



June 10, 2013

Ms. Alicia Barraza
Environmental Engineer
Division of Environmental Remediation
Remedial Bureau B, 12th Floor
New York State Department of
Environmental Conservation
625 Broadway
Albany, NY 12233-7016

Re: LIRR – Morris Park Yard RCRA Investigation
EPA ID NYD980641625, UIS No. 241130

As required, the Long Island Rail Road (LIRR) recently completed soil and groundwater sampling at the Morris Park Yard, in effort to determine the presence of any residual site impacts associated with the Former Paint Stripping Bays. This letter report has been prepared to summarize the results of our sampling efforts, and make recommendations for future site management.

Background

The LIRR's Morris Park Yard is located on the north side of Atlantic Avenue in Richmond Hill Queens, NY. A Site Location/Topographic Map is provided as **Figure 1 of Attachment 1**. The site is owned and operated by the LIRR and has been in use dating as far back as the mid-1800s. In 1990, multiple RCRA violations were discovered at the Morris Park Yard. One of these violations involved metals contamination that was identified on the concrete floor of the former paint stripping building. At that time, in consultation with NYSDEC, the LIRR performed investigation and remediation work to rectify the various violations, including the washing and scarification of the impacted concrete floor of the former paint stripping building. To date, all RCRA violations that were identified at the site have been addressed to the satisfaction of the NYSDEC except for potentially contaminated soil underlying the concrete floor of the Former Paint Stripping Building. As noted in the NYSDEC's letter, dated March 30, 2001:

"... scarification of the concrete floor meets the Department's requirements for decontamination and no further corrective action is required for the inside of the SWMU. However, elevated levels of hazardous constituents, some contributed by listed hazardous waste, in the soil underlying the Paint Stripping building will need to be addressed when the soil becomes accessible".

The Former Paint Stripping Building was demolished in the early 2000s, in anticipation of building a new locomotive repair shop. However, due to lack of funds the new repair shop was never built. In accordance with the NYSDEC's comment, it was always the LIRR's intention that when the new repair shop was to be constructed, the LIRR would remove the remaining concrete slab beneath the former Paint Stripping Building and, if necessary, any contaminated soil underlying the slab. This corrective action work was to be part of the new repair shop's budget.

A letter from the NYSDEC, dated In September 19, 2012, inquired as to what the LIRR planned to do to properly terminate the on-going RCRA issue for the former Paint Stripping Building. In a follow-up telephone conversation with the NYSDEC on October 4, 2012, the LIRR requested that any post-closure groundwater monitoring requirements be waived, provided the LIRR could determine that it was not warranted for the site. Towards that end, in a letter dated October 16, 2012 to the NYSDEC, the LIRR offered to collect groundwater samples from existing wells at the site to determine whether or not the Former Paint Stripping Building was contributing metals contamination to the groundwater. The NYSDEC responded with an October 19, 2012 letter, indicating specific recommendations for investigation. These recommendations included the analysis of both unfiltered and filtered Target Analyte List (TAL) metals from the existing site wells, and soil sampling from beneath the concrete slab of the Former Paint Stripping Building for TAL metals.

To date, the LIRR has conducted two rounds of groundwater sampling at the specified wells. Sampling events were conducted on December 12, 2012 and March 27, 2013. In addition, the LIRR developed a work plan (submitted on March 22, 2013) for conducting an investigation of the soil beneath the concrete slab of the Former Paint Stripping Area. The work plan was approved by NYSDEC via letter dated April 5, 2013, and the soil sampling was conducted on May 2, 2013. This letter report presents the findings of the groundwater sampling events and soil investigation project.

Groundwater Sampling

As mentioned above, to date, two rounds of groundwater sampling were conducted from pre-existing wells that were located at the site. There were supposed to be seven wells sampled during each event. However, due to site obstructions, only six could be accessed during both sampling events. A map showing the locations of the wells is provided as **Figure 2** of **Attachment 1**. As required, all samples were analyzed for Target Analyte List (TAL) metals, both unfiltered and filtered analyses. Analytical summary tables are provided as **Tables 1** and **2** in **Attachment 2**. For comparison purposes, these tables include a list of the NYSDEC Class GA Groundwater Standards/Guidelines. Raw data associated with these groundwater sampling events is provided in **Attachment 3**.

As shown by the data, exceedances of NYSDEC Class GA Groundwater Standards/Guidelines were primarily restricted to iron, manganese, and sodium. The only exception was one detection of chromium at a concentration of 0.073 mg/L, above the established criterion of 0.05.

Based upon these results, the groundwater does not appear to have been impacted by metals associated with the former paint spraying building.

Soil Investigation Project

The field activities associated with the soil investigation included the collection of a total of 16 soil samples from 8 locations, chosen on a grid-like pattern over the 69' by 100' former paint spraying area. A Sample Location Map is provided as Figure 3 of Attachment 1. The actual locations of the sampling points were documented using a Magellan Professional Mobile Mapper CX global positioning system (GPS) unit. At each location, between one and three samples were collected for laboratory analysis of TAL metals. As noted in the work plan, a concrete pad (previously scarified as part of the 1999 remediation project) exists over the surface of this area. In order to sample beneath the pad, the LIRR's contractor used a core drill to remove the concrete and a hand auger to collect the soil sample. A sampling summary which describes the thickness of the concrete, visual characteristics of the soil, sampling depths, and other pertinent information is provided as Table 3 of Attachment 2. It should be noted that the work plan called for a minimum of one sample from each location. However, due to the fact that some of the sample points were located on cracks in the concrete, and that the soil exhibited a ubiquitous surficial layer of anthropogenic material, additional soil samples were collected at most of the locations. Prior to the collection of each sample, the hand auger was washed using an alconox solution and rinsed with water. In addition, each sample was collected using a dedicated pair of nitrile gloves.

At SS-06, the soil within the first two feet of the concrete slab exhibited varying degrees of creosote odor. As a result, the samples collected from this location were also analyzed for volatile organic compounds (VOCs) and an additional two samples were collected.

The soil sampling results are presented on Tables 4, 5 and 6 of Attachment 2. For comparison purposes, these tables also list the NYSDEC's Part 375 Soil Cleanup Criteria, including Unrestricted Use, and Restricted Use - Residential, Commercial and Industrial Criteria. Raw data is also provided in Attachment 3. As shown by the data, cadmium and chromium were the only two metals that were found to exceed the Restricted Residential Cleanup criteria. Cadmium concentrations exceeded the criteria in 14 out of 16 samples, but only by a narrow margin, and well below the Restricted-Commercial and Industrial criteria. Furthermore, the concentrations remain about the same in the deeper samples as in the shallow samples. This may indicate that cadmium is ubiquitous with the underlying fill material, and not something that was contributed by the former paint stripping operation.

Chromium exceeded the Restricted Residential Cleanup Criteria in 3 out of 14 samples. The most significant concentration was identified at SS-07, where it was found at 46.5 ppm. It should be noted however, that the Restricted-Use Residential Criteria for chromium of 22 ppm is for hexavalent chromium. The analytical result provided was for total chromium. As a result, the significance of this exceedance is likely not as severe as that sample result indicates.

With respect to the samples collected from SS-06 that were also analyzed for VOCs, some minor concentrations were identified in the shallowest sample (from 0-6" below the **concrete**).

However, these concentrations were well below the Unrestricted Use Soil Cleanup Objectives and do not indicate a VOC issue with this sampling location.

Based upon the analytical results, it does not appear that the Former Paint Stripping Building is a contributing source of metals contamination to the subsurface soil. Furthermore, considering that the LIRR's Morris Park Yard will remain an industrial property in perpetuity, the minor concentrations of cadmium and chromium can be considered insignificant.

Conclusions and Recommendations

As shown by the data, the soil beneath the concrete pad of the former paint stripping bay at the LIRR's Morris Park Yard does not appear to have been contaminated with metals as a result of past practices at the site. In addition two rounds of groundwater sampling conducted at 7 wells in the vicinity of this area of concern have shown that groundwater has also not been impacted by metals. Based upon these findings, at this time, the LIRR requests that the NYSDEC consider the merit of closing this RCRA issue with no further action necessary.

If you have any questions, or require any additional information, please do not hesitate to contact me at (347) 494-6034.

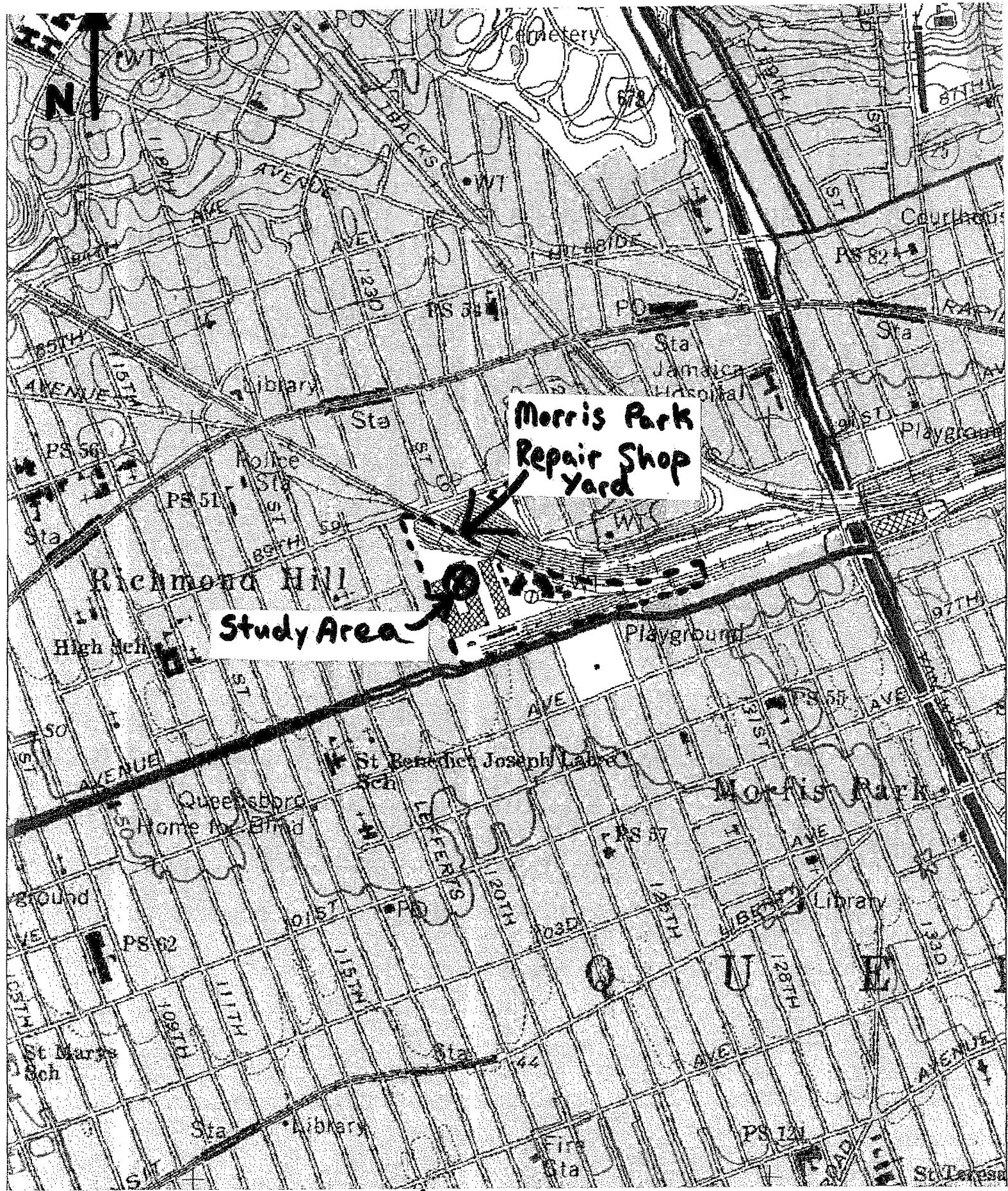
Sincerely,



Gloria Russo
Manager – Environmental
Planning & Compliance

Cc: Manske (LIRR)
Albano(LIRR),

ATTACHMENT 1



Site Location /Topographic Map

Figure 1

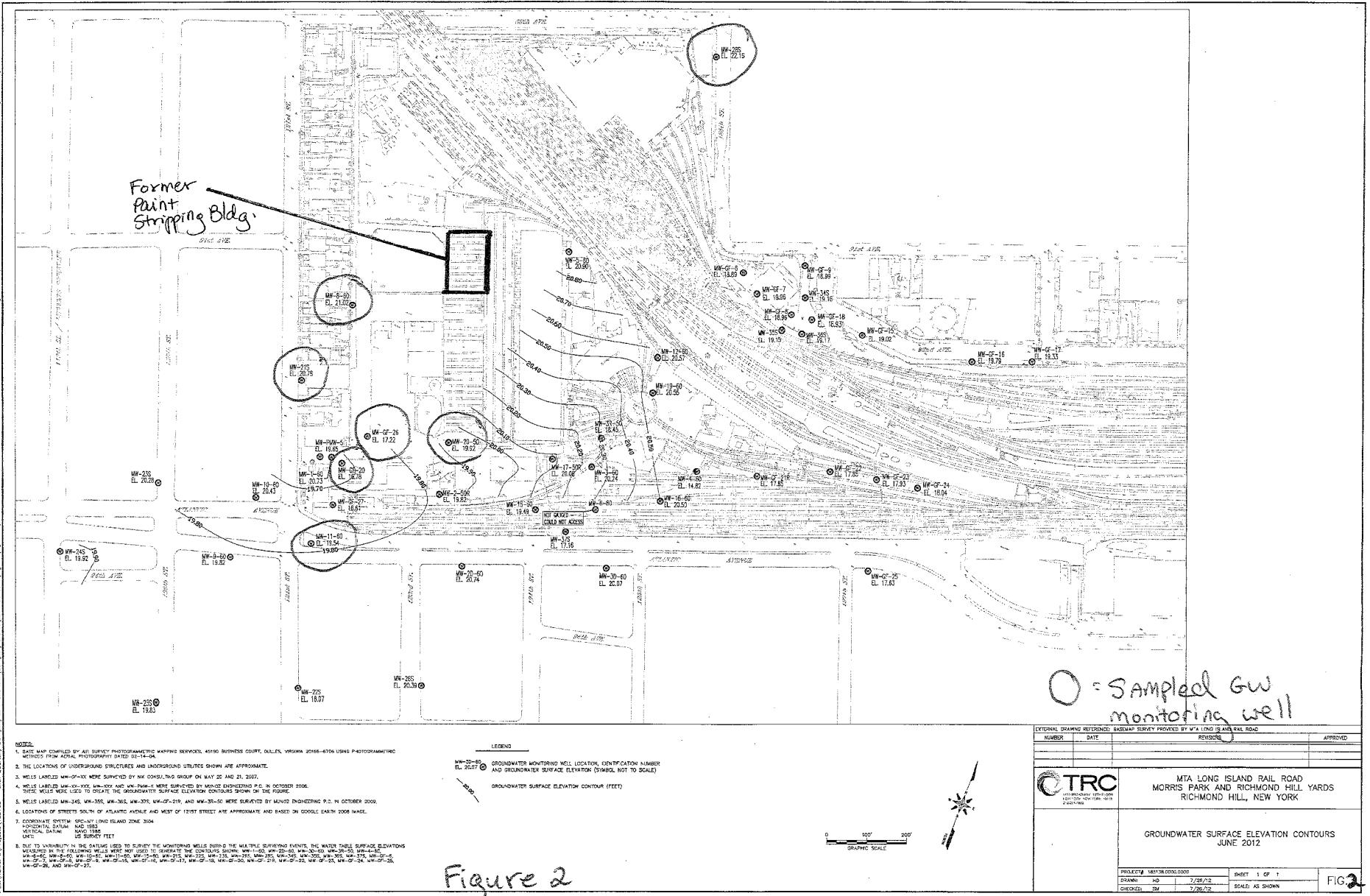


Figure 2

Figure 3

**LIRR Morris Park Yard RCRA Closure
Surface Soil Sample Location Map**

• nw corner
• ss-1
• ss-2
• ss-3
• ss-4
• ss-5
• ss-6
• ss-7
• ss-8
• se corner

. Surface Soil Sample

MTA Long Island Rail Road

Source: Aerial 2007, 2010/TRC
Date: May 6, 2013

0 4 8 16 24 32 Feet

ATTACHMENT 2

TABLE 1
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
GROUNDWATER SAMPLING RESULTS

TAL METALS (TOTALS AND DISSOLVED ANALYSIS)

SAMPLE ID FILTERED/UNFILTERED DATE OF COLLECTION UNITS	MW-8-60 Unfiltered 3/27/2013 mg/L	MW-8-60 Filtered 3/27/2013 mg/L	MW-20-50 Unfiltered 3/27/2013 mg/L	MW-20-50 Filtered 3/27/2013 mg/L	MW-GF-26 Unfiltered 3/27/2013 mg/L	MW-GF-26 Filtered 3/27/2013 mg/L	MW-GF-20 Unfiltered 3/27/2013 mg/L	MW-GF-20 Filtered 3/27/2013 mg/L	NYSDEC Class GA Groundwater Criteria mg/L
Aluminum	U	U	U	U	5.54	U	N/A	N/A	--
Antimony	U	U	U	U	U	U	N/A	N/A	0.003 ST
Arsenic	U	U	U	U	U	U	N/A	N/A	0.025
Barium	0.018	0.016	0.02	0.019	0.191	0.126	N/A	N/A	1 ST
Beryllium	U	U	U	U	U	U	N/A	N/A	0.003 GV
Cadmium	U	U	U	U	U	U	N/A	N/A	.005 ST
Calcium	30.3	30.2	31.4	28.8	65.8	64.2	N/A	N/A	--
Chromium (total)	U	U	U	U	0.073	U	N/A	N/A	.05 ST
Cobalt	U	U	U	U	0.016	U	N/A	N/A	--
Copper	U	0.005	U	U	0.022	U	N/A	N/A	0.2 ST
Iron	U	U	0.046	U	15.2	0.068	N/A	N/A	0.3 ST
Lead	U	U	U	U	U	U	N/A	N/A	.025 ST
Magnesium	4.9	4.47	10.9	10.1	28.4	27	N/A	N/A	35 ST
Manganese	0.006	0.012	0.004	0.007	0.85	0.016	N/A	N/A	0.3 ST
Mercury	U	U	U	U	U	U	N/A	N/A	0.0007 ST
Nickel	U	U	U	U	0.066	U	N/A	N/A	0.1 ST
Potassium	2.64	2.73	1.06	1.11	17.7	17.4	N/A	N/A	--
Selenium	U	U	U	U	U	U	N/A	N/A	0.01 ST
Silver	U	U	U	U	U	U	N/A	N/A	0.050 ST
Sodium	35.9	44.5	38.2	39.6	U	97.8	N/A	N/A	20 ST
Thallium	U	U	U	U	U	U	N/A	N/A	0.0005 GV
Vanadium	U	U	U	U	0.016	U	N/A	N/A	--
Zinc	U	U	U	U	0.032	U	N/A	N/A	2 GV

Notes:

U: Constituent analyzed for but not detected.

-- : Criteria not established.

N/A : Not available. Well Inaccessible.

■ : Concentration exceeds Class GA standard/guideline.

