15.85	18	15	<1
March 2017	14.72	2	3	n/a	March 2017	15.84	7	n/a	1
December 2016	14.46	1	3	n/a	December 2016	15.21	1	n/a	1
Sept 2016	14.67	23	19	n/a	Sept 2016	15.28	1	n/a	1
June 2016	14.42	11	10	n/a	June 2016	15.04	2	1	<1
March 2016	14.24	<1	<1	n/a	March 2016	15.25	<1	n/a	<1
December 2015	14.78	n/a	n/a	n/a	December 2015	15.24	1	n/a	<1
Sept 2015	14.35	24	20	n/a	Sept 2015	14.41	1	n/a	1
June 2015	14.54	2	1	n/a	June 2015	15.29	1	n/a	1
March 2015	14.89	3	5	n/a	March 2015	15.26	1	n/a	1
December 2014	14.49	n/a	n/a	n/a	December 2014	15.27	1	n/a	1
Sept 2014	14.21	2	2	n/a	Sept 2014	15.28	1	n/a	1
June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet	June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet
March 2013	13.87	n/a	n/a	n/a	March 2013	14.34	1	n/a	1
December 2013	13.88	3	3	n/a	December 2013	13.43	3	2	1
Sept 2013	14.63	19	16	1	Sept 2013	13.27	2	n/a	1
June 2013	14.74	<1	<1	n/a	June 2013	13.25	1	n/a	1
March 2013	13.28	2	2	<1	March 2013	13.24	1	n/a	1
December 2012	15.17	n/a	n/a	n/a	December 2012	13.45	n/a	n/a	n/a
Sept 2012	14.34	n/a	n/a	n/a	Sept 2012	13.93	n/a	n/a	n/a
June 2012	11.27	1	n/a	n/a	June 2012	14.92	1	n/a	1
March 2012	13.93	n/a	n/a	n/a	March 2012	13.95	2	1	1
December 2011	13.93	180	150	n/a	December 2011	13.94	2	n/a	1
Sept 2011	7.84	1	n/a	n/a	Sept 2011	13.84	1	n/a	1
June 2011	6.85	n/a	n/a	n/a	June 2011	14.32	2	1	1
March 2011	13.83	6	4	n/a	March 2011	14.73	n/a	n/a	n/a
December 2010	13.89	n/a	n/a	n/a	December 2010	14.45	4	n/a	2
Sept 2010	14.48	2	2	n/a	Sept 2010	14.23	n/a	n/a	n/a
June 2010	13.64	112	109	3	June 2010	13.51	n/a	n/a	n/a
March 2010	13.93	24	9	n/a	March 2010	14.73	6	n/a	4
December 2009	14.35	28	5	n/a	December 2009	15.15	n/a	n/a	3
August 2009	14.97	26	7	n/a	August 2009	15.83	n/a	n/a	3
May 2009	14.95	26	7	n/a	May 2009	15.87	n/a	n/a	3
February 2009	14.82	65	2	n/a	February 2009	15.82	n/a	n/a	2
November 2008	14.75	110	9	n/a	November 2008	15.75	n/a	n/a	3
August 2008	14.29	23	4	n/a	August 2008	15.24	n/a	n/a	3
May 2008	14.92	17	5	n/a	May 2008	15.48	1	n/a	n/a
February 2008	14.74	2	2	n/a	February 2008	15.28	n/a	n/a	n/a

WW-2	DTW	Total VOCs	STXs	MBE	WW-3	DTW	Total VOCs	STXs	MBE
March 2019	Covered	n/a	n/a	concrete	March 2019	—	n/a	n/a	n/a
December 2018	Covered	n/a	n/a	concrete	December 2018	—	n/a	n/a	n/a
Sept 2018	Covered	n/a	n/a	concrete	Sept 2018	13.31	n/a	n/a	n/a
June 2018	13.34	4	3	1	June 2018	13.23	n/a	n/a	n/a
March 2018	14.64	3	3	1	March 2018	13.75	1	n/a	n/a
December 2017	14.45	7	3	1	December 2017	13.76	0.44	n/a	0.44
Sept 2017	14.54	3	1	2	Sept 2017	13.92	1	n/a	1
June 2017	14.88	16	5	n/a	June 2017	13.65	2	n/a	<1
March 2017	14.87	1	<1	1	March 2017	13.49	n/a	n/a	n/a
December 2016	14.84	1001	823	<1	December 2016	13.64	n/a	n/a	n/a
Sept 2016	14.40	377	334	2	Sept 2016	13.97	n/a	n/a	n/a
June 2016	15.59	2087	1499	n/a	June 2016	13.84	<1	<1	n/a
March 2016	16.76	12	10	n/a	March 2016	13.85	<1	n/a	n/a
December 2015	14.97	85	85	n/a	December 2015	13.11	<1	n/a	<1
Sept 2015	14.73	19	19	<1	Sept 2015	13.63	n/a	n/a	n/a
June 2015	14.54	337	215	1	June 2015	13.67	n/a	n/a	n/a
March 2015	14.93	745	739	n/a	March 2015	13.83	n/a	n/a	n/a
December 2014	14.82	188	178	1	December 2014	13.97	n/a	n/a	n/a
Sept 2014	14.84	2	1	1	Sept 2014	13.68	n/a	n/a	n/a
June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet	June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet
March 2013	13.71	25	25	n/a	March 2013	13.17	<1	n/a	<1
December 2013	14.80	1	1	n/a	December 2013	13.29	1	1	n/a
Sept 2013	14.92	3	1	2	Sept 2013	13.95	<1	n/a	<1
June 2013	14.94	9	7	<1	June 2013	13.27	<1	n/a	<1
March 2013	13.87	277	190	1	March 2013	13.69	<1	n/a	<1
December 2012	14.78	n/a	n/a	n/a	December 2012	13.78	14.47	n/a	n/a
Sept 2012	13.28	n/a	n/a	n/a	Sept 2012	13.54	n/a	n/a	n/a
June 2012	11.09	1281	1281	n/a	June 2012	13.78	1	n/a	1
March 2012	13.74	n/a	n/a	n/a	March 2012	13.77	1	n/a	1
December 2011	13.14	<1	n/a	<1	December 2011	13.45	n/a	n/a	n/a
Sept 2011	6.85	n/a	n/a	n/a	Sept 2011	14.87	1	n/a	1
June 2011	6.91	n/a	n/a	n/a	June 2011	13.68	n/a	n/a	n/a
March 2011	13.79	n/a	n/a	n/a	March 2011	13.84	n/a	n/a	n/a
December 2010	14.26	4	n/a	4	December 2010	13.62	n/a	n/a	n/a
Sept 2010	14.42	n/a	n/a	3	Sept 2010	13.45	n/a	n/a	3
June 2010	14.55	24	16	2	June 2010	13.39	n/a	n/a	n/a
March 2010	14.78	28	25	2	March 2010	13.28	2	n/a	2
December 2009	14.18	25	4	n/a	December 2009	13.68	n/a	n/a	2
August 2009	14.95	<1	n/a	n/a	August 2009	13.64	n/a	n/a	3
May 2009	14.84	5	17	n/a	May 2009	13.63	<1	2	n/a
February 2009	14.87	4	20	n/a	February 2009	13.49	n/a	n/a	4
November 2008	14.87	4	19	n/a	November 2008	13.47	n/a	n/a	n/a
August 2008	14.18	5	15	n/a	August 2008	13.18	n/a	n/a	n/a
May 2008	14.27	7	10	n/a	May 2008	14.28	4	1	n/a
February 2008	14.79	8	13	n/a	February 2008	13.92	n/a	n/a	n/a

WW-3	DTW	Total VOCs	STXs	MBE	WW-5	DTW	Total VOCs	STXs	MBE
March 2019	14.98	128	87	2	March 2019	—	n/a	n/a	n/a
December 2018	14.28	212	87	2	December 2018	—	n/a	n/a	n/a
Sept 2018	14.35	174	85	2	Sept 2018	13.37	n/a	n/a	n/a
June 2018	13.95	1231	831	1	June 2018	13.32	<1	<1	n/a
March 2018	14.92	783	832	1	March 2018	13.69	n/a	n/a	n/a
December 2017	14.99	31	17	1	December 2017	13.73	0.49	n/a	0.49
Sept 2017	14.82	5	3	2	Sept 2017	13.78	<1	<1	n/a
June 2017	14.87	18	9	2	June 2017	13.43	2	n/a	<1
March 2017	13.97	4	1	2	March 2017	13.34	<1	n/a	<1
December 2016	13.43	49	32	5	December 2016	13.88	<1	n/a	<1
Sept 2016	13.11	13	7	1	Sept 2016	13.19	n/a	n/a	n/a
June 2016	13.88	28	21	3	June 2016	13.29	n/a	n/a	n/a
March 2016	13.64	41	23	n/a	March 2016	13.24	n/a	n/a	n/a
December 2015	13.24	16	6	2	December 2015	13.24	n/a	n/a	n/a
Sept 2015	13.23	6	<1	2	Sept 2015	13.84	<1	n/a	<1
June 2015	13.23	16	4	2	June 2015	13.69	n/a	n/a	n/a
March 2015	13.36	33	33	3	March 2015	13.65	n/a	n/a	n/a
December 2014	13.24	174	158	4	December 2014	13.45	n/a	n/a	n/a
Sept 2014	14.35	28	24	1	Sept 2014	14.74	n/a	n/a	n/a
June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet	June 2014	n/a	See to spreadsheet	See to spreadsheet	See to spreadsheet
March 2013	14.84	141	76	6	March 2013	14.93	n/a	n/a	n/a
December 2013	14.69	6	3	2	December 2013	14.14	1	1	n/a
Sept 2013	14.26	41	23	4	Sept 2013	14.99	<1	n/a	<1
June 2013	13.99	13	6	2	June 2013	14.37	<1	n/a	<1
March 2013	13.89	8	3	2	March 2013	14.99	<1	n/a	<1
December 2012	13.74	18	7	2	December 2012	13.44	n/a	n/a	n/a
Sept 2012	13.64	29	<1	2	Sept 2012	13.71	<1	n/a	n/a
June 2012	13.86	77	31	4	June 2012	13.95	n/a	n/a	n/a
March 2012	13.66	397	284	2	March 2012	13.64	1	n/a	1
December 2011	14.73	397	354	9	December 2011	13.34	n/a	n/a	n/a
Sept 2011	13.91	899	489	12	Sept 2011	14.43	1	n/a	1
June 2011	14.84	189	139	4	June 2011	13.49	1	n/a	1
March 2011	14.95	1223	1143	n/a	March 2011	13.49	n/a	n/a	n/a
December 2010	14.66	316	144	10	December 2010	13.27	n/a	n/a	n/a
Sept 2010	13.79	<1	n/a	n/a	Sept 2010	13.24	n/a	n/a	<1
June 2010	13.65	118	185	n/a	June 2010	13.54	n/a	n/a	n/a
March 2010	14.85	441	333	10	March 2010	13.43	2	n/a	2
December 2009	13.19	61	4	n/a	December 2009	13.79	n/a	n/a	3
August 2009	14.96	975	186	n/a	August 2009	14.47	n/a	n/a	n/a
May 2009	13.93	5	4	1	May 2009	13.25	n/a	n/a	n/a
February 2009	13.71	5	7	n/a	February 2009	13.31	n/a	n/a	1
November 2008	13.81	12	7	n/a	November 2008	13.97	n/a	n/a	n/a
August 2008	13.24	29	7	n/a	August 2008	13.98	n/a	n/a	n/a
May 2008	13.92	21	6	n/a	May 2008	13.15	2	n/a	n/a
February 2008	13.49	3	3	n/a	February 2008	13.69	n/a	n/a	n/a