TABLE 1 (Continued)
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
GROUNDWATER SAMPLING RESULTS

TAL METALS (TOTALS AND DISSOLVED ANALYSIS)

SAMPLE ID FILTERED/UNFILTERED DATE OF COLLECTION UNITS	MW-11-60 Unfiltered 3/27/2013 mg/L	MW-11-60 Filtered 3/27/2013 mg/L	MW-21S Unfiltered 3/27/2013 mg/L	MW-21S Filtered 3/27/2013 mg/L	MW-28S Unfiltered 3/27/2013 mg/L	MW-28S Filtered 3/27/2013 mg/L			NYSDEC Class GA Groundwater Criteria mg/L
Aluminum	0.049	U	3.74	0.07	1.18	U			--
Antimony	U	U	U	U	U	U			0.003 ST
Arsenic	U	U	U	U	U	U			0.025
Barium	0.014	0.013	0.03	0.006	0.039	0.028			1 ST
Beryllium	U	U	U	U	U	U			0.003 GV
Cadmium	U	U	U	U	U	U			.005 ST
Calcium	18.1	16.3	10	7.36	20.3	19			--
Chromium (total)	U	U	U	U	U	U			.05 ST
Cobalt	U	U	0.009	U	U	U			--
Copper	U	U	0.01	U	0.004	U			0.2 ST
Iron	0.094	U	9.94	0.202	2.79	0.052			0.3 ST
Lead	U	U	U	U	U	U			.025 ST
Magnesium	2.68	2.51	4.78	3.09	5.3	4.94			35 ST
Manganese	0.004	0.007	0.596	0.017	0.575	0.367			0.3 ST
Mercury	U	U	0.83	U	U	U			0.0007 ST
Nickel	U	U	0.01	U	0.012	U			0.1 ST
Potassium	1.07	1.12	1.59	1.02	4.79	4.81			--
Selenium	U	U	U	U	U	U			0.01 ST
Silver	U	U	U	U	U	U			0.050 ST
Sodium	46.8	54	7.32	8.36	34.3	37.4			20 ST
Thallium	U	U	U	U	U	U			0.0005 GV
Vanadium	U	U	0.012	U	U	U			--
Zinc	U	U	0.021	U	0.023	U			2 GV

Notes:

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N/A : Not available. Well Inaccessible.

 : Concentration exceeds Class GA standard/guideline.

TABLE 2
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
GROUNDWATER SAMPLING RESULTS

TAL METALS (TOTALS AND DISSOLVED ANALYSIS)

SAMPLE ID FILTERED/UNFILTERED DATE OF COLLECTION UNITS	MW-8-60 Unfiltered 12/12/2012 mg/L	MW-8-60 Filtered 12/12/2012 mg/L	MW-20-50 Unfiltered 12/12/2012 mg/L	MW-20-50 Filtered 12/12/2012 mg/L	MW-GF-26 Unfiltered 12/12/2012 mg/L	MW-GF-26 Filtered 12/12/2012 mg/L	MW-GF-20 Unfiltered 12/12/2012 mg/L	MW-GF-20 Filtered 12/12/2012 mg/L	NYSDEC Class GA Groundwater Criteria mg/L
Aluminum	N/A	N/A	0.614	U	0.553	U	10.6	0.271	--
Antimony	N/A	N/A	U	U	U	U	U	U	0.003 ST
Arsenic	N/A	N/A	U	U	U	U	U	U	0.025
Barium	N/A	N/A	0.032	0.026	0.129	0.115	0.141	0.035	1 ST
Beryllium	N/A	N/A	U	U	U	U	U	U	0.003 GV
Cadmium	N/A	N/A	U	U	U	U	U	U	.005 ST
Calcium	N/A	N/A	42.5	43.2	76	66.8	30.2	27.2	--
Chromium (total)	N/A	N/A	U	U	U	U	U	U	.05 ST
Cobalt	N/A	N/A	U	U	U	U	0.023	U	--
Copper	N/A	N/A	0.004	U	0.004	U	0.038	U	0.2 ST
Iron	N/A	N/A	1.65	0.057	1.87	0.105	26.8	0.59	0.3 ST
Lead	N/A	N/A	U	U	U	U	U	U	.025 ST
Magnesium	N/A	N/A	17	17.2	31.5	27.6	10.1	6.94	35 ST
Manganese	N/A	N/A	0.029	0.009	0.084	0.029	1.14	0.038	0.3 ST
Mercury	N/A	N/A	U	U	U	U	U	U	0.0007 ST
Nickel	N/A	N/A	U	U	U	U	0.032	U	0.1 ST
Potassium	N/A	N/A	1.21	1.37	22.6	20.3	5.15	3.41	--
Selenium	N/A	N/A	U	U	U	U	U	U	0.01 ST
Silver	N/A	N/A	U	U	U	U	U	U	0.050 ST
Sodium	N/A	N/A	38.5	42.1	114	104	52.1	53.2	20 ST
Thallium	N/A	N/A	U	U	U	U	U	U	0.0005 GV
Vanadium	N/A	N/A	U	U	U	U	0.032	U	--
Zinc	N/A	N/A	0.034	0.024	0.036	0.033	0.198	0.02	2 GV

Notes:

U: Constituent analyzed for but not detected.

-- : Criteria not established.

N/A : Not available. Well Inaccessible.

 : Concentration exceeds Class GA standard/guideline.

TABLE 2 (Continued)
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
GROUNDWATER SAMPLING RESULTS

TAL METALS (TOTALS AND DISSOLVED ANALYSIS)

SAMPLE ID FILTERED/UNFILTERED DATE OF COLLECTION UNITS	MW-11-60 Unfiltered 12/12/2012 mg/L	MW-11-60 Filtered 12/12/2012 mg/L	MW-21S Unfiltered 12/12/2012 mg/L	MW-21S Filtered 12/12/2012 mg/L	MW-28S Unfiltered 12/12/2012 mg/L	MW-28S Filtered 12/12/2012 mg/L			NYSDEC Class GA Groundwater Criteria mg/L
Aluminum	0.148	U	0.403	U	1.76	0.049			--
Antimony	U	U	U	U	U	U			0.003 ST
Arsenic	U	U	U	U	U	U			0.025
Barium	0.048	0.046	0.006	U	0.066	0.05			1 ST
Beryllium	U	U	U	U	U	U			0.003 GV
Cadmium	U	U	U	U	U	U			.005 ST
Calcium	78.1	71.1	4.32	2.94	29.5	29.7			--
Chromium (total)	U	U	U	U	U	U			.05 ST
Cobalt	U	U	U	U	U	U			--
Copper	U	U	U	U	U	U			0.2 ST
Iron	0.418	U	1.22	0.05	4.4	0.151			0.3 ST
Lead	U	U	U	U	U	U			0.25 ST
Magnesium	12.5	11.7	2.3	1.48	7.3	6.92			35 ST
Manganese	0.012	0.009	0.069	0.007	0.396	0.108			0.3 ST
Mercury	U	U	U	U	U	U			0.0007 ST
Nickel	U	U	U	U	U	U			0.1 ST
Potassium	1.48	1.61	2.17	2.23	6.29	6.84			--
Selenium	U	U	U	U	U	U			0.01 ST
Silver	U	U	U	U	U	U			0.050 ST
Sodium	112	108	4.92	6.5	136	148			20 ST
Thallium	U	U	U	U	U	U			0.0005 GV
Vanadium	U	U	U	U	0.005	U			--
Zinc	U	0.02	U	U	0.024	0.02			2 GV

Notes:

U: Constituent analyzed for but not detected.

-- : Criteria not established.

N/A : Not available. Well Inaccessible.

■: Concentration exceeds Class GA standard/guideline.

TABLE 3
LIRR
MORRIS PARK - FORMER PAINT STRIPPING BAY
RCRA SOIL SAMPLING PROJECT

Sample	Cracked Concrete? (Yes/No)	Concrete Thickness	Depth below Concrete	Soil Characteristics	Analytical Sampling Depth(s)	Sample Location (Lat/Long)
SS-01	Yes	4"	0-8"	Wooden Railroad tie, no creosote odor	0-6" and 6-12"	40.69688543 -73.82549924
			8-11"	Brown and black cinder, ash fill, no odor		
			11-19"	Moist, thick brown clay, no odor		
SS-02	Yes	7"	0-6"	Brown and black cinder, ash fill, no odor	0-6" and 1-1.5'	40.69691898 -73.8253771
			6-12"	Thick brown clay, no odor		
			1-1.5'	Thick brown clay, no odor		
SS-03	No	11"	0-1"	Brown and black cinder, ash fill, no odor	0-6"	40.69695658 -73.82527915
			1-6"	Thick brown clay, no odor		
SS-04	No	7"	0-2"	Brown and black cinder, ash fill, no odor	0-6" and 6-12"	40.69684317 -73.82542239
			2"-12"	Thick brown clay, moist, no odor		
SS-05	No	5"	0-3"	Brown and black cinder, ash fill, no odor	0-6" and 6-12"	40.69688314 -73.82530538
			3"- 3'	Thick brown clay, moist, no odor		
			3-4'	Brown clay with pebbles, drier/looser, no odor, refusal at 4'		
SS-06	Yes	7"	0-3"	Gravel, fill, heavy creosote/naphthalene odor	0-6", 6-12" and 2.5-3'	40.6967712 -73.82544186
			3-6"	Brown clay, moist, with slight naphthalene odor		
			6-12"	Brown clay, with slight naphthalene odor		
			12"-2.5'	Brown clay, with slight naphthalene odor		
			2.5'-3.5'	Brown clay, no odor, refusal at 3.5'		
SS-07	No	7"	0-3"	Brown and black cinder, ash fill, no odor	0-6" and 6-12"	40.6968084 -73.82531945
			3-12"	Thick brown clay, no odor		
SS-08	Yes	7"	0-6"	Brown and black cinder, ash fill, no odor	0-6" and 6-12"	40.69680612 -73.82525199
			6"-2'	Thick brown clay, no odor, refusal at 2'		

TABLE 4
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
SURFACE AND SUBSURFACE SOIL SAMPLING RESULTS

TAL METALS

SAMPLE ID DEPTH (in inches)	SS-01 0-6"	SS-01 0-12"	SS-02 0-6"	SS-02 12-18"	SS-03 0-6"	SS-04 0-6"	SS-04 6-12"	SS-05 0-6"	SS-05 6-12"	Unrestricted Use Soil Cleanup Objectives mg/kg	Restricted Use Criteria		
	5/2/13 mg/kg		Residential mg/kg	Commercial mg/kg	Industrial mg/kg								
Aluminum	20900	20700	11400	22300	22500	20300	21700	20900	23600	--	--	--	--
Antimony	U	U	U	U	U	U	U	U	U	--	--	--	--
Arsenic	U	U	U	U	U	U	U	U	U	13	16	16	16
Barium	58.8	54.4	47.9	33.6	72.4	50.7	59.6	117	65.8	350	350	400	10000
Beryllium	0.498	0.566	0.335	0.529	0.575	0.493	0.491	0.543	0.569	7.2	14	590	2700
Cadmium	3.01	3.19	1.83	3.04	3.43	2.94	2.82	3.46	3.56	2.5	2.5	9.3	60
Calcium	1530	961	1890	319	1300	1590	1420	1780	1740	--	--	--	--
Chromium (total)	6.16	6.5	3.45	4.45	7.09	8.3	6.52	3.29	3.1	1*	22*	400*	800*
Cobalt	19.8	11.2	6.93	7.22	6.6	10	5.37	9.22	9.27	--	--	--	--
Copper	14.3	11	11.3	9.56	9.35	11.4	6.84	23.9	13	50	270	270	10000
Iron	23900	22200	18100	28400	25700	24200	21200	35500	35800	--	--	--	--
Lead	12.8	11.5	30.7	9.02	15.9	38.6	9.19	141	16	63	400	1000	3900
Magnesium	2920	2450	1730	2980	2540	2960	2250	2840	3160	--	--	--	--
Manganese	355	224	358	137	375	273	120	232	411	1600	2000	10000	10000
Mercury	0.05	0.03	0.03	0.03	0.04	0.05	0.05	0.25	0.04	0.18	0.81	2.8	5.7
Nickel	13.3	14.1	11.1	14	13.3	14.7	11	14.9	17.1	30	140	310	10000
Potassium	1120	997	819	904	1140	1080	1000	1050	1200	--	--	--	--
Selenium	U	U	U	U	U	U	U	U	U	3.9	36	1500	6800
Silver	U	U	U	U	U	U	U	U	U	2	36	1500	6800
Sodium	90.9	141	64.5	51.1	111	82.8	60.6	71.3	73.2	--	--	--	--
Thallium	U	U	U	U	U	U	U	U	U	--	--	--	--
Vanadium	39	40.2	24	42.4	45.5	36.3	37.3	38.6	40.6	--	--	--	--
Zinc	34.8	33.9	40.7	31.7	32.5	35.4	26	73.3	33.2	109	2200	10000	10000

Notes:

 : Concentration exceeds Restricted - Residential Cleanup Criteria.

U : Constituent analyzed for but not detected.

-- : Criteria not established.

* : Criteria is listed for hexavalent chromium.

TABLE 4 (Continued)
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
SURFACE AND SUBSURFACE SOIL SAMPLING RESULTS

TAL METALS

SAMPLE ID DEPTH (in inches) DATE OF COLLECTION UNITS	SS-06 0-6"	SS-06 0-12"	SS-06 30-36"	SS-07 0-6"	SS-07 6-12"	SS-08 0-6"	SS-08 6-12"	Unrestricted Use Soil Cleanup Objectives mg/kg	Restricted Use Criteria		
	5/2/13 mg/kg		Residential mg/kg	Commercial mg/kg	Industrial mg/kg						
Aluminum	19900	24800	23700	15700	17200	1500	19100	--	--	--	--
Antimony	U	U	U	U	U	U	U	--	--	--	--
Arsenic	U	U	U	U	U	U	U	13	16	16	16
Barium	148	79	138	125	39.9	30.1	47.9	350	350	400	10000
Beryllium	0.338	0.63	0.914	0.415	0.446	U	0.569	7.2	14	590	2700
Cadmium	3.4	3.36	3.66	3.43	2.83	U	3.11	2.5	2.5	9.3	60
Calcium	1300	933	358	2170	898	1170	828	--	--	--	--
Chromium (total)	18.9	14.3	24.3	46.5	6.91	16.6	27	1*	22*	400*	800*
Cobalt	7.52	6.73	5.08	14.9	10.9	3.44	12.7	--	--	--	--
Copper	40.3	39.9	78.7	45.5	12.4	22.1	12.2	50	270	270	10000
Iron	23800	21200	27600	32400	28900	10500	27700	--	--	--	--
Lead	163	106	265	192	10.7	23.8	8.74	63	400	1000	3900
Magnesium	3040	2770	2390	2230	2700	166	2990	--	--	--	--
Manganese	116	104	193	448	411	22.5	210	1600	2000	10000	10000
Mercury	0.16	0.05	0.17	0.09	0.04	0.02	0.04	0.18	0.81	2.8	5.7
Nickel	15.2	14.8	14.6	16.8	15.9	6.14	19.5	30	140	310	10000
Potassium	1280	1260	1270	1090	884	236	932	--	--	--	--
Selenium	U	U	U	U	U	U	U	3.9	36	1500	6800
Silver	U	U	U	U	U	U	U	2	36	1500	6800
Sodium	95.9	85.1	60.2	105	53.9	46.1	63.9	--	--	--	--
Thallium	U	U	U	U	U	U	U	--	--	--	--
Vanadium	42.2	42.8	49.2	35.2	40.1	11.7	40.9	--	--	--	--
Zinc	209	71.9	140	98.1	33.2	10.3	76.2	109	2200	10000	10000

Notes:

 : Concentration exceeds Restricted - Residential Cleanup Criteria.

U : Constituent analyzed for but not detected.

-- : Criteria not established.

* : Criteria is listed for hexavalent chromium.

TABLE 5
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
SURFACE AND SUBSURFACE SOIL SAMPLING RESULTS

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID DEPTH (in inches) DATE OF COLLECTION UNITS	SS-06 0-6" 5/2/13 ug/kg	SS-06 0-12" 5/2/13 ug/kg	SS-06 30-36" 5/2/13 ug/kg	Unrestricted Use Soil Cleanup Objectives ug/kg	Restricted Use Criteria		
	Residential ug/kg	Commercial ug/kg	Industrial ug/kg				
Benzene	U	U	U	60	2900	4400	8900
Bromobenzene	U	U	U	--	--	--	--
Bromochloromethane	U	U	U	--	--	--	--
Bromodichloromethane	U	U	U	--	--	--	--
Bromoform	U	U	U	--	--	--	--
Bromomethane	U	U	U	--	--	--	--
sec-Butylbenzene	U	U	U	11000	100000	500000	1000000
n-Butylbenzene	U	U	U	12000	--	--	--
tert-Butylbenzene	U	U	U	5900	100000	500000	1000000
Carbon Tetrachloride	U	U	U	760	1400	2200	4400
Chlorobenzene	U	U	U	1100	100000	500000	1000000
Chloroethane	U	U	U	--	--	--	--
Chloroform	U	U	U	370	10000	350000	700000
Chloromethane	U	U	U	--	--	--	--
2-Chlorotoluene	U	U	U	--	--	--	--
4-Chlorotoluene	U	U	U	--	--	--	--
1,2-Dibromo-3-chloropropane	U	U	U	--	--	--	--
Dibromochloromethane	U	U	U	--	--	--	--
1,2-Dibromoethane	U	U	U	--	--	--	--
Dibromomethane	U	U	U	--	--	--	--
1,2-Dichlorobenzene	U	U	U	1100	100000	500000	1000000
1,3-Dichlorobenzene	U	U	U	2400	17000	280000	560000
1,4-Dichlorobenzene	U	U	U	1800	9800	130000	250000
Dichlorodifluoromethane	U	U	U	--	--	--	--
1,1-Dichloroethane	U	U	U	270	19000	240000	480000
1,2-Dichloroethane	U	U	U	20	2300	30000	60000
1,1-Dichloroethene	U	U	U	330	100000	500000	1000000
cis-1,2-Dichloroethene	U	U	U	250	59000	500000	1000000

Notes:

U: Constituent analyzed for but not detected.

-- : Criteria not established.

TABLE 5 (Continued)
LONG ISLAND RAIL ROAD
MORRIS PARK REPAIR FACILITY
FORMER PAINT STRIPPING BAY
SURFACE AND SUBSURFACE SOIL SAMPLING RESULTS

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID DEPTH (in inches) DATE OF COLLECTION UNITS	SS-06 0-6" ug/kg	SS-06 0-12" ug/kg	SS-06 30-36" ug/kg	Unrestricted Use Soil Cleanup Objectives ug/kg	Restricted Use Criteria		
	Residential ug/kg	Commercial ug/kg	Industrial ug/kg				
trans-1,2-Dichloroethene	U	U	U	190	100000	500000	1000000
1,3-Dichloropropane	U	U	U	--	--	--	--
2,2-Dichloropropane	U	U	U	--	--	--	--
1,2-Dichloropropane	U	U	U	--	--	--	--
trans-1,3-Dichloropropene	U	U	U	--	--	--	--
1,1-Dichloropropene	U	U	U	--	--	--	--
cis-1,3-Dichloropropene	U	U	U	--	--	--	--
Ethylbenzene	20.4	U	U	1000	30000	390000	780000
Hexachlorobutadiene	U	U	U	--	--	--	--
Isopropylbenzene	7.84	U	U	--	--	--	--
4-Isopropyltoluene	6.34	U	U	--	--	--	--
Methyl-tert-Butyl-Ether	U	U	U	930	62000	500000	1000000
Methylene Chloride	U	U	U	50	51000	500000	1000000
n-propylbenzene	5.95	U	U	3900	100000	500000	1000000
Styrene	U	U	U	--	--	--	--
1,1,2,2-Tetrachloroethane	U	U	U	--	--	--	--
1,1,1,2-Tetrachloroethane	U	U	U	--	--	--	--
Tetrachloroethene	U	U	2.99	1300	5500	150000	300000
Toluene	4.79	U	U	700	100000	500000	1000000
1,2,3-Trichlorobenzene	U	U	U	--	--	--	--
1,1,1-Trichloroethane	U	U	U	680	100000	500000	1000000
1,1,2-Trichloroethane	U	U	U	--	--	--	--
Trichloroethene	U	U	U	470	10000	200000	400000
Trichlorofluoromethane	U	U	U	--	--	--	--
1,2,3-Trichloropropane	U	U	U	--	--	--	--
1,2,4-Trimethylbenzene	94.6	3.96	U	3600	47000	190000	380000
1,3,5-Trimethylbenzene	2.67	U	U	8400	47000	190000	380000
Vinyl Chloride	U	U	U	20	210	13000	27000
o-Xylene	21.3	U	U	260*	100000	500000	1000000
m,p-Xylene	7.45	U	U	260*	100000	500000	1000000

Notes:

U: Constituent analyzed for but not detected.