n/a=not detect n/a=not sampled

Table 2 Quarterly Sampling Results  
 Citgo S/S SPILL #95-06588  
 169 3rd Ave., Brooklyn, NY  
 As of March 2019

EW-1	DTW	Total VOCs	BTEX	MIBE
March 2019	—	ns	ns	ns
December 2018	—	ns	ns	ns
Sept 2018	11.14	ns	ns	ns
June 2018	11.72	<1	n/d	<1
March 2018	14.31	n/d	n/d	n/d
December 2017	14.35	1	n/d	1
Sept 2017	14.34	1	n/d	1
June 2017	13.25	2	<1	1
March 2017	14.95	1	n/d	1
December 2016	15.42	1	n/d	1
Sept 2016	14.46	n/d	n/d	n/d
June 2016	14.20	1	n/d	1
March 2016	14.20	1	n/d	1
December 2015	14.57	1	n/d	1
Sept 2015	15.00	1	n/d	1
June 2015	14.63	1	n/d	1
March 2015	14.60	1	n/d	1
December 2014	14.43	<1	n/d	<1
Sept 2014	14.12	1	n/d	1
June 2014		ns	due to asphalted	over wells
March 2014	13.62	1	n/d	1
December 2013	14.60	1	1	n/d
Sept 2013	14.56	1	n/d	1
June 2013	14.89	2	n/d	1
March 2013	15.16	n/d	n/d	1
December 2012	14.99	n/d	n/d	n/d
Sept 2012	14.43	2	n/d	n/d
June 2012	14.26	1	n/d	n/d
March 2012	14.34	2	n/d	2
December 2011	14.00	1	n/d	1
Sept 2011	13.00	1	n/d	1
June 2011	13.90	2	n/d	2
March 2011	13.95	n/d	n/d	n/d
December 2010	15.30	8	n/d	8
Sept 2010	15.20	n/d	n/d	5
June 2010	15.26	n/d	n/d	n/d
March 2010	13.95	4	n/d	4
December 2009	14.99		ns	ns
August 2009	15.36		ns	ns
May 2009	15.39		ns	ns
February 2009	15.13		ns	ns
November 2008	15.02		ns	ns
August 2008	15.21		ns	ns
May 2008	14.80		n/d	n/d

EW-2	DTW	Total VOCs	BTEX	MIBE
March 2019	Blocked	ns	ns	ns
December 2018	Blocked	ns	ns	ns
Sept 2018	12.31	74	41	2
June 2018	12.42	19	4	1
March 2018	14.20	38	8	n/d
December 2017	14.37	27	16	2
Sept 2017	14.42	9	6	3
June 2017	14.04	22	15	3
March 2017	14.88	9	6	2
December 2016	14.38	4	2	2
Sept 2016	14.35	8	4	2
June 2016	14.28	371	284	3
March 2016	14.26	10	6	3
December 2015	14.55	10	6	3
Sept 2015	14.53	9	5	3
June 2015	14.26	7	3	2
March 2015	15.96	12	5	2
December 2014	14.56	9	4	3
Sept 2014	14.29	98	30	1
June 2014		ns	due to asphalted	over wells
March 2014	13.87	21	13	7
December 2013	14.78	4	2	2
Sept 2013	14.46	8	4	2
June 2013	14.82	5	1	3
March 2013	15.19	5	1	2
December 2012	14.98	8	1	2
Sept 2012	14.39	7	2	2
June 2012	14.22	24	14	4
March 2012	14.39	52	33	5
December 2011	13.93	22	12	3
Sept 2011	13.24	102	69	8
June 2011	13.84	77	60	4
March 2011	14.19	30	26	n/d
December 2010	14.99	90	64	15
Sept 2010	15.48	7	5	n/d
June 2010	15.00	36	19	n/d
March 2010	14.19	77	36	36
December 2009	14.84		ns	ns
August 2009	15.12		ns	ns
May 2009	15.17		ns	ns
February 2009	14.97		ns	ns
November 2008	15.21		ns	ns
August 2008	15.32		ns	ns
May 2008	13.25		34	9

EW-3	DTW	Total VOCs	BTEX	MIBE
March 2019	12.98	n/d	n/d	n/d
December 2018	13.05	1	<1	<1
Sept 2018	13.65	n/d	n/d	n/d
June 2018	11.41	112	78	n/d
March 2018	15.67	19	5	1
December 2017	15.71	7	3	1
Sept 2017	15.79	1	n/d	1
June 2017	15.15	2	<1	1
March 2017	15.86	3	1	1
December 2016	13.74	4	2	1
Sept 2016	16.32	34	21	1
June 2016	15.50	10	7	2
March 2016	15.62	9,240	5,850	2
December 2015	16.16	3,226	2,515	5
Sept 2015	16.69	34	23	n/d
June 2015	16.84	1	n/d	1
March 2015	15.96	29	14	1
December 2014	15.90	4	<1	1
Sept 2014	14.20	24	19	2
June 2014		ns	due to asphalted	over wells
March 2014	14.13	73	40	1
December 2013	15.99	1	1	n/d
Sept 2013	15.86	n/d	n/d	n/d
June 2013	16.52	<1	n/d	<1
March 2013	14.97	96	58	1
December 2012	15.12	n/d	n/d	n/d
Sept 2012	13.71	n/d	n/d	n/d
June 2012	13.06	113	107	n/d
March 2012	13.38	1	n/d	1
December 2011	13.49	19	15	<1
Sept 2011	12.26	1	n/d	1
June 2011	12.50	19	15	1
March 2011	13.85	67	22	n/d
December 2010	16.00	9	n/d	8
Sept 2010	15.40	n/d	n/d	5
June 2010	16.61	35	12	n/d
March 2010	13.85	370	342	9
December 2009	15.66		ns	ns
August 2009	13.93		ns	ns
May 2009	13.99		ns	ns
February 2009	16.97		ns	ns
November 2008	14.02		ns	ns
August 2008	15.24		ns	ns
May 2008	13.18		17	12

EW-4	DTW	Total VOCs	BTEX	MIBE
March 2019	12.68	n/d	n/d	n/d
December 2018	12.87	n/d	n/d	n/d
Sept 2018	13.29	n/d	n/d	n/d
June 2018	11.12	n/d	n/d	n/d
March 2018	14.21	n/d	n/d	n/d
December 2017	14.27	3	2	<1
Sept 2017	14.34	2	2	<1
June 2017	14.06	1	1	n/d
March 2017	15.30	5	3	1
December 2016	13.47	n/d	n/d	n/d
Sept 2016	13.57	1	1	<1
June 2016	13.37	n/d	n/d	n/d
March 2016	13.19	27	11	n/d
December 2015	13.59	<1	n/d	n/d
Sept 2015	15.27	3	2	1
June 2015	11.39	n/d	n/d	n/d
March 2015	13.60	1	n/d	1
December 2014	13.45	n/d	n/d	n/d
Sept 2014	13.37	1	1	ns
June 2014	12.98	ns	due to asphalted	over wells
March 2014	12.82	n/d	n/d	n/d
December 2013	16.18	5	3	1
Sept 2013	13.45	1	n/d	1
June 2013	14.39	6	4	2
March 2013	14.49	7	5	2
December 2012	14.90	2	2	n/d
Sept 2012	13.50	n/d	n/d	n/d
June 2012	12.07	n/d	n/d	n/d
March 2012	13.25	1	n/d	1
December 2011	13.22	n/d	n/d	n/d
Sept 2011	8.10	n/d	n/d	n/d
June 2011	12.56	n/d	n/d	n/d
March 2011	13.18	n/d	n/d	n/d
December 2010	13.07	n/d	n/d	n/d
Sept 2010	13.57	n/d	n/d	n/d
June 2010	15.58	35	20	8
March 2010	13.18	20	n/d	14
December 2009	14.96		ns	ns
August 2009	16.25		ns	ns
May 2009	16.27		ns	ns
February 2009	16.17		ns	ns
November 2008	15.11		ns	ns
August 2008	15.11		ns	ns
May 2008	13.94		5	31

n/d=non detect  
 ns=not sampled



American Analytical Laboratories, LLC.  
56 Toledo Street  
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TEL: (631) 454-6100 FAX: (631) 454-8027  
Website: [www.American-Analytical.com](http://www.American-Analytical.com)

March 19, 2019

Justin Halpin  
WRS d.b.a Berninger Environmental  
17 Old Dock Road  
Yaphank, NY 11980  
TEL: (631) 589-6521  
FAX (631) 589-6528

RE: Northland; 169-170 3rd Avenue, Brooklyn,

Order No.: 1903071

Dear Justin Halpin:

American Analytical Laboratories, LLC. received 9 sample(s) on 3/12/2019 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report. The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified either on the sample results or in the QC section of the report. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at [lbeyer@american-analytical.com](mailto:lbeyer@american-analytical.com).