-- : Criteria not established.

* : Criteria is for Total Xylene.

ATTACHMENT 3



59-01 Central Ave.
Farmingdale, NY 11735

Tel: (631) 414-7685
Fax: (631) 414-7688

December 19, 2012

Gloria Russo
Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis, NY 11423
RE: Morris Park Well Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 12/12/12 14:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Michael E. Miller".

Michael E. Miller, Ph.D.

Analytical Chemists Laboratory, LLC NY Lab ID #10950 NJ Lab ID #NY006 EPA Lab ID #NY01292



Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-20-50	1212088-01	Water	12/12/12 11:45	12/12/12 14:30
MW-GF-26	1212088-02	Water	12/12/12 11:00	12/12/12 14:30
MW-GF-20	1212088-03	Water	12/12/12 11:25	12/12/12 14:30
MW-11-60	1212088-04	Water	12/12/12 12:40	12/12/12 14:30
MW-21S	1212088-05	Water	12/12/12 12:00	12/12/12 14:30
MW-28S	1212088-06	Water	12/12/12 12:20	12/12/12 14:30

Analytical Chemists Laboratory, LLC.


Michael E. Miller, Ph.D.

All results are based on the sample As Received by the laboratory and no endorsement of the sample integrity prior to sample receipt is implied or given unless collected by laboratory employees. Report must be reproduced in its entirety.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-20-50
1212088-01 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	0.614	0.040	mg/L	JD	12/13/12 19:11	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.032	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	42.5	0.400	"	MEM	12/14/12 15:08	"
Chromium	ND	0.020	"	JD	12/13/12 19:11	"
Cobalt	ND	0.008	"	JD	"	"
Copper	0.004	0.004	"	JD	"	"
Iron	1.65	0.400	"	MEM	12/14/12 15:08	"
Lead	ND	0.040	"	JD	12/13/12 19:11	"
Magnesium	17.0	0.400	"	MEM	12/14/12 15:08	EPA 6010B
Manganese	0.029	0.004	"	JD	12/13/12 19:11	SW 6010B
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:40	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 19:11	SW 6010B
Potassium	1.21	0.400	"	MEM	12/14/12 15:08	"
Selenium	ND	0.020	"	JD	12/13/12 19:11	"
Silver	ND	0.020	"	JD	"	"
Sodium	38.5	1.00	"	MEM	12/14/12 15:08	"
Thallium	ND	0.040	"	JD	12/13/12 19:11	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	0.034	0.020	"	JD	"	"

Dissolved Metals

Aluminum	ND	0.040	mg/L	JD	12/13/12 16:23	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.026	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	43.2	0.400	"	MEM	12/14/12 14:37	"
Chromium	ND	0.020	"	JD	12/13/12 16:23	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	0.057	0.040	"	JD	"	"

Analytical Chemists Laboratory, LLC.

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Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-20-50
1212088-01 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	ND	0.040	mg/L	JD	12/13/12 16:23	SW 6010B	
Magnesium	17.2	0.400	"	MEM	12/14/12 14:37	"	QM-07
Manganese	0.009	0.004	"	JD	12/13/12 16:23	"	
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:29	SW 7470A	
Nickel	ND	0.010	mg/L	JD	12/13/12 16:23	SW 6010B	
Potassium	1.37	0.040	"	JD	"	"	
Selenium	ND	0.020	"	JD	"	"	
Silver	ND	0.020	"	JD	"	"	
Sodium	42.1	1.00	"	MEM	12/14/12 14:37	"	QM-07
Thallium	ND	0.040	"	JD	12/13/12 16:23	"	
Vanadium	ND	0.004	"	JD	"	"	
Zinc	0.024	0.020	"	JD	"	"	

Analytical Chemists Laboratory, LLC.

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Michael E. Miller
Michael E. Miller, Ph.D.

Long Island Rail Road
 93-59 183rd Street, HMC, MC 3024
 Hollis NY, 11423

Project: Morris Park Well Monitoring
 Project Number: [none]
 Project Manager: Gloria Russo

Reported:
 12/19/12 10:15

MW-GF-26
1212088-02 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
Analytical Chemists Laboratory, LLC.							
Total Metals							
Aluminum	0.553	0.040	mg/L	JD	12/13/12 19:18	SW 6010B	
Antimony	ND	0.040	"	JD	"	"	
Arsenic	ND	0.040	"	JD	"	"	
Barium	0.129	0.004	"	JD	"	"	
Beryllium	ND	0.004	"	JD	"	"	
Cadmium	ND	0.020	"	JD	"	"	
Calcium	76.0	0.400	"	MEM	12/14/12 15:15	"	
Chromium	ND	0.020	"	JD	12/13/12 19:18	"	
Cobalt	ND	0.008	"	JD	"	"	
Copper	0.004	0.004	"	JD	"	"	
Iron	1.87	0.400	"	MEM	12/14/12 15:15	"	
Lead	ND	0.040	"	JD	12/13/12 19:18	"	
Magnesium	31.5	0.400	"	MEM	12/14/12 15:15	EPA 6010B	
Manganese	0.084	0.004	"	JD	12/13/12 19:18	SW 6010B	
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:45	SW 7470A	
Nickel	ND	0.010	mg/L	JD	12/13/12 19:18	SW 6010B	
Potassium	22.6	0.400	"	MEM	12/14/12 15:15	"	
Selenium	ND	0.020	"	JD	12/13/12 19:18	"	
Silver	ND	0.020	"	JD	"	"	
Sodium	114	1.00	"	MEM	12/14/12 15:15	"	
Thallium	ND	0.040	"	JD	12/13/12 19:18	"	
Vanadium	ND	0.004	"	JD	"	"	
Zinc	0.036	0.020	"	JD	"	"	
Dissolved Metals							
Aluminum	ND	0.040	mg/L	JD	12/13/12 16:42	SW 6010B	
Antimony	ND	0.040	"	JD	"	"	
Arsenic	ND	0.040	"	JD	"	"	
Barium	0.115	0.004	"	JD	"	"	
Beryllium	ND	0.004	"	JD	"	"	
Cadmium	ND	0.020	"	JD	"	"	
Calcium	66.8	0.400	"	MEM	12/14/12 14:43	"	
Chromium	ND	0.020	"	JD	12/13/12 16:42	"	
Cobalt	ND	0.008	"	JD	"	"	
Copper	ND	0.004	"	JD	"	"	
Iron	0.105	0.040	"	JD	"	"	
Lead	ND	0.040	"	JD	"	"	

Analytical Chemists Laboratory, LLC.

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Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-GF-26
1212088-02 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Magnesium	27.6	0.400	mg/L	MEM	12/14/12 14:43	SW 6010B
Manganese	0.029	0.004	"	JD	12/13/12 16:42	"
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:31	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 16:42	SW 6010B
Potassium	20.3	0.040	"	JD	"	"
Selenium	ND	0.020	"	JD	"	"
Silver	ND	0.020	"	JD	"	"
Sodium	104	1.00	"	MEM	12/14/12 14:43	"
Thallium	ND	0.040	"	JD	12/13/12 16:42	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	0.033	0.020	"	JD	"	"

Analytical Chemists Laboratory, LLC.

Michael E. Miller
Michael E. Miller, Ph.D.

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Long Island Rail Road
 93-59 183rd Street, HMC, MC 3024
 Hollis NY, 11423

Project: Morris Park Well Monitoring
 Project Number: [none]
 Project Manager: Gloria Russo

Reported:
 12/19/12 10:15

MW-GF-20
1212088-03 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	10.6	0.040	mg/L	JD	12/13/12 19:24	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.141	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	30.2	0.400	"	MEM	12/14/12 15:21	"
Chromium	ND	0.020	"	JD	12/13/12 19:24	"
Cobalt	0.023	0.008	"	JD	"	"
Copper	0.038	0.004	"	JD	"	"
Iron	26.8	0.400	"	MEM	12/14/12 15:21	"
Lead	ND	0.040	"	JD	12/13/12 19:24	"
Magnesium	10.1	0.400	"	MEM	12/14/12 15:21	EPA 6010B
Manganese	1.14	0.004	"	JD	12/13/12 19:24	SW 6010B
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:47	SW 7470A
Nickel	0.032	0.010	mg/L	JD	12/13/12 19:24	SW 6010B
Potassium	5.15	0.400	"	MEM	12/14/12 15:21	"
Selenium	ND	0.020	"	JD	12/13/12 19:24	"
Silver	ND	0.020	"	JD	"	"
Sodium	52.1	1.00	"	MEM	12/14/12 15:21	"
Thallium	ND	0.040	"	JD	12/13/12 19:24	"
Vanadium	0.032	0.004	"	JD	"	"
Zinc	0.198	0.020	"	JD	"	"

Dissolved Metals

Aluminum	0.271	0.040	mg/L	JD	12/13/12 16:48	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.035	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	27.2	0.400	"	MEM	12/14/12 14:50	"
Chromium	ND	0.020	"	JD	12/13/12 16:48	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	0.590	0.040	"	JD	"	"
Lead	ND	0.040	"	JD	"	"

Analytical Chemists Laboratory, LLC.

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Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-GF-20 1212088-03 (Water)							
Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier

Analytical Chemists Laboratory, LLC.**Dissolved Metals**

Magnesium	6.94	0.400	mg/L	MEM	12/14/12 14:50	SW 6010B
Manganese	0.038	0.004	"	JD	12/13/12 16:48	"
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:33	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 16:48	SW 6010B
Potassium	3.41	0.040	"	JD	"	"
Selenium	ND	0.020	"	JD	"	"
Silver	ND	0.020	"	JD	"	"
Sodium	53.2	1.00	"	MEM	12/14/12 14:50	"
Thallium	ND	0.040	"	JD	12/13/12 16:48	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	0.020	0.020	"	JD	"	"

Analytical Chemists Laboratory, LLC.



Michael E. Miller, Ph.D.

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-11-60
1212088-04 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	0.148	0.040	mg/L	JD	12/13/12 19:30	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.048	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	78.1	0.400	"	MEM	12/14/12 15:27	"
Chromium	ND	0.020	"	JD	12/13/12 19:30	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	0.418	0.400	"	MEM	12/14/12 15:27	"
Lead	ND	0.040	"	JD	12/13/12 19:30	"
Magnesium	12.5	0.400	"	MEM	12/14/12 15:27	EPA 6010B
Manganese	0.012	0.004	"	JD	12/13/12 19:30	SW 6010B
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:48	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 19:30	SW 6010B
Potassium	1.48	0.400	"	MEM	12/14/12 15:27	"
Selenium	ND	0.020	"	JD	12/13/12 19:30	"
Silver	ND	0.020	"	JD	"	"
Sodium	112	1.00	"	MEM	12/14/12 15:27	"
Thallium	ND	0.040	"	JD	12/13/12 19:30	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	ND	0.020	"	JD	"	"

Dissolved Metals

Aluminum	ND	0.040	mg/L	JD	12/13/12 17:19	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.046	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	71.1	0.400	"	MEM	12/14/12 14:56	"
Chromium	ND	0.020	"	JD	12/13/12 17:19	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	ND	0.040	"	JD	"	"

Analytical Chemists Laboratory, LLC.

Michael E. Miller, Ph.D.

All results are based on the sample "As Received" by the laboratory and no endorsement of the sample integrity prior to sample receipt is implied or given unless collected by laboratory employees. Report must be reproduced in its entirety.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-11-60
1212088-04 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	ND	0.040	mg/L	JD	12/13/12 17:19	SW 6010B
Magnesium	11.7	0.400	"	MEM	12/14/12 14:56	"
Manganese	0.009	0.004	"	JD	12/13/12 17:19	"
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:35	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 17:19	SW 6010B
Potassium	1.61	0.040	"	JD	"	"
Selenium	ND	0.020	"	JD	"	"
Silver	ND	0.020	"	JD	"	"
Sodium	108	1.00	"	MEM	12/14/12 14:56	"
Thallium	ND	0.040	"	JD	12/13/12 17:19	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	0.020	0.020	"	JD	"	"

Analytical Chemists Laboratory, LLC.

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Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Holli NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-21S

1212088-05 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
Analytical Chemists Laboratory, LLC.							
Total Metals							
Aluminum	0.403	0.040	mg/L	JD	12/13/12 19:36	SW 6010B	
Antimony	ND	0.040	"	JD	"	"	
Arsenic	ND	0.040	"	JD	"	"	
Barium	0.006	0.004	"	JD	"	"	
Beryllium	ND	0.004	"	JD	"	"	
Cadmium	ND	0.020	"	JD	"	"	
Calcium	4.32	0.040	"	JD	"	"	
Chromium	ND	0.020	"	JD	"	"	
Cobalt	ND	0.008	"	JD	"	"	
Copper	ND	0.004	"	JD	"	"	
Iron	1.22	0.040	"	JD	"	"	
Lead	ND	0.040	"	JD	"	"	
Magnesium	2.30	0.040	"	JD	"	EPA 6010B	
Manganese	0.069	0.004	"	JD	"	SW 6010B	
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:50	SW 7470A	
Nickel	ND	0.010	mg/L	JD	12/13/12 19:36	SW 6010B	
Potassium	2.17	0.040	"	JD	"	"	
Selenium	ND	0.020	"	JD	"	"	
Silver	ND	0.020	"	JD	"	"	
Sodium	4.92	0.100	"	JD	"	"	
Thallium	ND	0.040	"	JD	"	"	
Vanadium	ND	0.004	"	JD	"	"	
Zinc	ND	0.020	"	JD	"	"	
Dissolved Metals							
Aluminum	ND	0.040	mg/L	JD	12/13/12 17:25	SW 6010B	
Antimony	ND	0.040	"	JD	"	"	
Arsenic	ND	0.040	"	JD	"	"	
Barium	ND	0.004	"	JD	"	"	
Beryllium	ND	0.004	"	JD	"	"	
Cadmium	ND	0.020	"	JD	"	"	
Calcium	2.94	0.040	"	JD	"	"	
Chromium	ND	0.020	"	JD	"	"	
Cobalt	ND	0.008	"	JD	"	"	
Copper	ND	0.004	"	JD	"	"	
Iron	0.050	0.040	"	JD	"	"	

Analytical Chemists Laboratory, LLC.

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of the sample integrity prior to sample receipt is implied or given unless collected by
laboratory employees. Report must be reproduced in its entirety.


Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12, 10:15

MW-21S
1212088-05 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	ND	0.040	mg/L	JD	12/13/12 17:25	SW 6010B
Magnesium	1.48	0.040	"	JD	"	"
Manganese	0.007	0.004	"	JD	"	"
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:36	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 17:25	SW 6010B
Potassium	2.23	0.040	"	JD	"	"
Selenium	ND	0.020	"	JD	"	"
Silver	ND	0.020	"	JD	"	"
Sodium	6.50	0.100	"	JD	"	"
Thallium	ND	0.040	"	JD	"	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	ND	0.020	"	JD	"	"

Analytical Chemists Laboratory, LLC.

Michael E. Miller
Michael E. Miller, Ph.D.

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Long Island Rail Road
 93-59 183rd Street, HMC, MC 3024
 Hollis NY, 11423

Project: Morris Park Well Monitoring
 Project Number: [none]
 Project Manager: Gloria Russo

Reported:
 12/19/12 10:15

MW-28S
1212088-06 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	1.76	0.040	mg/L	JD	12/13/12 19:43	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.066	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	29.5	0.400	"	MEM	12/14/12 15:33	"
Chromium	ND	0.020	"	JD	12/13/12 19:43	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	4.40	0.400	"	MEM	12/14/12 15:33	"
Lead	ND	0.040	"	JD	12/13/12 19:43	"
Magnesium	7.30	0.400	"	MEM	12/14/12 15:33	EPA 6010B
Manganese	0.396	0.004	"	JD	12/13/12 19:43	SW 6010B
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:52	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 19:43	SW 6010B
Potassium	6.29	0.400	"	MEM	12/14/12 15:33	"
Selenium	ND	0.020	"	JD	12/13/12 19:43	"
Silver	ND	0.020	"	JD	"	"
Sodium	136	1.00	"	MEM	12/14/12 15:33	"
Thallium	ND	0.040	"	JD	12/13/12 19:43	"
Vanadium	0.005	0.004	"	JD	"	"
Zinc	0.024	0.020	"	JD	"	"

Dissolved Metals

Aluminum	0.049	0.040	mg/L	JD	12/13/12 17:32	SW 6010B
Antimony	ND	0.040	"	JD	"	"
Arsenic	ND	0.040	"	JD	"	"
Barium	0.050	0.004	"	JD	"	"
Beryllium	ND	0.004	"	JD	"	"
Cadmium	ND	0.020	"	JD	"	"
Calcium	29.7	0.400	"	MEM	12/14/12 15:02	"
Chromium	ND	0.020	"	JD	12/13/12 17:32	"
Cobalt	ND	0.008	"	JD	"	"
Copper	ND	0.004	"	JD	"	"
Iron	0.151	0.040	"	JD	"	"
Lead	ND	0.040	"	JD	"	"

Analytical Chemists Laboratory, LLC.

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 Michael E. Miller, Ph.D.

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

MW-28S
1212088-06 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Magnesium	6.92	0.400	mg/L	MEM	12/14/12 15:02	SW 6010B
Manganese	0.108	0.004	"	JD	12/13/12 17:32	"
Mercury	ND	0.30	ug/L	MEM	12/18/12 14:38	SW 7470A
Nickel	ND	0.010	mg/L	JD	12/13/12 17:32	SW 6010B
Potassium	6.84	0.040	"	JD	"	"
Selenium	ND	0.020	"	JD	"	"
Silver	ND	0.020	"	JD	"	"
Sodium	148	1.00	"	MEM	12/14/12 15:02	"
Thallium	ND	0.040	"	JD	12/13/12 17:32	"
Vanadium	ND	0.004	"	JD	"	"
Zinc	0.020	0.020	"	JD	"	"

Analytical Chemists Laboratory, LLC.

Michael E. Miller

Michael E. Miller, Ph.D.

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
12/19/12 10:15

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- SM Standard Methods for the Examination of Water and Wastewater, 18th edition.
- EPA 40 Code of Federal Regulations, Part 136, October 26, 1984.
- SW SW 846 3rd Edition.
- LT Lachat Method Manual, "Methods List for Automated Ion Analyzers", February 2004.
- dry Sample results reported on a dry weight basis.
- ND Indicates analyte not detected at the listed reporting/detection limit.
- * Sample results reported to MDL, not MRL.

Analytical Chemists Laboratory, LLC.

Michael E. Miller
Michael E. Miller, Ph.D.

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of the sample integrity prior to sample receipt is implied or given unless collected by
laboratory employees. Report must be reproduced in its entirety.*



-01 Central Ave., Farmingdale, NY 11735
tel: (631) 414-7685 Fax: (631) 414-7688
info@achemilabs.com

www.acchemlabs.com

CHAIN OF CUSTODY RECORD

anelac

Page 16 of 19

Client: Long Island Rail Road	Report to: Gloris Russo
Address: 90-27 Sutphin Blvd, 3 rd Floor	ggrusso@lIRR.org
Jamaica, NY 11435	Results needed by: Standard TAT (Rush T/A only)
Tel: (718) 558-7821	Fax: (718) 526-5309

Laboratory Certification IDs: NYSDOH: 10950 NJDEP: NY006 EPA: NY01292

Area for Lab Use Only		Y	N	Work Order Number/Comments:			Notes (Including P.O. #):							
Was received intact?		<input checked="" type="checkbox"/>		T = 9/10 C										
Was properly preserved?		<input checked="" type="checkbox"/>												
Was ambient?		<input checked="" type="checkbox"/>												
Turnaround requested?		<input checked="" type="checkbox"/>					Matrix Code: 1-water; 2-soil; 3-sludge; 4-oil; 5-wipe; 6-other							
Sample Identification/ Description/Location	Containers		Sample Information			Matrix Code (see above)	Analysis Requested			NaOH + Ascorbic Acid	HNO ₃	H ₂ SO ₄	HCl	None/Other
	#	Type	Date	Time	Grab/ Composite									
MW-6-60	1	250mL Plastic Bottle	12/12/12	11:45	G	1	TAL Metals (Dissolved)							X
MW-20-50	1	250mL Plastic Bottle	12/12/12	11:45	G	1	TAL Metals (Dissolved)							X
MW-GF-26	1	250mL Plastic Bottle	12/12/12	11:00	G	1	TAL Metals (Dissolved)							X
MW-GF-20	1	250mL Plastic Bottle	12/12/12	11:25	G	1	TAL Metals (Dissolved)							X
MW-11-60	1	250mL Plastic Bottle	12/12/12	12:40	G	1	TAL Metals (Dissolved)							X
MW-21S	1	250mL Plastic Bottle	12/12/12	12:00	G	1	TAL Metals (Dissolved)							X
MW-28S	1	250mL Plastic Bottle	12/12/12	12:20	G	1	TAL Metals (Dissolved)							X

ED BY:
(NAME) Edward Domaradzki

**PROJECT NAME /
DESCRIPTION:** Morris Park Well Monitoring

**JISHED BY:
LIBE**

RECEIVED BY
(SIGNATURE)

DATE

卷之二

AM
PM

JISHED BY
LIBE)

RECEIVED BY
(SIGNATURE)

DATE

ME

AM
B.I.

JISHED BY
SABRE

RECEIVED BY LAW

DATA

卷之三

AM

CHAIN OF CUSTODY RECORD

nelc

Page 17 of 19



-01 Central Ave. Farmingdale, NY 11735
D: (631) 414-7685 Fax: (631) 414-7688
Info@achemlabs.com

www.achemlabs.com

Client: Long Island Rail Road Address: 90-27 Sutphin Blvd, 3 rd Floor Jamaica, NY 11435 Tel: (718) 558-7821		Report to: Gloris Russo ggrusso@lrr.org
Fax: (718) 526-5309		Results needed by: Standard TAT (Rush T/A only)

Laboratory Certification IDs: NYSDOH: 10950 NJDEP: NY006 EPA: NY01292

Area for Lab Use Only		Y	N	Work Order Number/Comments:		Notes (including P.O. #):		NaOH + Ascorbic Acid	HNO ₃	H ₂ SO ₄	HCl	None/Other					
Was received intact?	Was properly preserved?			12-410C													
Was ambient?																	
Turnaround requested?						Matrix Code: 1-water; 2-soil; 3-sludge; 4-oil; 5-w/pe; 6-other											
Sample Identification/ Description/Location		Containers		Sample Information		Matrix Code (see above)	Analysis Requested										
#	Type	Date	Time	Grab/ Composite													
MW-8-80	1	250mL Plastic Bottle	12/12/12	G	1	TAL Metals (Total))							X				
MW-20-50	1	250mL Plastic Bottle	12/12/12	11:45	G	1	TAL Metals (Total))	pH < 2 fit						X			
MW-GF-26	1	250mL Plastic Bottle	12/12/12	11:00	G	1	TAL Metals (Total))							X			
MW-GF-20	1	250mL Plastic Bottle	12/12/12	11:25	G	1	TAL Metals (Total))							X			
MW-11-60	1	250mL Plastic Bottle	12/12/12	12:40	G	1	TAL Metals (Total))							X			
MW-21S	1	250mL Plastic Bottle	12/12/12	17:00	G	1	TAL Metals (Total))							X			
MW-28S	1	250mL Plastic Bottle	12/12/12	17:20	G	1	TAL Metals (Total))							X			

RELEASER BY: (NAME)	Edward Domaradzki	PROJECT NAME / DESCRIPTION:	Morris Park Well Monitoring			
RECEIVED BY: (NAME)	RECEIVED BY: (SIGNATURE)			DATE:	TIME:	AM PM
RECEIVED BY: (NAME)	RECEIVED BY: (SIGNATURE)			DATE:	TIME:	AM PM
RECEIVED BY: (NAME)	RECEIVED BY LAB: (SIGNATURE)			DATE:	TIME:	AM PM
	<i>Edward Domaradzki</i>			12/12/12	14:30	AM PM



59-01 Central Avenue
Farmingdale, NY 11735
Tel. (631) 414-7685
Fax. (631) 414-7688

Long Island Rail Road

Sample Collection Trip Sheet

Name(s): Ed Domanadek Jr.

Date: 12/12/12

Location: Morris Park Yard/Jamaica

Leave Lab : 8:30 AM Arrive at Morris : 9:30 AM

Leave Morris : 12:45 PM Arrive at Jamaica: 12:55 PM

Leave Jamaica: 1:30 PM Arrive at Lab : 2:30 PM

Leave _____ : _____ Arrive at _____ :

Travel Time: _____ @ \$15.00/hr Total Travel \$ _____

Sr. Tech. Time: _____ @ \$30.00/hr Total Tech \$ _____

Tech. Time: _____ @ \$25.00/hr Total Tech \$ _____

How many Hand Bailers? 6


SOUTH MALL

ANALYTICAL LABS, INC.

26 NORTH MALL • PLAINVIEW, NY 11803
(516) 293-2191 • FAX (516) 293-3152

Field Measurement Record

Site Name: Jamaica - Sutphin & Archer

Date: *12/12/02*

Client Name: Long Island Rail Road

Well ID	<u>MW-1</u>
Depth to Water (ft.)	<u>23.47</u>
Well Depth (ft.)	<u>31.94</u>

Well ID	<u>MW-8</u>
Depth to Water (ft.)	<i>N/A</i>
Well Depth (ft.)	<i>N/A</i>

Well ID	<u>MW-2</u>
Depth to Water (ft.)	<u>22.63</u>
Well Depth (ft.)	<u>48.68</u>

Well ID	
Depth to Water (ft.)	
Well Depth (ft.)	

Well ID	<u>MW-4</u>
Depth to Water (ft.)	<u>44.82</u>
Well Depth (ft.)	<u>59.75</u>

Well ID	
Depth to Water (ft.)	
Well Depth (ft.)	

Well ID	<u>MW-6</u>
Depth to Water (ft.)	<i>N/A</i>
Well Depth (ft.)	<i>N/A</i>

Well ID	
Depth to Water (ft.)	
Well Depth (ft.)	

Well ID	<u>MW-7</u>
Depth to Water (ft.)	<u>23.5</u>
Well Depth (ft.)	<u>35.43</u>

Well ID	
Depth to Water (ft.)	
Well Depth (ft.)	



59-01 Central Ave.
Farmingdale, NY 11735

Tel: (631) 414-7685
Fax: (631) 414-7688

April 03, 2013

Gloria Russo
Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis, NY 11423

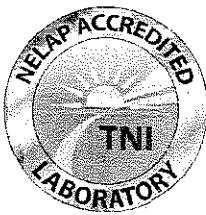
RE: Morris Park Well Monitoring

Enclosed are the results of analyses for samples received by the laboratory on 03/27/13 15:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Michael E. Miller, Ph.D.

Analytical Chemists Laboratory, LLC
NY Lab ID #10950 NJ Lab ID #NY006 PA Lab ID #PA-68-04671 EPA Lab ID #NY01292





59-01 Central Ave
Farmingdale, NY 11735
Tel: (631) 414-7688
Fax: (631) 414-7681

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-8-60	1303218-01	Water	03/27/13 11:40	03/27/13 15:30
MW-20-50	1303218-02	Water	03/27/13 12:50	03/27/13 15:30
MW-GF-26	1303218-03	Water	03/27/13 10:30	03/27/13 15:30
MW-11-60	1303218-05	Water	03/27/13 13:30	03/27/13 15:30
MW-21S	1303218-06	Water	03/27/13 14:00	03/27/13 15:30
MW-28S	1303218-07	Water	03/27/13 14:25	03/27/13 15:30

Analytical Chemists Laboratory, LLC.

Michael E. Miller, Ph.D.

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59-01 Central Ave
Farmingdale, NY 11735
Tel: (631) 414-7681
Fax: (631) 414-7681

Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-8-60

1303218-01 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
Analytical Chemists Laboratory, LLC.							
Total Metals							
Aluminum	<0.040	0.040	mg/L	JD	03/28/13 15:22	SW 6010B	
Antimony	<0.040	0.040	"	JD	"	"	
Arsenic	<0.040	0.040	"	JD	"	"	
Barium	0.018	0.004	"	JD	"	"	
Beryllium	<0.004	0.004	"	JD	"	"	
Cadmium	<0.020	0.020	"	JD	"	"	
Calcium	30.3	0.400	"	JD	03/28/13 18:09	"	QM-07
Chromium	<0.020	0.020	"	JD	03/28/13 15:22	"	
Cobalt	<0.008	0.008	"	JD	"	"	
Copper	<0.004	0.004	"	JD	"	"	
Iron	<0.040	0.040	"	JD	"	"	
Lead	<0.040	0.040	"	JD	"	"	
Magnesium	4.90	0.040	"	JD	"	EPA 6010B	
Manganese	0.006	0.004	"	JD	"	SW 6010B	
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:25	SW 7470A	
Nickel	<0.010	0.010	mg/L	JD	03/28/13 15:22	SW 6010B	
Potassium	2.64	0.040	"	JD	"	"	
Selenium	<0.020	0.020	"	JD	"	"	
Silver	<0.020	0.020	"	JD	"	"	
Sodium	35.9	1.00	"	JD	03/28/13 18:09	"	QM-07
Thallium	<0.040	0.040	"	JD	03/28/13 15:22	"	
Vanadium	<0.004	0.004	"	JD	"	"	
Zinc	<0.020	0.020	"	JD	"	"	
Dissolved Metals							
Aluminum	<0.040	0.040	mg/L	JD	03/28/13 16:55	SW 6010B	
Antimony	<0.040	0.040	"	JD	"	"	
Arsenic	<0.040	0.040	"	JD	"	"	
Barium	0.016	0.004	"	JD	"	"	
Beryllium	<0.004	0.004	"	JD	"	"	
Cadmium	<0.020	0.020	"	JD	"	"	
Calcium	30.2	0.400	"	JD	03/28/13 18:41	"	QM-07
Chromium	<0.020	0.020	"	JD	03/28/13 16:55	"	
Cobalt	<0.008	0.008	"	JD	"	"	
Copper	0.005	0.004	"	JD	"	"	
Iron	<0.040	0.040	"	JD	"	"	

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-8-60
1303218-01 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	<0.040	0.040	mg/L	JD	03/28/13 16:55	SW 6010B	
Magnesium	4.47	0.040	"	JD	"	"	
Manganese	0.012	0.004	"	JD	"	"	
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:43	SW 7470A	
Nickel	<0.010	0.010	mg/L	JD	03/28/13 16:55	SW 6010B	
Potassium	2.73	0.040	"	JD	"	"	
Selenium	<0.020	0.020	"	JD	"	"	
Silver	<0.020	0.020	"	JD	"	"	
Sodium	44.5	1.00	"	JD	03/28/13 18:41	"	QM-07
Thallium	<0.040	0.040	"	JD	03/28/13 16:55	"	
Vanadium	<0.004	0.004	"	JD	"	"	
Zinc	<0.020	0.020	"	JD	"	"	

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-20-50
1303218-02 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	<0.040	0.040	mg/L	JD	03/28/13 15:40	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.020	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	31.4	0.400	"	JD	03/28/13 18:16	"
Chromium	<0.020	0.020	"	JD	03/28/13 15:40	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	0.046	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"
Magnesium	10.9	0.040	"	JD	"	EPA 6010B
Manganese	0.004	0.004	"	JD	"	SW 6010B
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:31	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 15:40	SW 6010B
Potassium	1.06	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	38.2	1.00	"	JD	03/28/13 18:16	"
Thallium	<0.040	0.040	"	JD	03/28/13 15:40	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

Dissolved Metals

Aluminum	<0.040	0.040	mg/L	JD	03/28/13 17:13	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.019	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	28.8	0.400	"	JD	03/28/13 18:47	"
Chromium	<0.020	0.020	"	JD	03/28/13 17:13	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	<0.040	0.040	"	JD	"	"

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-20-50
1303218-02 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	<0.040	0.040	mg/L	JD	03/28/13 17:13	SW 6010B
Magnesium	10.1	0.040	"	JD	"	"
Manganese	0.007	0.004	"	JD	"	"
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:45	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 17:13	SW 6010B
Potassium	1.11	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	39.6	1.00	"	JD	03/28/13 18:47	"
Thallium	<0.040	0.040	"	JD	03/28/13 17:13	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

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Long Island Rail Road
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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-GF-26
1303218-03 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	5.54	0.040	mg/L	JD	03/28/13 15:47	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.191	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	65.8	2.00	"	JD	03/28/13 18:22	"
Chromium	0.073	0.020	"	JD	03/28/13 15:47	"
Cobalt	0.016	0.008	"	JD	"	"
Copper	0.022	0.004	"	JD	"	"
Iron	15.2	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"
Magnesium	28.4	2.00	"	JD	03/28/13 18:22	EPA 6010B
Manganese	0.850	0.004	"	JD	03/28/13 15:47	SW 6010B
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:33	SW 7470A
Nickel	0.066	0.010	mg/L	JD	03/28/13 15:47	SW 6010B
Potassium	17.7	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	<0.100	0.100	"	JD	"	"
Thallium	<0.040	0.040	"	JD	"	"
Vanadium	0.016	0.004	"	JD	"	"
Zinc	0.032	0.020	"	JD	"	"

Dissolved Metals

Aluminum	<0.040	0.040	mg/L	JD	03/28/13 17:20	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.126	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	64.2	2.00	"	JD	03/28/13 18:53	"
Chromium	<0.020	0.020	"	JD	03/28/13 17:20	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	0.068	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-GF-26
1303218-03 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Magnesium	27.0	2.00	mg/L	JD	03/28/13 18:53	SW 6010B
Manganese	0.016	0.004	"	JD	03/28/13 17:20	"
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:47	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 17:20	SW 6010B
Potassium	17.4	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	97.8	5.00	"	JD	03/28/13 18:53	"
Thallium	<0.040	0.040	"	JD	03/28/13 17:20	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-11-60
1303218-05 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	0.049	0.040	mg/L	JD	03/28/13 15:53	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.014	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	18.1	0.040	"	JD	"	"
Chromium	<0.020	0.020	"	JD	"	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	0.094	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"
Magnesium	2.68	0.040	"	JD	"	EPA 6010B
Manganese	0.004	0.004	"	JD	"	SW 6010B
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:34	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 15:53	SW 6010B
Potassium	1.07	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	46.8	1.00	"	JD	03/28/13 18:28	"
Thallium	<0.040	0.040	"	JD	03/28/13 15:53	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

Dissolved Metals

Aluminum	<0.040	0.040	mg/L	JD	03/28/13 17:26	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.013	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	16.3	0.040	"	JD	"	"
Chromium	<0.020	0.020	"	JD	"	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	<0.040	0.040	"	JD	"	"

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-11-60
1303218-05 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Lead	<0.040	0.040	mg/L	JD	03/28/13 17:26	SW 6010B
Magnesium	2.51	0.040	"	JD	"	"
Manganese	0.007	0.004	"	JD	"	"
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:49	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 17:26	SW 6010B
Potassium	1.12	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	54.0	1.00	"	JD	03/28/13 18:59	"
Thallium	<0.040	0.040	"	JD	03/28/13 17:26	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

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Long Island Rail Road
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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-21S
1303218-06 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

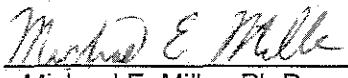
Total Metals

Aluminum	3.74	0.040	mg/L	JD	03/28/13 15:59	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.030	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	10.0	0.040	"	JD	"	"
Chromium	<0.020	0.020	"	JD	"	"
Cobalt	0.009	0.008	"	JD	"	"
Copper	0.010	0.004	"	JD	"	"
Iron	9.94	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"
Magnesium	4.78	0.040	"	JD	"	EPA 6010B
Manganese	0.596	0.004	"	JD	"	SW 6010B
Mercury	0.83	0.30	ug/L	MEM	03/29/13 11:36	SW 7470A
Nickel	0.010	0.010	mg/L	JD	03/28/13 15:59	SW 6010B
Potassium	1.59	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	7.32	0.100	"	JD	"	"
Thallium	<0.040	0.040	"	JD	"	"
Vanadium	0.012	0.004	"	JD	"	"
Zinc	0.021	0.020	"	JD	"	"

Dissolved Metals

Aluminum	0.070	0.040	mg/L	JD	03/28/13 17:32	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.006	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	7.36	0.040	"	JD	"	"
Chromium	<0.020	0.020	"	JD	"	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	0.202	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-21S

1303218-06 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Magnesium	3.09	0.040	mg/L	JD	03/28/13 17:32	SW 6010B
Manganese	0.017	0.004	"	JD	"	"
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:51	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 17:32	SW 6010B
Potassium	1.02	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	8.36	0.100	"	JD	"	"
Thallium	<0.040	0.040	"	JD	"	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-28S

1303218-07 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	1.18	0.040	mg/L	JD	03/28/13 16:05	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.039	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	20.3	0.400	"	JD	03/28/13 18:34	"
Chromium	<0.020	0.020	"	JD	03/28/13 16:05	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	0.004	0.004	"	JD	"	"
Iron	2.79	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"
Magnesium	5.30	0.040	"	JD	"	EPA 6010B
Manganese	0.575	0.004	"	JD	"	SW 6010B
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:38	SW 7470A
Nickel	0.012	0.010	mg/L	JD	03/28/13 16:05	SW 6010B
Potassium	4.79	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	34.3	1.00	"	JD	03/28/13 18:34	"
Thallium	<0.040	0.040	"	JD	03/28/13 16:05	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	0.023	0.020	"	JD	"	"

Dissolved Metals

Aluminum	<0.040	0.040	mg/L	JD	03/28/13 17:38	SW 6010B
Antimony	<0.040	0.040	"	JD	"	"
Arsenic	<0.040	0.040	"	JD	"	"
Barium	0.028	0.004	"	JD	"	"
Beryllium	<0.004	0.004	"	JD	"	"
Cadmium	<0.020	0.020	"	JD	"	"
Calcium	19.0	0.040	"	JD	"	"
Chromium	<0.020	0.020	"	JD	"	"
Cobalt	<0.008	0.008	"	JD	"	"
Copper	<0.004	0.004	"	JD	"	"
Iron	0.052	0.040	"	JD	"	"
Lead	<0.040	0.040	"	JD	"	"

Analytical Chemists Laboratory, LLC.