Sincerely,

Lori Beyer  
Lab Director  
American Analytical Laboratories, LLC.



American Analytical Laboratories, LLC.  
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Farmingdale, New York 11735  
TEL: (631) 454-6100 FAX: (631) 454-8027  
Website: www.American-Analytical.com

## Workorder Sample Summary

WO#: 1903071

19-Mar-19

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**CLIENT:** WRS d.b.a Berninger Environmental  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY

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Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
1903071-001A	MW-1		3/12/2019 10:15:00 AM	3/12/2019 2:00:00 PM	Liquid
1903071-002A	MW-3		3/12/2019 10:30:00 AM	3/12/2019 2:00:00 PM	Liquid
1903071-003A	MW-1B		3/12/2019 11:25:00 AM	3/12/2019 2:00:00 PM	Liquid
1903071-004A	MW-2B		3/12/2019 11:45:00 AM	3/12/2019 2:00:00 PM	Liquid
1903071-005A	MW-3B		3/12/2019 12:10:00 PM	3/12/2019 2:00:00 PM	Liquid
1903071-006A	MW-4B		3/12/2019 12:30:00 PM	3/12/2019 2:00:00 PM	Liquid
1903071-007A	MW-5B		3/12/2019 12:45:00 PM	3/12/2019 2:00:00 PM	Liquid
1903071-008A	EW-3		3/12/2019 10:45:00 AM	3/12/2019 2:00:00 PM	Liquid
1903071-009A	EW-4		3/12/2019 11:10:00 AM	3/12/2019 2:00:00 PM	Liquid

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Original





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 Website: www.American-Analytical.com

# Sample Log-In Check List

Client Name: **Berninger**

Work Order Number: **1903071**

RcptNo: **1**

Logged by: <b>Lori Beyer</b>	<b>3/12/2019 2:00:00 PM</b>	<i>Lori Beyer</i>
Completed By: <b>Lori Beyer</b>	<b>3/12/2019 2:04:52 PM</b>	<i>Lori Beyer</i>
Reviewed By: <b>Phyllis Masi</b>	<b>3/12/2019</b>	<i>Phyllis Masi</i>

**Chain of Custody**

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Client

**Log In**

3. Coolers are present? Yes  No  NA   
 4. Shipping container/cooler in good condition? Yes  No   
 Custody seals intact on shipping container/cooler? Yes  No  Not Present   
 No. Seal Date: Signed By:  
 5. Was an attempt made to cool the samples? Yes  No  NA   
 6. Were all samples received at a temperature of >0° C to 6.0°C Yes  No  NA   
 7. Sample(s) in proper container(s)? Yes  No   
 8. Sufficient sample volume for indicated test(s)? Yes  No   
 9. Are samples (except VOA and ONG) properly preserved? Yes  No   
 10. Was preservative added to bottles? Yes  No  NA   
 11. Is the headspace in the VOA vials less than 1/4 inch or 6 mm? Yes  No  No VOA Vials   
 12. Were any sample containers received broken? Yes  No   
 13. Does paperwork match bottle labels? Yes  No   
 (Note discrepancies on chain of custody)  
 14. Are matrices correctly identified on Chain of Custody? Yes  No   
 15. Is it clear what analyses were requested? Yes  No   
 16. Were all holding times able to be met? Yes  No   
 (If no, notify customer for authorization.)

**Special Handling (if applicable)**

17. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

18. Additional remarks:

**Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
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## Case Narrative

WO#: 1903071  
Date: 3/19/2019

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**CLIENT:** WRS d.b.a Berninger Environmental  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY

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Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846 and additional methods as detailed throughout the text of the report. All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives with exceptions notated in this Narrative discussion.

Volatile LCS are analyzed with preservatives - HCL/NaHSO<sub>4</sub>/Methanol depending on level of analysis (high/low) similar to sample analysis. Outliers can be attributed to the presence of chemical preservatives. 2-Chloroethyl vinyl ether readily breaks down under acidic conditions. Samples that are acid preserved, including standards will exhibit breakdown. The data user should take note.