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

MW-28S
1303218-07 (Water)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Dissolved Metals

Magnesium	4.94	0.040	mg/L	JD	03/28/13 17:38	SW 6010B
Manganese	0.367	0.004	"	JD	"	"
Mercury	<0.30	0.30	ug/L	MEM	03/29/13 11:53	SW 7470A
Nickel	<0.010	0.010	mg/L	JD	03/28/13 17:38	SW 6010B
Potassium	4.81	0.040	"	JD	"	"
Selenium	<0.020	0.020	"	JD	"	"
Silver	<0.020	0.020	"	JD	"	"
Sodium	37.4	1.00	"	JD	03/28/13 19:06	"
Thallium	<0.040	0.040	"	JD	03/28/13 17:38	"
Vanadium	<0.004	0.004	"	JD	"	"
Zinc	<0.020	0.020	"	JD	"	"

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Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Total Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch P303251 - Acid Digestion - Waters SW 3005

Blank (P303251-BLK1)	Prepared & Analyzed: 03/28/13						
Aluminum	ND	0.040	mg/L				
Antimony	ND	0.040	"				
Arsenic	ND	0.040	"				
Barium	ND	0.004	"				
Beryllium	ND	0.004	"				
Cadmium	ND	0.020	"				
Calcium	ND	0.040	"				
Chromium	ND	0.020	"				
Cobalt	ND	0.008	"				
Copper	ND	0.004	"				
Iron	ND	0.040	"				
Lead	ND	0.040	"				
Magnesium	ND	0.040	"				
Manganese	ND	0.004	"				
Nickel	ND	0.010	"				
Potassium	ND	0.040	"				
Selenium	ND	0.020	"				
Silver	ND	0.020	"				
Sodium	ND	0.100	"				
Thallium	ND	0.040	"				
Vanadium	ND	0.004	"				
Zinc	ND	0.020	"				

LCS (P303251-BS1)	Prepared & Analyzed: 03/28/13						
Aluminum	1.10	0.040	mg/L	1.00	110	80-120	
Antimony	1.16	0.040	"	0.996	116	80-120	
Arsenic	1.12	0.040	"	1.00	112	80-120	
Barium	1.15	0.004	"	0.999	115	80-120	
Beryllium	1.08	0.004	"	1.00	108	80-120	
Cadmium	1.09	0.020	"	1.00	109	80-120	
Calcium	1.07	0.040	"	1.00	107	80-120	
Chromium	1.08	0.020	"	0.999	108	80-120	
Cobalt	1.09	0.008	"	1.00	109	80-120	
Copper	1.09	0.004	"	1.00	109	80-120	
Iron	1.08	0.040	"	0.999	108	80-120	
Lead	1.14	0.040	"	1.00	114	80-120	
Magnesium	1.11	0.040	"	0.998	111	80-120	
Manganese	1.11	0.004	"	1.02	109	80-120	
Nickel	1.08	0.010	"	1.01	107	80-120	
Potassium	11.8	0.040	"	9.99	118	80-120	

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Total Metals - Quality Control

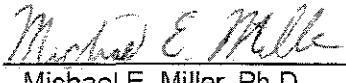
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch P303251 - Acid Digestion - Waters SW 3005

LCS (P303251-BS1)		Prepared & Analyzed: 03/28/13							
Selenium	1.12	0.020	mg/L	1.00	112	80-120			
Silver	1.05	0.020	"	1.00	105	80-120			
Sodium	1.09	0.100	"	1.01	108	80-120			
Thallium	1.13	0.040	"	1.01	112	80-120			
Vanadium	1.17	0.004	"	0.999	117	80-120			
Zinc	1.15	0.020	"	1.00	115	80-120			
Matrix Spike (P303251-MS1)		Source: 1303218-01 Prepared & Analyzed: 03/28/13							
Aluminum	1.07	0.040	mg/L	1.00	ND	107	75-125		
Antimony	1.16	0.040	"	0.996	0.0159	115	75-125		
Arsenic	1.15	0.040	"	1.00	ND	115	75-125		
Barium	1.18	0.004	"	0.999	0.0175	116	75-125		
Beryllium	1.08	0.004	"	1.00	ND	108	75-125		
Cadmium	1.10	0.020	"	1.00	ND	110	75-125		
Calcium	30.0	0.040	"	1.00	30.3	NR	75-125		QM-07
Chromium	1.09	0.020	"	0.999	ND	109	75-125		
Cobalt	1.10	0.008	"	1.00	ND	110	75-125		
Copper	1.12	0.004	"	1.00	ND	112	75-125		
Iron	1.13	0.040	"	0.999	ND	114	75-125		
Lead	1.14	0.040	"	1.00	ND	114	75-125		
Magnesium	5.98	0.040	"	0.998	4.90	108	75-125		
Manganese	1.13	0.004	"	1.02	0.00600	110	75-125		
Nickel	1.09	0.010	"	1.01	ND	108	75-125		
Potassium	15.0	0.040	"	9.99	2.64	123	75-125		
Selenium	1.13	0.020	"	1.00	ND	113	75-125		
Silver	1.06	0.020	"	1.00	ND	106	75-125		
Iodine	35.3	0.100	"	1.01	35.9	NR	75-125		
Thallium	1.13	0.040	"	1.01	ND	112	75-125		
Vanadium	1.18	0.004	"	0.999	ND	118	75-125		
Zinc	1.17	0.020	"	1.00	0.00840	116	75-125		

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Total Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Limit Notes
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Batch P303251 - Acid Digestion - Waters SW 3005

Matrix Spike Dup (P303251-MSD1)	Source: 1303218-01			Prepared & Analyzed: 03/28/13					
Aluminum	1.05	0.040	mg/L	1.00	ND	105	75-125	2.45	20
Antimony	1.13	0.040	"	0.996	0.0159	112	75-125	2.70	20
Arsenic	1.11	0.040	"	1.00	ND	111	75-125	3.01	20
Barium	1.16	0.004	"	0.999	0.0175	114	75-125	1.54	20
Beryllium	1.06	0.004	"	1.00	ND	106	75-125	1.95	20
Cadmium	1.07	0.020	"	1.00	ND	107	75-125	2.40	20
Calcium	29.4	0.040	"	1.00	30.3	NR	75-125	1.85	20
Chromium	1.08	0.020	"	0.999	ND	108	75-125	1.11	20
Cobalt	1.07	0.008	"	1.00	ND	107	75-125	2.31	20
Copper	1.09	0.004	"	1.00	ND	109	75-125	2.63	20
Iron	1.09	0.040	"	0.999	ND	109	75-125	3.96	25
Lead	1.11	0.040	"	1.00	ND	111	75-125	2.74	20
Magnesium	5.88	0.040	"	0.998	4.90	98.3	75-125	1.69	25
Manganese	1.10	0.004	"	1.02	0.00600	107	75-125	2.60	25
Nickel	1.06	0.010	"	1.01	ND	105	75-125	2.59	25
Potassium	14.7	0.040	"	9.99	2.64	121	75-125	1.62	25
Selenium	1.11	0.020	"	1.00	ND	111	75-125	1.70	25
Silver	1.04	0.020	"	1.00	ND	104	75-125	2.19	25
Sodium	34.5	0.100	"	1.01	35.9	NR	75-125	2.41	25
Thallium	1.10	0.040	"	1.01	ND	109	75-125	2.33	20
Vanadium	1.15	0.004	"	0.999	ND	115	75-125	2.66	25
Zinc	1.15	0.020	"	1.00	0.00840	114	75-125	1.90	25

Batch P303263 - TCLP Mercury Digestion SW 7470

Blank (P303263-BLK1)	Prepared & Analyzed: 03/29/13					
Mercury	ND	0.30	ug/L			

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Total Metals - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch P303263 - TCLP Mercury Digestion SW 7470										
LCS (P303263-BS1)										
Mercury	1.79	0.30	ug/L	2.00		89.5	80-120			
Matrix Spike (P303263-MS1)										
Mercury	1.66	0.30	ug/L	2.00	ND	83.0	75-125			
Matrix Spike Dup (P303263-MSD1)										
Mercury	1.66	0.30	ug/L	2.00	ND	82.8	75-125	0.241	20	

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Dissolved Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch P303252 - Acid Digestion - Waters SW 3005

Blank (P303252-BLK1)	Prepared & Analyzed: 03/28/13						
Aluminum	ND	0.040	mg/L				
Antimony	ND	0.040	"				
Arsenic	ND	0.040	"				
Barium	ND	0.004	"				
Beryllium	ND	0.004	"				
Cadmium	ND	0.020	"				
Calcium	ND	0.040	"				
Chromium	ND	0.020	"				
Cobalt	ND	0.008	"				
Copper	ND	0.004	"				
Iron	ND	0.040	"				
Lead	ND	0.040	"				
Magnesium	ND	0.040	"				
Manganese	ND	0.004	"				
Nickel	ND	0.010	"				
Potassium	ND	0.040	"				
Selenium	ND	0.020	"				
Silver	ND	0.020	"				
Sodium	ND	0.100	"				
Thallium	ND	0.040	"				
Vanadium	ND	0.004	"				
Zinc	ND	0.020	"				

LCS (P303252-BS1)	Prepared & Analyzed: 03/28/13						
Aluminum	1.10	0.040	mg/L	1.00	110	80-120	
Antimony	1.14	0.040	"	0.996	114	80-120	
Arsenic	1.12	0.040	"	1.00	112	80-120	
Barium	1.14	0.004	"	0.999	114	80-120	
Beryllium	1.07	0.004	"	1.00	107	80-120	
Cadmium	1.08	0.020	"	1.00	108	80-120	
Calcium	1.06	0.040	"	1.00	106	80-120	
Chromium	1.07	0.020	"	0.999	107	80-120	
Cobalt	1.08	0.008	"	1.00	108	80-120	
Copper	1.08	0.004	"	1.00	108	80-120	
Iron	1.08	0.040	"	0.999	108	80-120	
Lead	1.14	0.040	"	1.00	114	80-120	
Magnesium	1.10	0.040	"	0.998	111	80-120	
Manganese	1.11	0.004	"	1.02	108	80-120	
Nickel	1.08	0.010	"	1.01	107	80-120	
Potassium	11.8	0.040	"	9.99	118	80-120	

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Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

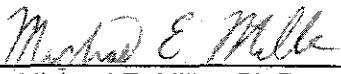
Dissolved Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P303252 - Acid Digestion - Waters SW 3005

LCS (P303252-BS1)	Prepared & Analyzed: 03/28/13								
Selenium	1.13	0.020	mg/L	1.00	113	80-120			
Silver	1.04	0.020	"	1.00	104	80-120			
Sodium	1.08	0.100	"	1.01	107	80-120			
Thallium	1.12	0.040	"	1.01	111	80-120			
Titanium	1.16	0.004	"	0.999	116	80-120			
Zinc	1.14	0.020	"	1.00	114	80-120			
Matrix Spike (P303252-MS1)	Source: 1303218-01			Prepared & Analyzed: 03/28/13					
Aluminum	1.05	0.040	mg/L	1.00	ND	105	75-125		
Antimony	1.14	0.040	"	0.996	0.0168	112	75-125		
Arsenic	1.10	0.040	"	1.00	ND	110	75-125		
Barium	1.14	0.004	"	0.999	0.0164	113	75-125		
Beryllium	1.06	0.004	"	1.00	ND	106	75-125		
Cadmium	1.08	0.020	"	1.00	ND	108	75-125		
Calcium	26.8	0.040	"	1.00	30.2	NR	75-125		QM-07
Chromium	1.06	0.020	"	0.999	ND	107	75-125		
Cobalt	1.07	0.008	"	1.00	ND	107	75-125		
Copper	1.08	0.004	"	1.00	0.00470	108	75-125		
Iron	1.08	0.040	"	0.999	ND	108	75-125		
Lead	1.12	0.040	"	1.00	ND	112	75-125		
Magnesium	5.58	0.040	"	0.998	4.47	111	75-125		
Manganese	1.10	0.004	"	1.02	0.0120	107	75-125		
Nickel	1.07	0.010	"	1.01	0.00190	106	75-125		
Potassium	14.7	0.040	"	9.99	2.73	120	75-125		
Rhenium	1.11	0.020	"	1.00	ND	111	75-125		
Silver	1.02	0.020	"	1.00	ND	102	75-125		
Sodium	35.3	0.100	"	1.01	44.5	NR	75-125		QM-07
Thallium	1.10	0.040	"	1.01	ND	109	75-125		
Titanium	1.14	0.004	"	0.999	ND	115	75-125		
Zinc	1.14	0.020	"	1.00	0.00920	113	75-125		

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Dissolved Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P303252 - Acid Digestion - Waters SW 3005

Matrix Spike Dup (P303252-MSD1)	Source: 1303218-01			Prepared & Analyzed: 03/28/13						
Aluminum	1.06	0.040	mg/L	1.00	ND	106	75-125	0.665	20	
Antimony	1.16	0.040	"	0.996	0.0168	114	75-125	1.74	20	
Arsenic	1.14	0.040	"	1.00	ND	114	75-125	2.86	20	
Barium	1.16	0.004	"	0.999	0.0164	114	75-125	1.39	20	
Beryllium	1.08	0.004	"	1.00	ND	108	75-125	2.16	20	
Cadmium	1.09	0.020	"	1.00	ND	109	75-125	1.02	20	
Calcium	27.1	0.040	"	1.00	30.2	NR	75-125	0.965	20	QM-01
Chromium	1.08	0.020	"	0.999	ND	108	75-125	1.49	20	
Cobalt	1.09	0.008	"	1.00	ND	109	75-125	1.76	20	
Copper	1.10	0.004	"	1.00	0.00470	110	75-125	2.01	20	
Iron	1.10	0.040	"	0.999	ND	110	75-125	1.38	25	
Lead	1.13	0.040	"	1.00	ND	113	75-125	1.16	25	
Magnesium	5.68	0.040	"	0.998	4.47	121	75-125	1.78	25	
Manganese	1.12	0.004	"	1.02	0.0120	109	75-125	1.71	25	
Nickel	1.08	0.010	"	1.01	0.00190	107	75-125	0.929	25	
Potassium	14.9	0.040	"	9.99	2.73	122	75-125	0.945	25	
Selenium	1.13	0.020	"	1.00	ND	113	75-125	1.87	25	
Silver	1.05	0.020	"	1.00	ND	105	75-125	3.20	25	
Sodium	35.9	0.100	"	1.01	44.5	NR	75-125	1.52	25	QM-01
Thallium	1.12	0.040	"	1.01	ND	111	75-125	1.26	20	
Vanadium	1.17	0.004	"	0.999	ND	117	75-125	2.07	25	
Zinc	1.17	0.020	"	1.00	0.00920	116	75-125	2.34	25	

Batch P303263 - TCLP Mercury Digestion SW 7470

Blank (P303263-BLK1)	Prepared & Analyzed: 03/29/13		
Mercury	ND	0.30	ug/L

Analytical Chemists Laboratory, LLC.

Michael E. Miller, Ph.D.

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Long Island Rail Road
93-59 183rd Street, HMC, MC 3024
Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Dissolved Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-------

Batch P303263 - TCLP Mercury Digestion SW 7470

LCS (P303263-BS1)							Prepared & Analyzed: 03/29/13			
Mercury	1.79	0.30	ug/L	2.00		89.5	80-120			
Matrix Spike (P303263-MS1)							Source: 1303218-01 Prepared & Analyzed: 03/29/13			
Mercury	1.66	0.30	ug/L	2.00	ND	83.0	75-125			
Matrix Spike Dup (P303263-MSD1)							Source: 1303218-01 Prepared & Analyzed: 03/29/13			
Mercury	1.66	0.30	ug/L	2.00	ND	82.8	75-125	0.241	20	

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Hollis NY, 11423

Project: Morris Park Well Monitoring
Project Number: [none]
Project Manager: Gloria Russo

Reported:
04/03/13 09:56

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- SM Standard Methods for the Examination of Water and Wastewater, 18th edition.
- EPA 40 Code of Federal Regulations, Part 136, October 26, 1984.
- SW SW 846 3rd Edition.
- LT Lachat Method Manual, "Methods List for Automated Ion Analyzers", February 2004.
- ND Indicates analyte not detected at the listed reporting/detection limit.
- dry Sample results reported on a dry weight basis.

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info@achemlabs.com

CHAIN OF CUSTODY RECORD

helia

Page 24 of 24

Client: Long Island Rail Road	Report to: Gloris Russo
Address: 90-27 Sutphin Blvd, 3 rd Floor	ggrusso@lIRR.org
Jamaica, NY 11435	Results needed by: Standard TAT (Rush T/A only)
Tel: (718) 558-7821	Fax: (718) 526-5309

www.achemlabs.com

Laboratory Certification IDs:

NYSDOH: 10950

NJDEP: NY006

EPA: NY01292

1303218

COLLECTED BY: (PRINT NAME) Edward Domaradzki	PROJECT NAME / DESCRIPTION: Morris Park Well Monitoring	1303218		
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	PM		
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY: (SIGNATURE)	DATE	TIME:	AM PM
RELINQUISHED BY: (SIGNATURE)	RECEIVED BY LAB: (SIGNATURE)	DATE	TIME:	AM PM



59-01 Central Ave.
Farmingdale, NY 11735

Tel: (631) 414-7685
Fax: (631) 414-7688

May 09, 2013

Albert Albano
Long Island Rail Road
90-27 Sutphin Blvd, 3rd Floor
Jamaica, NY 11435-0335

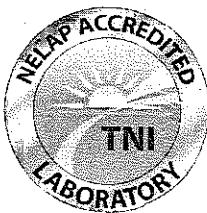
RE: LIRR Morris Park RCRA Closure

Enclosed are the results of analyses for samples received by the laboratory on 05/03/13 14:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Michael E. Miller, Ph.D.

Analytical Chemists Laboratory, LLC
NY Lab ID #10950 NJ Lab ID #NY006 PA Lab ID #PA-68-04671 EPA Lab ID #NY01292





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Tel: (631) 414-7681
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90-27 Sutphin Blvd, 3rd Floor
Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-07 (0-6")	1305047-01	Soil	05/02/13 10:30	05/03/13 14:15
SS-07 (6-12")	1305047-02	Soil	05/02/13 10:35	05/03/13 14:15
SS-06 (0-6")	1305047-03	Soil	05/02/13 11:00	05/03/13 14:15
SS-06 (6-12")	1305047-04	Soil	05/02/13 11:05	05/03/13 14:15
SS-06 (2.5-3')	1305047-05	Soil	05/02/13 11:10	05/03/13 14:15
SS-08 (0-6")	1305047-06	Soil	05/02/13 11:30	05/03/13 14:15
SS-08 (6-12")	1305047-07	Soil	05/02/13 11:35	05/03/13 14:15
SS-05 (0-6")	1305047-08	Soil	05/02/13 13:30	05/03/13 14:15
SS-05 (6-12")	1305047-09	Soil	05/02/13 13:35	05/03/13 14:15
SS-03 (0-6")	1305047-10	Soil	05/02/13 13:45	05/03/13 14:15
SS-01 (0-6")	1305047-11	Soil	05/02/13 14:30	05/03/13 14:15
SS-01 (6-12")	1305047-12	Soil	05/02/13 14:35	05/03/13 14:15
SS-04 (0-6")	1305047-13	Soil	05/02/13 14:45	05/03/13 14:15
SS-04 (6-12")	1305047-14	Soil	05/02/13 14:50	05/03/13 14:15
SS-02 (0-6")	1305047-15	Soil	05/02/13 14:00	05/03/13 14:15
SS-02 (1-1.5')	1305047-16	Soil	05/02/13 14:10	05/03/13 14:15

Analytical Chemists Laboratory, LLC.


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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-07 (0-6")
1305047-01 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	15700	102	mg/kg dry	MEM	05/06/13 16:10	SW 6010B	QM-07
Antimony	<2.05	2.05	"	MEM	05/06/13 13:51	"	QM-07
Arsenic	<2.05	2.05	"	MEM	"	"	QM-07
Barium	125	10.2	"	MEM	05/06/13 16:10	"	QM-07
Beryllium	0.415	0.205	"	MEM	05/06/13 13:51	"	
Cadmium	3.43	1.02	"	MEM	"	"	
Calcium	2170	102	"	MEM	05/06/13 16:10	"	QM-07
Chromium	46.5	1.02	"	MEM	05/06/13 13:51	"	QM-07
Cobalt	14.9	0.410	"	MEM	"	"	
Copper	45.5	0.205	"	MEM	"	"	QM-07
Iron	32400	102	"	MEM	05/06/13 16:10	"	QM-07
Lead	192	2.05	"	MEM	05/06/13 13:51	"	QM-07
Magnesium	2230	102	"	MEM	05/06/13 16:10	"	QM-07
Manganese	448	10.2	"	MEM	"	"	QM-07
Mercury	0.09	0.02	"	MEM	05/07/13 14:41	SW 7471	
Nickel	16.8	1.02	"	MEM	05/06/13 13:51	SW 6010B	
Potassium	1090	2.05	"	MEM	"	"	QM-07
Selenium	<1.02	1.02	"	MEM	"	"	QM-07
Silver	<1.02	1.02	"	MEM	"	"	
Sodium	105	2.05	"	MEM	"	"	
Thallium	<2.05	2.05	"	MEM	"	"	
Vanadium	35.2	0.205	"	MEM	"	"	
Zinc	98.1	1.02	"	MEM	"	"	QM-07

Analytical Chemists Laboratory, LLC.

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-07 (6-12")
1305047-02 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	17200	107	mg/kg dry	MEM	05/06/13 16:17	SW 6010B
Antimony	<2.15	2.15	"	MEM	05/06/13 14:09	"
Arsenic	<2.15	2.15	"	MEM	"	"
Barium	39.9	0.215	"	MEM	"	"
Beryllium	0.446	0.215	"	MEM	"	"
Cadmium	2.83	1.07	"	MEM	"	"
Calcium	898	2.15	"	MEM	"	"
Chromium	6.91	1.07	"	MEM	"	"
Cobalt	10.9	0.430	"	MEM	"	"
Copper	12.4	0.215	"	MEM	"	"
Iron	28900	107	"	MEM	05/06/13 16:17	"
Lead	10.7	2.15	"	MEM	05/06/13 14:09	"
Magnesium	2700	107	"	MEM	05/06/13 16:17	"
Manganese	411	10.7	"	MEM	"	"
Mercury	0.04	0.01	"	MEM	05/07/13 14:47	SW 7471
Nickel	15.9	1.07	"	MEM	05/06/13 14:09	SW 6010B
Potassium	884	2.15	"	MEM	"	"
Selenium	<1.07	1.07	"	MEM	"	"
Silver	<1.07	1.07	"	MEM	"	"
Sodium	53.9	2.15	"	MEM	"	"
Thallium	<2.15	2.15	"	MEM	"	"
Vanadium	40.1	0.215	"	MEM	"	"
Zinc	33.2	1.07	"	MEM	"	"

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (0-6")
1305047-03 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	19900	91.4	mg/kg dry	MEM	05/06/13 16:23	SW 6010B	
Antimony	<1.83	1.83	"	MEM	05/06/13 14:16	"	
Arsenic	<1.83	1.83	"	MEM	"	"	
Barium	148	9.14	"	MEM	05/06/13 16:23	"	
Beryllium	0.338	0.183	"	MEM	05/06/13 14:16	"	
Cadmium	3.40	0.914	"	MEM	"	"	
Calcium	1300	91.4	"	MEM	05/06/13 16:23	"	
Chromium	18.9	0.914	"	MEM	05/06/13 14:16	"	
Cobalt	7.52	0.365	"	MEM	"	"	
Copper	40.3	0.183	"	MEM	"	"	
Iron	23800	91.4	"	MEM	05/06/13 16:23	"	
Lead	163	1.83	"	MEM	05/06/13 14:16	"	
Magnesium	3040	91.4	"	MEM	05/06/13 16:23	"	
Manganese	116	9.14	"	MEM	"	"	
Mercury	0.16	0.01	"	MEM	05/07/13 14:48	SW 7471	
Nickel	15.2	0.914	"	MEM	05/06/13 14:16	SW 6010B	
Potassium	1280	91.4	"	MEM	05/06/13 16:23	"	
Selenium	<0.914	0.914	"	MEM	05/06/13 14:16	"	
Silver	<0.914	0.914	"	MEM	"	"	
Sodium	95.9	1.83	"	MEM	"	"	
Thallium	<1.83	1.83	"	MEM	"	"	
Vanadium	42.2	0.183	"	MEM	"	"	
Zinc	209	0.914	"	MEM	"	"	

VOA MS

Benzene	<1.19	1.19	ug/kg dry	VNS	05/07/13 20:54	SW 5035, 8260B	
Bromobenzene	<2.38	2.38	"	VNS	"	"	
Bromoform	<1.19	1.19	"	VNS	"	"	
Bromochloromethane	<5.95	5.95	"	VNS	"	"	
Bromodichloromethane	<1.19	1.19	"	VNS	"	"	
Bromoform	<2.38	2.38	"	VNS	"	"	
Bromomethane	<1.19	1.19	"	VNS	"	"	
sec-Butylbenzene	<1.19	1.19	"	VNS	"	"	
n-Butylbenzene	<1.19	1.19	"	VNS	"	"	
tert-Butylbenzene	<1.19	1.19	"	VNS	"	"	
Carbon Tetrachloride	<2.38	2.38	"	VNS	"	"	
Chlorobenzene	<1.19	1.19	"	VNS	"	"	
Chloroethane	<2.38	2.38	"	VNS	"	"	

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (0-6")
1305047-03 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

VOA MS

Chloroform	<1.19	1.19	ug/kg dry	VNS	05/07/13 20:54	SW 5035, 8260B	
Chloromethane	<2.38	2.38	"	VNS	"	"	
2-Chlorotoluene	<2.38	2.38	"	VNS	"	"	
4-Chlorotoluene	<2.38	2.38	"	VNS	"	"	
1,2-Dibromo-3-chloropropane	<2.38	2.38	"	VNS	"	"	
Dibromochloromethane	<2.38	2.38	"	VNS	"	"	
1,2-Dibromoethane	<2.38	2.38	"	VNS	"	"	
Dibromomethane	<1.19	1.19	"	VNS	"	"	
1,2-Dichlorobenzene	<1.19	1.19	"	VNS	"	"	
1,3-Dichlorobenzene	<2.38	2.38	"	VNS	"	"	
1,4-Dichlorobenzene	<1.19	1.19	"	VNS	"	"	
Dichlorodifluoromethane	<1.19	1.19	"	VNS	"	"	
1,1-Dichloroethane	<2.38	2.38	"	VNS	"	"	
1,2-Dichloroethane	<1.19	1.19	"	VNS	"	"	
1,1-Dichloroethene	<1.19	1.19	"	VNS	"	"	
cis-1,2-Dichloroethene	<1.19	1.19	"	VNS	"	"	
trans-1,2-Dichloroethene	<1.19	1.19	"	VNS	"	"	
1,3-Dichloropropane	<1.19	1.19	"	VNS	"	"	
2,2-Dichloropropane	<1.19	1.19	"	VNS	"	"	
1,2-Dichloropropene	<1.19	1.19	"	VNS	"	"	
trans-1,3-Dichloropropene	<1.19	1.19	"	VNS	"	"	
1,1-Dichloropropene	<1.19	1.19	"	VNS	"	"	
cis-1,3-Dichloropropene	<1.19	1.19	"	VNS	"	"	
Ethylbenzene	20.4	1.19	"	VNS	"	"	
Hexachlorobutadiene	<1.19	1.19	"	VNS	"	"	
Isopropylbenzene	7.84	2.38	"	VNS	"	"	
4-Isopropyltoluene	6.34	1.19	"	VNS	"	"	
Methyl-tert-Butyl Ether	<1.19	1.19	"	VNS	"	"	
Methylene Chloride	<11.9	11.9	"	VNS	"	"	
n-Propylbenzene	5.95	2.38	"	VNS	"	"	
Styrene	<1.19	1.19	"	VNS	"	"	
1,1,2,2-Tetrachloroethane	<2.38	2.38	"	VNS	"	"	
1,1,1,2-Tetrachloroethane	<1.19	1.19	"	VNS	"	"	
Tetrachloroethene	<1.19	1.19	"	VNS	"	"	
Toluene	4.79	1.19	"	VNS	"	"	
1,2,3-Trichlorobenzene	<2.38	2.38	"	VNS	"	"	

Analytical Chemists Laboratory, LLC.

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (0-6")
1305047-03 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
Analytical Chemists Laboratory, LLC.							
VOA MS							
1,1,1-Trichloroethane	<1.19	1.19	ug/kg dry	VNS	05/07/13 20:54	SW 5035, 8260B	
1,1,2-Trichloroethane	<2.38	2.38	"	VNS	"	"	
Trichloroethene	<1.19	1.19	"	VNS	"	"	
Trichlorofluoromethane	<1.19	1.19	"	VNS	"	"	
1,2,3-Trichloropropane	<5.95	5.95	"	VNS	"	"	
1,2,4-Trimethylbenzene	94.6	1.19	"	VNS	"	"	
1,3,5-Trimethylbenzene	2.67	2.38	"	VNS	"	"	
Vinyl chloride	<2.38	2.38	"	VNS	"	"	
o-Xylene	21.3	1.19	"	VNS	"	"	
m,p-Xylene	7.45	2.38	"	VNS	"	"	

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (6-12")
1305047-04 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	24800	96.9	mg/kg dry	MEM	05/06/13 16:29	SW 6010B
Antimony	<1.94	1.94	"	MEM	05/06/13 14:22	"
Arsenic	<1.94	1.94	"	MEM	"	"
Barium	79.0	0.194	"	MEM	"	"
Beryllium	0.630	0.194	"	MEM	"	"
Cadmium	3.36	0.969	"	MEM	"	"
Calcium	933	1.94	"	MEM	"	"
Chromium	14.3	0.969	"	MEM	"	"
Cobalt	6.73	0.388	"	MEM	"	"
Copper	39.9	0.194	"	MEM	"	"
Iron	21200	96.9	"	MEM	05/06/13 16:29	"
Lead	106	1.94	"	MEM	05/06/13 14:22	"
Magnesium	2770	96.9	"	MEM	05/06/13 16:29	"
Manganese	104	0.194	"	MEM	05/06/13 14:22	"
Mercury	0.05	0.01	"	MEM	05/07/13 14:50	SW 7471
Nickel	14.8	0.969	"	MEM	05/06/13 14:22	SW 6010B
Potassium	1260	96.9	"	MEM	05/06/13 16:29	"
Selenium	<0.969	0.969	"	MEM	05/06/13 14:22	"
Silver	<0.969	0.969	"	MEM	"	"
Sodium	85.1	1.94	"	MEM	"	"
Thallium	<1.94	1.94	"	MEM	"	"
Vanadium	42.8	0.194	"	MEM	"	"
Zinc	71.9	0.969	"	MEM	"	"

VOA MS

Benzene	<1.24	1.24	ug/kg dry	VNS	05/07/13 21:29	SW 5035, 8260B
Bromobenzene	<2.48	2.48	"	VNS	"	"
Bromochloromethane	<1.24	1.24	"	VNS	"	"
Bromodichloromethane	<6.20	6.20	"	VNS	"	"
Bromoform	<1.24	1.24	"	VNS	"	"
Bromomethane	<2.48	2.48	"	VNS	"	"
sec-Butylbenzene	<1.24	1.24	"	VNS	"	"
n-Butylbenzene	<1.24	1.24	"	VNS	"	"
tert-Butylbenzene	<1.24	1.24	"	VNS	"	"
Carbon Tetrachloride	<2.48	2.48	"	VNS	"	"
Chlorobenzene	<1.24	1.24	"	VNS	"	"
Chloroethane	<2.48	2.48	"	VNS	"	"

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Long Island Rail Road
90-27 Sutphin Blvd, 3rd Floor
Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (6-12")

1305047-04 (Soil)

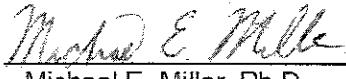
Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

VOA MS

Chloroform	<1.24	1.24	ug/kg dry	VNS	05/07/13 21:29	SW 5035, 826QB	"
Chloromethane	<2.48	2.48	"	VNS	"	"	"
2-Chlorotoluene	<2.48	2.48	"	VNS	"	"	"
4-Chlorotoluene	<2.48	2.48	"	VNS	"	"	"
1,2-Dibromo-3-chloropropane	<2.48	2.48	"	VNS	"	"	"
Dibromochloromethane	<2.48	2.48	"	VNS	"	"	"
1,2-Dibromoethane	<2.48	2.48	"	VNS	"	"	"
Dibromomethane	<1.24	1.24	"	VNS	"	"	"
1,2-Dichlorobenzene	<1.24	1.24	"	VNS	"	"	"
1,3-Dichlorobenzene	<2.48	2.48	"	VNS	"	"	"
1,4-Dichlorobenzene	<1.24	1.24	"	VNS	"	"	"
Dichlorodifluoromethane	<1.24	1.24	"	VNS	"	"	"
1,1-Dichloroethane	<2.48	2.48	"	VNS	"	"	"
1,2-Dichloroethane	<1.24	1.24	"	VNS	"	"	"
1,1-Dichloroethene	<1.24	1.24	"	VNS	"	"	"
cis-1,2-Dichloroethene	<1.24	1.24	"	VNS	"	"	"
trans-1,2-Dichloroethene	<1.24	1.24	"	VNS	"	"	"
1,3-Dichloropropane	<1.24	1.24	"	VNS	"	"	"
2,2-Dichloropropane	<1.24	1.24	"	VNS	"	"	"
1,2-Dichloropropene	<1.24	1.24	"	VNS	"	"	"
trans-1,3-Dichloropropene	<1.24	1.24	"	VNS	"	"	"
1,1-Dichloropropene	<1.24	1.24	"	VNS	"	"	"
cis-1,3-Dichloropropene	<1.24	1.24	"	VNS	"	"	"
Ethylbenzene	<1.24	1.24	"	VNS	"	"	"
Hexachlorobutadiene	<1.24	1.24	"	VNS	"	"	"
Isopropylbenzene	<2.48	2.48	"	VNS	"	"	"
4-Isopropyltoluene	<1.24	1.24	"	VNS	"	"	"
Methyl-tert-Butyl Ether	<1.24	1.24	"	VNS	"	"	"
Methylene Chloride	<12.4	12.4	"	VNS	"	"	"
n-Propylbenzene	<2.48	2.48	"	VNS	"	"	"
Styrene	<1.24	1.24	"	VNS	"	"	"
1,1,2,2-Tetrachloroethane	<2.48	2.48	"	VNS	"	"	"
1,1,1,2-Tetrachloroethane	<1.24	1.24	"	VNS	"	"	"
Tetrachloroethene	<1.24	1.24	"	VNS	"	"	"
Toluene	<1.24	1.24	"	VNS	"	"	"
1,2,3-Trichlorobenzene	<2.48	2.48	"	VNS	"	"	"

Analytical Chemists Laboratory, LLC.


Michael E. Miller

Michael E. Miller, Ph.D.

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (6-12")
1305047-04 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

VOA MS

1,1,1-Trichloroethane	<1.24	1.24	ug/kg dry	VNS	05/07/13 21:29	SW 5035, 8260B
1,1,2-Trichloroethane	<2.48	2.48	"	VNS	"	"
Trichloroethene	<1.24	1.24	"	VNS	"	"
Trichlorofluoromethane	<1.24	1.24	"	VNS	"	"
1,2,3-Trichloropropane	<6.20	6.20	"	VNS	"	"
1,2,4-Trimethylbenzene	3.96	1.24	"	VNS	"	"
1,3,5-Trimethylbenzene	<2.48	2.48	"	VNS	"	"
Vinyl chloride	<2.48	2.48	"	VNS	"	"
o-Xylene	<1.24	1.24	"	VNS	"	"
m,p-Xylene	<2.48	2.48	"	VNS	"	"

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Michael E. Miller, Ph.D.



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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (2.5-3')

1305047-05 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	23700	91.8	mg/kg dry	MEM	05/06/13 17:00	SW 6010B
Antimony	<1.84	1.84	"	MEM	05/06/13 14:28	"
Arsenic	<1.84	1.84	"	MEM	"	"
Barium	138	9.18	"	MEM	05/06/13 17:00	"
Beryllium	0.914	0.184	"	MEM	05/06/13 14:28	"
Cadmium	3.66	0.918	"	MEM	"	"
Calcium	358	1.84	"	MEM	"	"
Chromium	24.3	0.918	"	MEM	"	"
Cobalt	5.08	0.367	"	MEM	"	"
Copper	78.7	0.184	"	MEM	"	"
Iron	27600	91.8	"	MEM	05/06/13 17:00	"
Lead	265	1.84	"	MEM	05/06/13 14:28	"
Magnesium	2390	91.8	"	MEM	05/06/13 17:00	"
Manganese	193	9.18	"	MEM	"	"
Mercury	0.17	0.01	"	MEM	05/07/13 14:56	SW 7471
Nickel	14.6	0.918	"	MEM	05/06/13 14:28	SW 6010B
Potassium	1270	91.8	"	MEM	05/06/13 17:00	"
Selenium	<0.918	0.918	"	MEM	05/06/13 14:28	"
Silver	<0.918	0.918	"	MEM	"	"
Sodium	60.2	1.84	"	MEM	"	"
Thallium	<1.84	1.84	"	MEM	"	"
Vanadium	49.2	0.184	"	MEM	"	"
Zinc	140	0.918	"	MEM	"	"

VOA MS

Benzene	<1.26	1.26	ug/kg dry	VNS	05/07/13 22:02	SW 5035, 8260B
Bromobenzene	<2.53	2.53	"	VNS	"	"
Bromoform	<1.26	1.26	"	VNS	"	"
Bromochloromethane	<6.32	6.32	"	VNS	"	"
Bromodichloromethane	<1.26	1.26	"	VNS	"	"
Bromoform	<2.53	2.53	"	VNS	"	"
Bromomethane	<1.26	1.26	"	VNS	"	"
sec-Butylbenzene	<1.26	1.26	"	VNS	"	"
n-Butylbenzene	<1.26	1.26	"	VNS	"	"
tert-Butylbenzene	<1.26	1.26	"	VNS	"	"
Carbon Tetrachloride	<2.53	2.53	"	VNS	"	"
Chlorobenzene	<1.26	1.26	"	VNS	"	"
Chloroethane	<2.53	2.53	"	VNS	"	"

Analytical Chemists Laboratory, LLC.