The following parameters (if included in this report) are not offered by NY ELAP: VOA 8260 Soil; 1,2,4,5-Tetramethylbenzene, Chlorodifluoromethane, Diisopropyl ether, Ethanol, Freon-114, p-Diethylbenzene, p-Ethyltoluene, Limonene. VOA 8260 Liquid; 1,2,4,5-Tetramethylbenzene, Chlorodifluoromethane, Freon-114, p-Diethylbenzene, p-Ethyltoluene, Limonene. Pesticides 8081 Soil; DBCP. Herbicides 8151 Soil; 3,5-Dichlorobenzoic Acid, 4-Nitrophenol, Acifluorfen, Bentazon, Chloramben, DCPA, Picloram, SM 2540G Total Volatile Solids, Soil TKN, Soil Organic Nitrogen, Percent Moisture, pH in non-potable water and temperature at which pH is measured, SM 4500-SO<sub>3</sub> B Sulfite in Liquid, Total Sulfur in Soil, Acid Soluble Chloride by ASTM C1152, Water Soluble Chloride by ASTM C1218, Chlorine Demand by SM 2350 B, Total Residual Chlorine in Liquid and Reactivity to Sulfide and Reactivity to Cyanide.

The test results meet the requirements of the NYSDOH and NELAC standards, except where noted. The information contained in this analytical report is the sole property of American Analytical Laboratories, LLC. or the client for which this report was issued. The results contained in this report are only representative of the samples received. The sample receipt checklist is included as part of this lab report. Conditions can vary at different times and at different sampling conditions. American Analytical is not responsible for the use or interpretation of the data included herein.

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Original



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## Definition Only

WO#: 1903071  
Date: 3/19/2019

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### Definitions:

Sample Result and QC Summary Qualifiers - Level I and Level II Reports

ND - Not detected at the reporting limit/Limit of Quantitation

B - The analyte was detected in the associated method blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <5x the blank value as artifact.

E - The value is above the quantitation range

D - Analyte concentration was obtained from diluted analysis or from analysis using reduced sample volume.

J - The analyte was detected below the limit of quantitation but greater than the established Limit of Detection (LOD). There is greater uncertainty associated with these results and data should be considered as estimated.

U - The compound was analyzed for but not detected.

H - Holding time for preparation or analysis has been exceeded.

S - Spike recovery is outside accepted recovery limits.

R - RPD is outside accepted recovery range.

P - Secondary column exceeds 40% difference for GC test.

\* - Calibration exceeds method requirement. Due to the large number of analytes for organic testing, the method allows 10% of analytes to have %RSD and/or %D to be >20%.

LOD - Limit of Detection; the lowest level the analyte can be determined to be statistically different from a blank.

LOQ - Limit of Quantitation; the lowest amount of analyte in a sample that can be quantitatively determined with suitable precision and accuracy.

PQL - Practical Quantitation Limit; the lowest level that can be reliably achieved within the specific limits of Precision and accuracy. Listed on the QC Summary Forms.

m - Analyte was manually integrated for GC/MS.

+ - Concentration exceeds regulatory level for TCLP

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Original

# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

<b>CLIENT:</b>	WRS d.b.a Berninger Environmental	<b>Client Sample ID:</b>	MW-1
<b>Lab Order:</b>	1903071	<b>Collection Date:</b>	3/12/2019 10:15:00 AM
<b>Project:</b>	Northland; 169-170 3rd Avenue, Brooklyn, NY	<b>Matrix:</b>	LIQUID
<b>Lab ID:</b>	1903071-001A		

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>		<b>SW5030C</b>		Analyst: LA
1,2,4-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
1,3,5-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
4-Isopropyltoluene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Benzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Ethylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Isopropylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
m,p-Xylene	ND	0.50	4.0	U	µg/L	1	3/13/2019 3:16:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
n-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
n-Propylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Naphthalene	0.26	0.25	2.0	J	µg/L	1	3/13/2019 3:16:00 PM
o-Xylene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
sec-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Toluene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:16:00 PM
Xylenes, Total	ND	0.75	6.0	U	µg/L	1	3/13/2019 3:16:00 PM

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Original

**American Analytical Laboratories, LLC.**

Date: 19-Mar-19

**ELAP ID : 11418**

<b>CLIENT:</b>	WRS d.b.a Berninger Environmental	<b>Client Sample ID:</b>	MW-3
<b>Lab Order:</b>	1903071	<b>Collection Date:</b>	3/12/2019 10:30:00 AM
<b>Project:</b>	Northland; 169-170 3rd Avenue, Brooklyn, NY	<b>Matrix:</b>	LIQUID
<b>Lab ID:</b>	1903071-002A		

**Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>		<b>SW5030C</b>		Analyst: LA
1,2,4-Trimethylbenzene	0.96	0.25	2.0	J	µg/L	1	3/13/2019 3:46:00 PM
1,3,5-Trimethylbenzene	1.5	0.25	2.0	J	µg/L	1	3/13/2019 3:46:00 PM
4-Isopropyltoluene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:46:00 PM
Benzene	39	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
Ethylbenzene	31	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
Isopropylbenzene	12	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
m,p-Xylene	4.0	0.50	4.0	J	µg/L	1	3/13/2019 3:46:00 PM
Methyl tert-butyl ether	2.1	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
n-Butylbenzene	7.6	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
n-Propylbenzene	17	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
Naphthalene	19	0.25	2.0		µg/L	1	3/13/2019 3:46:00 PM
o-Xylene	0.85	0.25	2.0	J	µg/L	1	3/13/2019 3:46:00 PM
sec-Butylbenzene	1.9	0.25	2.0	J	µg/L	1	3/13/2019 3:46:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 3:46:00 PM
Toluene	0.76	0.25	2.0	J	µg/L	1	3/13/2019 3:46:00 PM
Xylenes, Total	4.8	0.75	6.0	J	µg/L	1	3/13/2019 3:46:00 PM