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (2.5-3')
1305047-05 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
Analytical Chemists Laboratory, LLC.							
VOA MS							
Chloroform	<1.26	1.26	ug/kg dry	VNS	05/07/13 22:02	SW 5035, 8260B	
Chloromethane	<2.53	2.53	"	VNS	"	"	
2-Chlorotoluene	<2.53	2.53	"	VNS	"	"	
4-Chlorotoluene	<2.53	2.53	"	VNS	"	"	
1,2-Dibromo-3-chloropropane	<2.53	2.53	"	VNS	"	"	
Dibromochloromethane	<2.53	2.53	"	VNS	"	"	
1,2-Dibromoethane	<2.53	2.53	"	VNS	"	"	
Dibromométhane	<1.26	1.26	"	VNS	"	"	
1,2-Dichlorobenzene	<1.26	1.26	"	VNS	"	"	
1,3-Dichlorobenzene	<2.53	2.53	"	VNS	"	"	
1,4-Dichlorobenzene	<1.26	1.26	"	VNS	"	"	
Dichlorodifluoromethane	<1.26	1.26	"	VNS	"	"	
1,1-Dichloroethane	<2.53	2.53	"	VNS	"	"	
1,2-Dichloroethane	<1.26	1.26	"	VNS	"	"	
1,1-Dichloroethene	<1.26	1.26	"	VNS	"	"	
cis-1,2-Dichloroethene	<1.26	1.26	"	VNS	"	"	
trans-1,2-Dichloroethene	<1.26	1.26	"	VNS	"	"	
1,3-Dichloropropane	<1.26	1.26	"	VNS	"	"	
2,2-Dichloropropane	<1.26	1.26	"	VNS	"	"	
1,2-Dichloropropane	<1.26	1.26	"	VNS	"	"	
trans-1,3-Dichloropropene	<1.26	1.26	"	VNS	"	"	
1,1-Dichloropropene	<1.26	1.26	"	VNS	"	"	
cis-1,3-Dichloropropene	<1.26	1.26	"	VNS	"	"	
Ethylbenzene	<1.26	1.26	"	VNS	"	"	
Hexachlorobutadiene	<1.26	1.26	"	VNS	"	"	
Isopropylbenzene	<2.53	2.53	"	VNS	"	"	
4-Isopropyltoluene	<1.26	1.26	"	VNS	"	"	
Methyl-tert-Butyl Ether	<1.26	1.26	"	VNS	"	"	
Methylene Chloride	<12.6	12.6	"	VNS	"	"	
n-Propylbenzene	<2.53	2.53	"	VNS	"	"	
Styrene	<1.26	1.26	"	VNS	"	"	
1,1,2,2-Tetrachloroethane	<2.53	2.53	"	VNS	"	"	
1,1,1,2-Tetrachloroethane	<1.26	1.26	"	VNS	"	"	
Tetrachloroethene	2.99	1.26	"	VNS	"	"	
Toluene	<1.26	1.26	"	VNS	"	"	
1,2,3-Trichlorobenzene	<2.53	2.53	"	VNS	"	"	

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90-27 Sutphin Blvd, 3rd Floor
Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-06 (2.5-3')
1305047-05 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

VOA MS

1,1,1-Trichloroethane	<1.26	1.26	ug/kg dry	VNS	05/07/13 22:02	SW 5035, 8260B
1,1,2-Trichloroethane	<2.53	2.53	"	VNS	"	"
Trichloroethene	<1.26	1.26	"	VNS	"	"
Trichlorofluoromethane	<1.26	1.26	"	VNS	"	"
1,2,3-Trichloropropane	<6.32	6.32	"	VNS	"	"
1,2,4-Trimethylbenzene	<1.26	1.26	"	VNS	"	"
1,3,5-Trimethylbenzene	<2.53	2.53	"	VNS	"	"
Vinyl chloride	<2.53	2.53	"	VNS	"	"
m,p-Xylene	<2.53	2.53	"	VNS	"	"
o-Xylene	<1.26	1.26	"	VNS	"	"

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Long Island Rail Road
90-27 Sulphur Blvd, 3rd Floor
Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-08 (0-6")
1305047-06 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	1500	102	mg/kg dry	MEM	05/06/13 17:06	SW 6010B
Antimony	<2.03	2.03	"	MEM	05/06/13 14:34	"
Arsenic	<2.03	2.03	"	MEM	"	"
Barium	30.1	0.203	"	MEM	"	"
Beryllium	<0.203	0.203	"	MEM	"	"
Cadmium	<1.02	1.02	"	MEM	"	"
Calcium	1170	102	"	MEM	05/06/13 17:06	"
Chromium	16.6	1.02	"	MEM	05/06/13 14:34	"
Cobalt	3.44	0.406	"	MEM	"	"
Copper	22.1	0.203	"	MEM	"	"
Iron	10500	102	"	MEM	05/06/13 17:06	"
Lead	23.8	2.03	"	MEM	05/06/13 14:34	"
Magnesium	166	2.03	"	MEM	"	"
Manganese	22.5	0.203	"	MEM	"	"
Mercury	0.02	0.02	"	MEM	05/07/13 14:58	SW 7471
Nickel	6.14	1.02	"	MEM	05/06/13 14:34	SW 6010B
Potassium	236	2.03	"	MEM	"	"
Selenium	<1.02	1.02	"	MEM	"	"
Silver	<1.02	1.02	"	MEM	"	"
Sodium	46.1	2.03	"	MEM	"	"
Thallium	<2.03	2.03	"	MEM	"	"
Vanadium	11.7	0.203	"	MEM	"	"
Zinc	10.3	1.02	"	MEM	"	"

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-08 (6-12")
1305047-07 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	19100	90.3	mg/kg dry	MEM	05/06/13 17:12	SW 6010B
Antimony	<1.81	1.81	"	MEM	05/06/13 14:40	"
Arsenic	<1.81	1.81	"	MEM	"	"
Barium	47.9	0.181	"	MEM	"	"
Beryllium	0.569	0.181	"	MEM	"	"
Cadmium	3.11	0.903	"	MEM	"	"
Calcium	828	1.81	"	MEM	"	"
Chromium	27.0	0.903	"	MEM	"	"
Cobalt	12.7	0.361	"	MEM	"	"
Copper	12.2	0.181	"	MEM	"	"
Iron	27700	90.3	"	MEM	05/06/13 17:12	"
Lead	8.74	1.81	"	MEM	05/06/13 14:40	"
Magnesium	2990	90.3	"	MEM	05/06/13 17:12	"
Manganese	210	9.03	"	MEM	"	"
Mercury	0.04	0.01	"	MEM	05/07/13 14:59	SW 7471
Nickel	19.5	0.903	"	MEM	05/06/13 14:40	SW 6010B
Potassium	932	1.81	"	MEM	"	"
Selenium	<0.903	0.903	"	MEM	"	"
Silver	<0.903	0.903	"	MEM	"	"
Sodium	63.9	1.81	"	MEM	"	"
Thallium	<1.81	1.81	"	MEM	"	"
Vanadium	40.9	0.181	"	MEM	"	"
Zinc	76.2	0.903	"	MEM	"	"

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Michael E. Miller, Ph.D.

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-05 (0-6")
1305047-08 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	20900	84.3	mg/kg dry	MEM	05/06/13 17:19	SW 6010B
Antimony	<1.69	1.69	"	MEM	05/06/13 14:47	"
Arsenic	<1.69	1.69	"	MEM	"	"
Barium	117	8.43	"	MEM	05/06/13 17:19	"
Beryllium	0.543	0.169	"	MEM	05/06/13 14:47	"
Cadmium	3.46	0.843	"	MEM	"	"
Calcium	1780	84.3	"	MEM	05/06/13 17:19	"
Chromium	3.29	0.843	"	MEM	05/06/13 14:47	"
Cobalt	9.22	0.337	"	MEM	"	"
Copper	23.9	0.169	"	MEM	"	"
Iron	35500	84.3	"	MEM	05/06/13 17:19	"
Lead	141	1.69	"	MEM	05/06/13 14:47	"
Magnesium	2840	84.3	"	MEM	05/06/13 17:19	"
Manganese	232	8.43	"	MEM	"	"
Mercury	0.25	0.02	"	MEM	05/07/13 15:01	SW 7471
Nickel	14.9	0.843	"	MEM	05/06/13 14:47	SW 6010B
Potassium	1050	84.3	"	MEM	05/06/13 17:19	"
Selenium	<0.843	0.843	"	MEM	05/06/13 14:47	"
Silver	<0.843	0.843	"	MEM	"	"
Sodium	71.3	1.69	"	MEM	"	"
Thallium	<1.69	1.69	"	MEM	"	"
Vanadium	38.6	0.169	"	MEM	"	"
Zinc	73.3	0.843	"	MEM	"	"

Analytical Chemists Laboratory, LLC.

Michael E. Miller

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-05 (6-12")
1305047-09 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	23600	97.2	mg/kg dry	MEM	05/06/13 17:25	SW 6010B
Antimony	<1.94	1.94	"	MEM	05/06/13 15:18	"
Arsenic	<1.94	1.94	"	MEM	"	"
Barium	65.8	0.194	"	MEM	"	"
Beryllium	0.569	0.194	"	MEM	"	"
Cadmium	3.56	0.972	"	MEM	"	"
Calcium	1740	97.2	"	MEM	05/06/13 17:25	"
Chromium	3.10	0.972	"	MEM	05/06/13 15:18	"
Cobalt	9.27	0.389	"	MEM	"	"
Copper	13.0	0.194	"	MEM	"	"
Iron	35800	97.2	"	MEM	05/06/13 17:25	"
Lead	16.0	1.94	"	MEM	05/06/13 15:18	"
Magnesium	3160	97.2	"	MEM	05/06/13 17:25	"
Manganese	411	9.72	"	MEM	"	"
Mercury	0.04	0.01	"	MEM	05/07/13 15:03	SW 7471
Nickel	17.1	0.972	"	MEM	05/06/13 15:18	SW 6010B
Potassium	1200	97.2	"	MEM	05/06/13 17:25	"
Selenium	<0.972	0.972	"	MEM	05/06/13 15:18	"
Silver	<0.972	0.972	"	MEM	"	"
Sodium	73.2	1.94	"	MEM	"	"
Thallium	<1.94	1.94	"	MEM	"	"
Vanadium	40.6	0.194	"	MEM	"	"
Zinc	33.2	0.972	"	MEM	"	"

Analytical Chemists Laboratory, LLC.

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Long Island Rail Road
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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-03 (0-6")
1305047-10 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	22500	88.4	mg/kg dry	MEM	05/06/13 17:31	SW 6010B
Antimony	<1.77	1.77	"	MEM	05/06/13 15:24	"
Arsenic	<1.77	1.77	"	MEM	"	"
Barium	72.4	0.177	"	MEM	"	"
Beryllium	0.575	0.177	"	MEM	"	"
Cadmium	3.43	0.884	"	MEM	"	"
Calcium	1300	88.4	"	MEM	05/06/13 17:31	"
Chromium	7.09	0.884	"	MEM	05/06/13 15:24	"
Cobalt	6.60	0.354	"	MEM	"	"
Copper	9.35	0.177	"	MEM	"	"
Iron	25700	88.4	"	MEM	05/06/13 17:31	"
Lead	15.9	1.77	"	MEM	05/06/13 15:24	"
Magnesium	2540	88.4	"	MEM	05/06/13 17:31	"
Manganese	375	8.84	"	MEM	"	"
Mercury	0.04	0.01	"	MEM	05/07/13 15:05	SW 7471
Nickel	13.3	0.884	"	MEM	05/06/13 15:24	SW 6010B
Potassium	1140	88.4	"	MEM	05/06/13 17:31	"
Selenium	<0.884	0.884	"	MEM	05/06/13 15:24	"
Silver	<0.884	0.884	"	MEM	"	"
Sodium	111	1.77	"	MEM	"	"
Thallium	<1.77	1.77	"	MEM	"	"
Vanadium	45.5	0.177	"	MEM	"	"
Zinc	32.5	0.884	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-01 (0-6")
1305047-11 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	20900	87.4	mg/kg dry	MEM	05/06/13 17:38	SW 6010B
Antimony	<1.75	1.75	"	MEM	05/06/13 15:30	"
Arsenic	<1.75	1.75	"	MEM	"	"
Barium	58.8	0.175	"	MEM	"	"
Beryllium	0.498	0.175	"	MEM	"	"
Cadmium	3.01	0.874	"	MEM	"	"
Calcium	1530	87.4	"	MEM	05/06/13 17:38	"
Chromium	6.16	0.874	"	MEM	05/06/13 15:30	"
Cobalt	19.8	0.349	"	MEM	"	"
Copper	14.3	0.175	"	MEM	"	"
Iron	23900	87.4	"	MEM	05/06/13 17:38	"
Lead	12.8	1.75	"	MEM	05/06/13 15:30	"
Magnesium	2920	87.4	"	MEM	05/06/13 17:38	"
Manganese	.355	8.74	"	MEM	"	"
Mercury	0.05	0.02	"	MEM	05/07/13 15:07	SW 7471
Nickel	13.3	0.874	"	MEM	05/06/13 15:30	SW 6010B
Potassium	1120	87.4	"	MEM	05/06/13 17:38	"
Selenium	<0.874	0.874	"	MEM	05/06/13 15:30	"
Silver	<0.874	0.874	"	MEM	"	"
Sodium	90.9	1.75	"	MEM	"	"
Thallium	<1.75	1.75	"	MEM	"	"
Vanadium	39.0	0.175	"	MEM	"	"
Zinc	34.8	0.874	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-01 (6-12")
1305047-12 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	20700	86.5	mg/kg dry	MEM	05/06/13 17:44	SW 6010B
Antimony	<1.73	1.73	"	MEM	05/06/13 15:36	"
Arsenic	<1.73	1.73	"	MEM	"	"
Barium	54.4	0.173	"	MEM	"	"
Beryllium	0.566	0.173	"	MEM	"	"
Cadmium	3.19	0.865	"	MEM	"	"
Calcium	961	86.5	"	MEM	05/06/13 17:44	"
Chromium	6.50	0.865	"	MEM	05/06/13 15:36	"
Cobalt	11.2	0.346	"	MEM	"	"
Copper	11.0	0.173	"	MEM	"	"
Iron	22200	86.5	"	MEM	05/06/13 17:44	"
Lead	11.5	1.73	"	MEM	05/06/13 15:36	"
Magnesium	2450	86.5	"	MEM	05/06/13 17:44	"
Manganese	224	8.65	"	MEM	"	"
Mercury	0.03	0.01	"	MEM	05/07/13 15:09	SW 7471
Nickel	14.1	0.865	"	MEM	05/06/13 15:36	SW 6010B
Potassium	997	86.5	"	MEM	05/06/13 17:44	"
Selenium	<0.865	0.865	"	MEM	05/06/13 15:36	"
Silver	<0.865	0.865	"	MEM	"	"
Sodium	141	1.73	"	MEM	"	"
Thallium	<1.73	1.73	"	MEM	"	"
Vanadium	40.2	0.173	"	MEM	"	"
Zinc	33.9	0.865	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-04 (0-6")

1305047-13 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	20300	90.5	mg/kg dry	MEM	05/06/13 17:50	SW 6010B
Antimony	<1.81	1.81	"	MEM	05/06/13 15:43	"
Arsenic	<1.81	1.81	"	MEM	"	"
Barium	50.7	0.181	"	MEM	"	"
Beryllium	0.493	0.181	"	MEM	"	"
Cadmium	2.94	0.905	"	MEM	"	"
Calcium	1590	90.5	"	MEM	05/06/13 17:50	"
Chromium	8.30	0.905	"	MEM	05/06/13 15:43	"
Cobalt	10.0	0.362	"	MEM	"	"
Copper	11.4	0.181	"	MEM	"	"
Iron	24200	90.5	"	MEM	05/06/13 17:50	"
Lead	38.6	1.81	"	MEM	05/06/13 15:43	"
Magnesium	2960	90.5	"	MEM	05/06/13 17:50	"
Manganese	273	9.05	"	MEM	"	"
Mercury	0.05	0.02	"	MEM	05/07/13 15:10	SW 7471
Nickel	14.7	0.905	"	MEM	05/06/13 15:43	SW 6010B
Potassium	1080	90.5	"	MEM	05/06/13 17:50	"
Selenium	<0.905	0.905	"	MEM	05/06/13 15:43	"
Silver	<0.905	0.905	"	MEM	"	"
Sodium	82.8	1.81	"	MEM	"	"
Thallium	<1.81	1.81	"	MEM	"	"
Vanadium	36.3	0.181	"	MEM	"	"
Zinc	35.4	0.905	"	MEM	"	"

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-04 (6-12")
1305047-14 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	21700	87.7	mg/kg dry	MEM	05/06/13 17:56	SW 6010B
Antimony	<1.75	1.75	"	MEM	05/06/13 15:49	"
Arsenic	<1.75	1.75	"	MEM	"	"
Barium	59.6	0.175	"	MEM	"	"
Beryllium	0.491	0.175	"	MEM	"	"
Cadmium	2.82	0.877	"	MEM	"	"
Calcium	1420	87.7	"	MEM	05/06/13 17:56	"
Chromium	6.52	0.877	"	MEM	05/06/13 15:49	"
Cobalt	5.37	0.351	"	MEM	"	"
Copper	6.84	0.175	"	MEM	"	"
Iron	21200	87.7	"	MEM	05/06/13 17:56	"
Lead	9.19	1.75	"	MEM	05/06/13 15:49	"
Magnesium	2250	87.7	"	MEM	05/06/13 17:56	"
Manganese	120	8.77	"	MEM	"	"
Mercury	0.05	0.02	"	MEM	05/07/13 15:12	SW 7471
Nickel	11.0	0.877	"	MEM	05/06/13 15:49	SW 6010B
Potassium	1000	87.7	"	MEM	05/06/13 17:56	"
Selenium	<0.877	0.877	"	MEM	05/06/13 15:49	"
Silver	<0.877	0.877	"	MEM	"	"
Sodium	60.6	1.75	"	MEM	"	"
Thallium	<1.75	1.75	"	MEM	"	"
Vanadium	37.3	0.175	"	MEM	"	"
Zinc	26.0	0.877	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-02 (0-6")
1305047-15 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	11400	87.0	mg/kg dry	MEM	05/06/13 18:40	SW 6010B
Antimony	<1.74	1.74	"	MEM	05/06/13 18:27	"
Arsenic	<1.74	1.74	"	MEM	"	"
Barium	47.9	0.174	"	MEM	"	"
Beryllium	0.335	0.174	"	MEM	"	"
Cadmium	1.83	0.870	"	MEM	"	"
Calcium	1890	87.0	"	MEM	05/06/13 18:40	"
Chromium	3.45	0.870	"	MEM	05/06/13 18:27	"
Cobalt	6.93	0.348	"	MEM	"	"
Copper	11.3	0.174	"	MEM	"	"
Iron	18100	87.0	"	MEM	05/06/13 18:40	"
Lead	30.7	1.74	"	MEM	05/06/13 18:27	"
Magnesium	1730	87.0	"	MEM	05/06/13 18:40	"
Manganese	358	8.70	"	MEM	"	"
Mercury	0.03	0.02	"	MEM	05/07/13 15:17	SW 7471
Nickel	11.1	0.870	"	MEM	05/06/13 18:27	SW 6010B
Potassium	819	1.74	"	MEM	"	"
Selenium	<0.870	0.870	"	MEM	"	"
Silver	<0.870	0.870	"	MEM	"	"
Sodium	64.5	1.74	"	MEM	"	"
Thallium	<1.74	1.74	"	MEM	"	"
Vanadium	24.0	0.174	"	MEM	"	"
Zinc	40.7	0.870	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

SS-02 (1-1.5')

1305047-16 (Soil)

Analyte	Result	Reporting Limit	Units	Analyst	Analyzed	Method	Qualifier
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Analytical Chemists Laboratory, LLC.