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Original

# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

**CLIENT:** WRS d.b.a Berninger Environmental **Client Sample ID:** MW-1B  
**Lab Order:** 1903071 **Collection Date:** 3/12/2019 11:25:00 AM  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY **Matrix:** LIQUID  
**Lab ID:** 1903071-003A

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>	<b>SW5030C</b>			Analyst: LA
1,2,4-Trimethylbenzene	6200	25	200	D	µg/L	100	3/14/2019 7:30:00 PM
1,3,5-Trimethylbenzene	2100	25	200	D	µg/L	100	3/14/2019 7:30:00 PM
4-Isopropyltoluene	78	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
Benzene	260	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
Ethylbenzene	1500	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
Isopropylbenzene	260	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
m,p-Xylene	8800	50	400	D	µg/L	100	3/14/2019 7:30:00 PM
Methyl tert-butyl ether	ND	2.5	20	DU	µg/L	10	3/13/2019 4:16:00 PM
n-Butylbenzene	350	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
n-Propylbenzene	630	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
Naphthalene	760	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
o-Xylene	3600	25	200	D	µg/L	100	3/14/2019 7:30:00 PM
sec-Butylbenzene	120	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
tert-Butylbenzene	ND	2.5	20	DU	µg/L	10	3/13/2019 4:16:00 PM
Toluene	900	2.5	20	D	µg/L	10	3/13/2019 4:16:00 PM
Xylenes, Total	12000	75	600	D	µg/L	100	3/14/2019 7:30:00 PM

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Original

**American Analytical Laboratories, LLC.**

Date: 19-Mar-19

**ELAP ID : 11418**

<b>CLIENT:</b>	WRS d.b.a Berninger Environmental	<b>Client Sample ID:</b>	MW-2B
<b>Lab Order:</b>	1903071	<b>Collection Date:</b>	3/12/2019 11:45:00 AM
<b>Project:</b>	Northland; 169-170 3rd Avenue, Brooklyn, NY	<b>Matrix:</b>	LIQUID
<b>Lab ID:</b>	1903071-004A		

**Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>		<b>SW5030C</b>		Analyst: LA
1,2,4-Trimethylbenzene	7500	25	200	D	µg/L	100	3/14/2019 8:00:00 PM
1,3,5-Trimethylbenzene	2400	25	200	D	µg/L	100	3/14/2019 8:00:00 PM
4-Isopropyltoluene	78	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
Benzene	730	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
Ethylbenzene	2400	25	200	D	µg/L	100	3/14/2019 8:00:00 PM
Isopropylbenzene	270	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
m,p-Xylene	9400	50	400	D	µg/L	100	3/14/2019 8:00:00 PM
Methyl tert-butyl ether	ND	2.5	20	DU	µg/L	10	3/13/2019 4:46:00 PM
n-Butylbenzene	470	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
n-Propylbenzene	970	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
Naphthalene	810	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
o-Xylene	3600	25	200	D	µg/L	100	3/14/2019 8:00:00 PM
sec-Butylbenzene	130	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
tert-Butylbenzene	ND	2.5	20	DU	µg/L	10	3/13/2019 4:46:00 PM
Toluene	1400	2.5	20	D	µg/L	10	3/13/2019 4:46:00 PM
Xylenes, Total	13000	75	600	D	µg/L	100	3/14/2019 8:00:00 PM

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Original

# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

**CLIENT:** WRS d.b.a Berninger Environmental **Client Sample ID:** MW-3B  
**Lab Order:** 1903071 **Collection Date:** 3/12/2019 12:10:00 PM  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY **Matrix:** LIQUID  
**Lab ID:** 1903071-005A

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>	<b>SW5030C</b>			Analyst: LA
1,2,4-Trimethylbenzene	1400	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
1,3,5-Trimethylbenzene	450	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
4-Isopropyltoluene	6.9	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
Benzene	210	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
Ethylbenzene	420	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
Isopropylbenzene	28	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
m,p-Xylene	2200	5.0	40	D	µg/L	10	3/14/2019 6:00:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/13/2019 5:16:00 PM
n-Butylbenzene	45	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
n-Propylbenzene	85	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
Naphthalene	150	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
o-Xylene	820	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
sec-Butylbenzene	9.5	0.25	2.0		µg/L	1	3/13/2019 5:16:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 5:16:00 PM
Toluene	190	2.5	20	D	µg/L	10	3/14/2019 6:00:00 PM
Xylenes, Total	3000	7.5	60	D	µg/L	10	3/14/2019 6:00:00 PM

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Original

**American Analytical Laboratories, LLC.**

Date: 19-Mar-19

**ELAP ID : 11418**

<b>CLIENT:</b>	WRS d.b.a Berninger Environmental	<b>Client Sample ID:</b>	MW-4B
<b>Lab Order:</b>	1903071	<b>Collection Date:</b>	3/12/2019 12:30:00 PM
<b>Project:</b>	Northland; 169-170 3rd Avenue, Brooklyn, NY	<b>Matrix:</b>	LIQUID
<b>Lab ID:</b>	1903071-006A		

**Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>		<b>SW5030C</b>		Analyst: LA
1,2,4-Trimethylbenzene	2000	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
1,3,5-Trimethylbenzene	490	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
4-Isopropyltoluene	38	0.25	2.0		µg/L	1	3/13/2019 5:46:00 PM
Benzene	250	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
Ethylbenzene	1200	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
Isopropylbenzene	120	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
m,p-Xylene	4100	5.0	40	D	µg/L	10	3/14/2019 6:30:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/13/2019 5:46:00 PM
n-Butylbenzene	94	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
n-Propylbenzene	250	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
Naphthalene	330	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
o-Xylene	1100	2.5	20	D	µg/L	10	3/14/2019 6:30:00 PM
sec-Butylbenzene	67	0.25	2.0		µg/L	1	3/13/2019 5:46:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 5:46:00 PM
Toluene	88	0.25	2.0		µg/L	1	3/13/2019 5:46:00 PM
Xylenes, Total	5100	7.5	60	D	µg/L	10	3/14/2019 6:30:00 PM

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# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

**CLIENT:** WRS d.b.a Berninger Environmental **Client Sample ID:** MW-5B  
**Lab Order:** 1903071 **Collection Date:** 3/12/2019 12:45:00 PM  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY **Matrix:** LIQUID  
**Lab ID:** 1903071-007A

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>							Analyst: LA
			<b>SW8260C</b>		<b>SW5030C</b>		
1,2,4-Trimethylbenzene	960	2.5	20	D	µg/L	10	3/14/2019 7:00:00 PM
1,3,5-Trimethylbenzene	230	2.5	20	D	µg/L	10	3/14/2019 7:00:00 PM
4-Isopropyltoluene	26	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
Benzene	8.8	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
Ethylbenzene	510	2.5	20	D	µg/L	10	3/14/2019 7:00:00 PM
Isopropylbenzene	99	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
m,p-Xylene	460	5.0	40	D	µg/L	10	3/14/2019 7:00:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/13/2019 6:16:00 PM
n-Butylbenzene	140	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
n-Propylbenzene	250	2.5	20	D	µg/L	10	3/14/2019 7:00:00 PM
Naphthalene	410	2.5	20	D	µg/L	10	3/14/2019 7:00:00 PM
o-Xylene	20	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
sec-Butylbenzene	39	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/13/2019 6:16:00 PM
Toluene	8.1	0.25	2.0		µg/L	1	3/13/2019 6:16:00 PM
Xylenes, Total	470	7.5	60	D	µg/L	10	3/14/2019 7:00:00 PM

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# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

**CLIENT:** WRS d.b.a Berninger Environmental **Client Sample ID:** EW-3  
**Lab Order:** 1903071 **Collection Date:** 3/12/2019 10:45:00 AM  
**Project:** Northland; 169-170 3rd Avenue, Brooklyn, NY **Matrix:** LIQUID  
**Lab ID:** 1903071-008A

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>	<b>SW5030C</b>			Analyst: LA
1,2,4-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
1,3,5-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
4-Isopropyltoluene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Benzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Ethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Isopropylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
m,p-Xylene	ND	0.50	4.0	U	µg/L	1	3/14/2019 4:59:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
n-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
n-Propylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Naphthalene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
o-Xylene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
sec-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Toluene	ND	0.25	2.0	U	µg/L	1	3/14/2019 4:59:00 PM
Xylenes, Total	ND	0.75	6.0	U	µg/L	1	3/14/2019 4:59:00 PM

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# American Analytical Laboratories, LLC.

Date: 19-Mar-19

ELAP ID : 11418

<b>CLIENT:</b>	WRS d.b.a Berninger Environmental	<b>Client Sample ID:</b>	EW-4
<b>Lab Order:</b>	1903071	<b>Collection Date:</b>	3/12/2019 11:10:00 AM
<b>Project:</b>	Northland; 169-170 3rd Avenue, Brooklyn, NY	<b>Matrix:</b>	LIQUID
<b>Lab ID:</b>	1903071-009A		

## Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
<b>VOLATILE SW-846 METHOD 8260</b>			<b>SW8260C</b>		<b>SW5030C</b>		Analyst: LA
1,2,4-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
1,3,5-Trimethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
4-Isopropyltoluene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Benzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Ethylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Isopropylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
m,p-Xylene	ND	0.50	4.0	U	µg/L	1	3/14/2019 5:29:00 PM
Methyl tert-butyl ether	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
n-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
n-Propylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Naphthalene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
o-Xylene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
sec-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
tert-Butylbenzene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Toluene	ND	0.25	2.0	U	µg/L	1	3/14/2019 5:29:00 PM
Xylenes, Total	ND	0.75	6.0	U	µg/L	1	3/14/2019 5:29:00 PM

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