Total Metals

Aluminum	22300	102	mg/kg dry	MEM	05/06/13 18:46	SW 6010B
Antimony	<2.03	2.03	"	MEM	05/06/13 18:34	"
Arsenic	<2.03	2.03	"	MEM	"	"
Barium	33.6	0.203	"	MEM	"	"
Beryllium	0.529	0.203	"	MEM	"	"
Cadmium	3.04	1.02	"	MEM	"	"
Calcium	319	2.03	"	MEM	"	"
Chromium	4.45	1.02	"	MEM	"	"
Cobalt	7.22	0.407	"	MEM	"	"
Copper	9.56	0.203	"	MEM	"	"
Iron	28400	102	"	MEM	05/06/13 18:46	"
Lead	9.02	2.03	"	MEM	05/06/13 18:34	"
Magnesium	2980	102	"	MEM	05/06/13 18:46	"
Manganese	137	10.2	"	MEM	"	"
Mercury	0.03	0.02	"	MEM	05/07/13 15:19	SW 7471
Nickel	14.0	1.02	"	MEM	05/06/13 18:34	SW 6010B
Potassium	904	2.03	"	MEM	"	"
Selenium	<1.02	1.02	"	MEM	"	"
Silver	<1.02	1.02	"	MEM	"	"
Sodium	51.1	2.03	"	MEM	"	"
Thallium	<2.03	2.03	"	MEM	"	"
Vanadium	42.4	0.203	"	MEM	"	"
Zinc	31.7	1.02	"	MEM	"	"

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Total Metals - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P305036 - Acid Digestion - Soils/Solids SW 3050

Blank (P305036-BLK1)

Prepared & Analyzed: 05/06/13

Aluminum	ND	2.00	mg/kg wet							
Antimony	ND	2.00	"							
Arsenic	ND	2.00	"							
Barium	ND	0.200	"							
Beryllium	ND	0.200	"							
Cadmium	ND	1.00	"							
Calcium	ND	2.00	"							
Chromium	ND	1.00	"							
Cobalt	ND	0.400	"							
Copper	ND	0.200	"							
Iron	ND	2.00	"							
Lead	ND	2.00	"							
Magnesium	ND	2.00	"							
Manganese	ND	0.200	"							
Nickel	ND	1.00	"							
Potassium	ND	2.00	"							
Selenium	ND	1.00	"							
Silver	ND	1.00	"							
Sodium	ND	2.00	"							
Thallium	ND	2.00	"							
Vanadium	ND	0.200	"							
Zinc	ND	1.00	"							

LCS (P305036-BS1)

Prepared & Analyzed: 05/06/13

Aluminum	52.2	2.00	mg/kg wet	50.0	104	80-120
Antimony	51.3	2.00	"	49.8	103	80-120
Arsenic	49.6	2.00	"	50.0	99.2	80-120
Barium	52.7	0.200	"	50.0	106	80-120
Beryllium	49.4	0.200	"	50.0	98.8	80-120
Cadmium	50.8	1.00	"	50.0	102	80-120
Calcium	50.1	2.00	"	50.0	100	80-120
Chromium	49.0	1.00	"	50.0	98.1	80-120
Cobalt	50.0	0.400	"	50.0	100	80-120
Copper	50.6	0.200	"	50.0	101	80-120
Iron	51.1	2.00	"	50.0	102	80-120
Lead	51.0	2.00	"	50.0	102	80-120
Manganese	51.80	0.200	"	51.0	102	85-115
Magnesium	50.3	2.00	"	49.9	101	80-120
Nickel	50.4	1.00	"	50.5	99.8	80-120
Potassium	530	2.00	"	500	106	75-125

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Total Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-------

Batch P305036 - Acid Digestion - Soils/Solids SW 3050

LCS (P305036-BS1)	Prepared & Analyzed: 05/06/13						
Selenium	49.4	1.00	mg/kg wet	50.0		98.8	80-120
Silver	50.0	1.00	"	50.0		100	75-125
Sodium	51.4	2.00	"	50.5		102	80-120
Thallium	50.8	2.00	"	50.5		101	80-120
Vanadium	55.2	0.200	"	50.0		111	80-120
Zinc	52.8	1.00	"	50.0		106	80-120

Matrix Spike (P305036-MS1)	Source: 1305047-01 Prepared & Analyzed: 05/06/13							
Aluminum	20200	1.82	mg/kg dry	45.5	15700	NR	75-125	QM-0
Antimony	29.0	1.82	"	45.4	ND	64.0	75-125	QM-0
Arsenic	25.3	1.82	"	45.5	ND	55.6	75-125	QM-0
Barium	140	0.182	"	45.5	125	33.1	75-125	QM-0
Beryllium	40.2	0.182	"	45.5	0.415	87.4	75-125	QM-0
Cadmium	43.0	0.911	"	45.5	3.43	87.0	75-125	QM-0
Calcium	1480	1.82	"	45.5	2170	NR	75-125	QM-0
Chromium	64.2	0.911	"	45.5	46.5	39.1	75-125	QM-0
Cobalt	50.1	0.364	"	45.5	14.9	77.3	75-125	QM-0
Copper	69.1	0.182	"	45.5	45.5	52.0	75-125	QM-0
Iron	20600	1.82	"	45.5	32400	NR	75-125	QM-0
Lead	138	1.82	"	45.5	192	NR	75-125	QM-0
Magnesium	2940	1.82	"	45.5	2230	NR	75-125	QM-0
Manganese	436.8	0.182	"	46.5	447.6	NR	75-125	QM-0
Nickel	55.5	0.911	"	46.0	16.8	84.2	75-125	QM-0
Potassium	1770	1.82	"	45.5	1090	151	75-125	QM-0
Selenium	30.0	0.911	"	45.5	ND	65.9	75-125	QM-0
Silver	38.3	0.911	"	45.5	ND	84.1	60-140	
Sodium	148	1.82	"	46.0	105	93.3	75-125	
Thallium	39.3	1.82	"	46.0	ND	85.4	75-125	
Vanadium	84.9	0.182	"	45.5	35.2	109	75-125	
Zinc	112	0.911	"	45.5	98.1	30.3	75-125	QM-0

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Jamaica NY, 11435-0335

Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Total Metals - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P305036 - Acid Digestion - Soils/Solids SW 3050

Matrix Spike Dup (P305036-MSD1)	Source: 1305047-01		Prepared & Analyzed: 05/06/13							
Aluminum	20200	2.06	mg/kg dry	51.4	15700	NR	75-125	12.8	25	QM-0
Antimony	38.9	2.06	"	51.2	ND	76.0	75-125	17.2	25	
Arsenic	36.9	2.06	"	51.4	ND	71.8	75-125	25.4	25	QM-0
Barium	149	0.206	"	51.4	125	46.1	75-125	32.9	25	QM-0
Beryllium	50.1	0.206	"	51.4	0.415	96.5	75-125	9.90	20	
Cadmium	53.9	1.03	"	51.4	3.43	98.0	75-125	12.0	20	
Calcium	1720	2.06	"	51.4	2170	NR	75-125	15.0	25	QM-0
Chromium	84.0	1.03	"	51.4	46.5	73.1	75-125	60.7	20	QM-0
Cobalt	63.4	0.412	"	51.4	14.9	94.3	75-125	19.7	20	
Copper	84.9	0.206	"	51.4	45.5	76.7	75-125	38.5	20	QM-0
Iron	23000	2.06	"	51.4	32400	NR	75-125	NR	25	QM-0
Lead	157	2.06	"	51.4	192	NR	75-125	NR	20	QM-0
Manganese	412.6	0.206	"	52.5	447.6	NR	75-125	NR	20	QM-0
Magnesium	2920	2.06	"	51.3	2230	NR	75-125	15.2	25	QM-0
Nickel	68.2	1.03	"	52.0	16.8	98.9	75-125	16.1	25	
Potassium	1850	2.06	"	51.4	1090	147	75-125	2.36	20	QM-0
Selenium	41.1	1.03	"	51.4	ND	79.9	75-125	19.2	25	
Silver	48.4	1.03	"	51.4	ND	94.1	60-140	11.2	25	
Sodium	160	2.06	"	52.0	105	106	75-125	12.9	20	
Thallium	49.7	2.06	"	52.0	ND	95.7	75-125	11.4	25	
Vanadium	98.5	0.206	"	51.4	35.2	123	75-125	12.0	25	
Zinc	133	1.03	"	51.4	98.1	67.2	75-125	75.9	25	QM-0

Batch P305053 - SW 7471A Prep

Blank (P305053-BLK1)	Prepared & Analyzed: 05/07/13		
Mercury	ND	0.02	mg/kg wet

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Total Metals - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
Batch P305053 - SW 7471A Prep										
Blank (P305053-BLK2)										
Mercury	ND	0.02	mg/kg wet							
Prepared & Analyzed: 05/07/13										
LCS (P305053-BS1)										
Mercury	0.0927	0.02	mg/kg wet	0.100		92.7	80-120			
Prepared & Analyzed: 05/07/13										
LCS (P305053-BS2)										
Mercury	0.0921	0.02	mg/kg wet	0.100		92.1	80-120			
Matrix Spike (P305053-MS1)										
Mercury	0.183	0.02	mg/kg dry	0.121	0.0890	77.5	75-125			
Source: 1305047-01 Prepared & Analyzed: 05/07/13										
Matrix Spike (P305053-MS2)										
Mercury	0.101	0.01	mg/kg dry	0.0930	0.0069	101	75-125			
Source: 1305077-01 Prepared & Analyzed: 05/07/13										
Matrix Spike Dup (P305053-MSD1)										
Mercury	0.174	0.01	mg/kg dry	0.100	0.0890	85.2	75-125	4.66	20	
Source: 1305047-01 Prepared & Analyzed: 05/07/13										
Matrix Spike Dup (P305053-MSD2)										
Mercury	0.107	0.01	mg/kg dry	0.0978	0.0069	102	75-125	5.57	20	

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
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VOA MS - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P305078 - Purge and Trap - Soil/Waste SW 5035 Modified

Blank (P305078-BLK1)	Prepared & Analyzed: 05/07/13									
Benzene	ND	1.00	ug/kg wet							
Bromobenzene	ND	2.00	"							
Bromochloromethane	ND	1.00	"							
Bromodichloromethane	ND	5.00	"							
Bromoform	ND	1.00	"							
Bromomethane	ND	2.00	"							
sec-Butylbenzene	ND	1.00	"							
n-Butylbenzene	ND	1.00	"							
tert-Butylbenzene	ND	1.00	"							
Carbon Tetrachloride	ND	2.00	"							
Chlorobenzene	ND	1.00	"							
Chloroethane	ND	2.00	"							
Chloroform	ND	1.00	"							
Chloromethane	ND	2.00	"							
2-Chlorotoluene	ND	2.00	"							
4-Chlorotoluene	ND	2.00	"							
1,2-Dibromo-3-chloropropane	ND	2.00	"							
Dibromochloromethane	ND	2.00	"							
1,2-Dibromoethane	ND	2.00	"							
Dibromomethane	ND	1.00	"							
1,2-Dichlorobenzene	ND	1.00	"							
1,3-Dichlorobenzene	ND	2.00	"							
1,4-Dichlorobenzene	ND	1.00	"							
Dichlorodifluoromethane	ND	1.00	"							
1,1-Dichloroethane	ND	2.00	"							
1,2-Dichloroethane	ND	1.00	"							
1,1-Dichloroethene	ND	1.00	"							
cis-1,2-Dichloroethene	ND	1.00	"							
trans-1,2-Dichloroethene	ND	1.00	"							
1,3-Dichloropropane	ND	1.00	"							
1,2-Dichloropropane	ND	1.00	"							
1,2-Dichloropropene	ND	1.00	"							
trans-1,3-Dichloropropene	ND	1.00	"							
1,1-Dichloropropene	ND	1.00	"							
cis-1,3-Dichloropropene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
Hexachlorobutadiene	ND	1.00	"							
sopropylbenzene	ND	2.00	"							
1-Isopropyltoluene	ND	1.00	"							
Methyl-tert-Butyl Ether	ND	1.00	"							

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
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VOA MS - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch P305078 - Purge and Trap - Soil/Waste SW 5035 Modified

Blank (P305078-BLK1)							Prepared & Analyzed: 05/07/13			
Methylene Chloride	ND	10.0	ug/kg wet							
n-Propylbenzene	ND	2.00	"							
Styrene	ND	1.00	"							
1,1,2,2-Tetrachloroethane	ND	2.00	"							
1,1,1,2-Tetrachloroethane	ND	1.00	"							
Tetrachloroethene	ND	1.00	"							
Toluene	ND	1.00	"							
1,2,3-Trichlorobenzene	2.15	2.00	"							
1,1,1-Trichloroethane	ND	1.00	"							
1,1,2-Trichloroethane	ND	2.00	"							
Trichloroethene	ND	1.00	"							
Trichlorofluoromethane	ND	1.00	"							
1,2,3-Trichloropropane	ND	5.00	"							
1,2,4-Trimethylbenzene	ND	1.00	"							
1,3,5-Trimethylbenzene	ND	2.00	"							
Vinyl chloride	ND	2.00	"							
n,p-Xylene	ND	2.00	"							
<i>></i> -Xylene	ND	1.00	"							
Surrogate: 4-Bromofluorobenzene	47.0		"	50.0		94.1		54-133		
Surrogate: Dibromofluoromethane	53.6		"	50.0		107		65-142		
Surrogate: 1,2-Dichloroethane-d4	56.3		"	50.0		113		66-150		
Surrogate: Toluene-d8	56.0		"	50.0		112		70-121		

LCS (P305078-BS1)							Prepared & Analyzed: 05/07/13			
Benzene	52.5	1.00	ug/kg wet	50.0		105		66-142		
Bromobenzene	53.4	2.00	"	50.0		107		70-130		
Bromochloromethane	55.1	1.00	"	50.0		110		70-130		
Bromodichloromethane	51.9	5.00	"	50.0		104		70-130		
Bromoform	55.9	1.00	"	50.0		112		70-130		
Carbon Tetrachloride	55.6	2.00	"	50.0		111		70-130		
Chlorobenzene	55.2	1.00	"	50.0		110		60-133		
Chloroform	54.1	1.00	"	50.0		108		70-130		
<i>2</i> -Dibromoethane	49.6	2.00	"	50.0		99.1		70-130		
<i>1</i> -Dichloroethane	61.4	2.00	"	50.0		123		70-130		
<i>is</i> -1,2-Dichloroethene	51.8	1.00	"	50.0		104		70-130		
<i>trans</i> -1,2-Dichloroethene	60.0	1.00	"	50.0		120		70-130		
<i>2</i> -Dichloropropane	51.9	1.00	"	50.0		104		70-130		
<i>trans</i> -1,3-Dichloropropene	47.8	1.00	"	50.0		95.6		70-130		
Methylbenzene	52.5	1.00	"	50.0		105		70-130		
<i>tert</i> -Ethyl- <i>tert</i> -Butyl Ether	55.6	1.00	"					70-130		

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Michael E. Miller

Michael E. Miller, Ph.D.

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

VOA MS - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P305078 - Purge and Trap - Soil/Waste SW 5035 Modified

LCS (P305078-BS1)	Prepared & Analyzed: 05/07/13						
n-Propylbenzene	50.5	2.00	ug/kg wet	50.0	101	70-130	
1,1,1,2-Tetrachloroethane	56.5	1.00	"	50.0	113	70-130	
Toluene	49.0	1.00	"	50.0	98.0	59-139	
1,1,1-Trichloroethane	52.6	1.00	"	50.0	105	70-130	
1,1,2-Trichloroethane	50.5	2.00	"	50.0	101	0-200	
Trichloroethylene	54.8	1.00	"	50.0	110	62-133	
Surrogate: 4-Bromofluorobenzene	50.8		"	50.0	102	54-133	
Surrogate: Dibromofluoromethane	51.3		"	50.0	103	65-142	
Surrogate: 1,2-Dichloroethane-d4	59.6		"	50.0	119	66-150	
Surrogate: Toluene-d8	47.2		"	50.0	94.4	70-121	

Matrix Spike (P305078-MS1)	Source: 1305057-03		Prepared: 05/07/13		Analyzed: 05/08/13		
Benzene	53.3	1.02	ug/kg dry	50.8	ND	105	66-142
Bromobenzene	49.6	2.04	"	50.8	ND	97.6	70-130
Bromochloromethane	51.8	1.02	"	50.8	ND	102	70-130
Bromodichloromethane	51.6	5.10	"	50.8	ND	102	70-130
Bromoform	48.2	1.02	"	50.8	ND	94.9	70-130
Carbon Tetrachloride	56.1	2.04	"	50.8	ND	110	70-130
Chlorobenzene	53.2	1.02	"	50.8	ND	105	60-133
Chloroform	55.8	1.02	"	50.8	ND	110	70-130
1,2-Dibromoethane	44.5	2.04	"	50.8	ND	87.5	70-130
1,1-Dichloroethane	64.2	2.04	"	50.8	ND	126	70-130
cis-1,2-Dichloroethene	52.4	1.02	"	50.8	ND	103	70-130
trans-1,2-Dichloroethene	62.2	1.02	"	50.8	ND	122	70-130
1,2-Dichloropropane	52.5	1.02	"	50.8	ND	103	70-130
trans-1,3-Dichloropropene	42.1	1.02	"	50.8	ND	82.8	70-130
Ethylbenzene	52.8	1.02	"	50.8	ND	104	70-130
Methyl-tert-Butyl Ether	52.7	1.02	"	50.8	ND	70-130	
n-Propylbenzene	50.3	2.04	"	50.8	ND	99.0	70-130
1,1,1,2-Tetrachloroethane	54.1	1.02	"	50.8	ND	106	70-130
Toluene	49.1	1.02	"	50.8	ND	96.6	59-139
1,1,1-Trichloroethane	55.4	1.02	"	50.8	ND	109	70-130
1,1,2-Trichloroethane	47.2	2.04	"	50.8	ND	92.8	70-130
Trichloroethylene	52.3	1.02	"	50.8	ND	103	62-137
Surrogate: 4-Bromofluorobenzene	53.2		"	50.8		105	54-133
Surrogate: Dibromofluoromethane	51.9		"	50.8		102	65-142
Surrogate: 1,2-Dichloroethane-d4	60.7		"	50.8		120	66-150
Surrogate: Toluene-d8	49.3		"	50.8		97.0	70-121

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

VOA MS - Quality Control
Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch P305078 - Purge and Trap - Soil/Waste SW 5035 Modified

Matrix Spike Dup (P305078-MSD1)	Source: 1305057-03		Prepared: 05/07/13		Analyzed: 05/08/13				
Benzene	51.0	1.02	ug/kg dry	50.2	ND	102	66-142	4.35	21
Bromobenzene	48.5	2.04	"	50.2	ND	96.6	70-130	2.12	20
Bromochloromethane	49.4	1.02	"	50.2	ND	98.3	70-130	4.84	20
Bromodichloromethane	49.5	5.10	"	50.2	ND	98.6	70-130	4.17	20
Bromoform	48.6	1.02	"	50.2	ND	96.7	70-130	0.648	20
Carbon Tetrachloride	53.5	2.04	"	50.2	ND	106	70-130	4.75	20
Chlorobenzene	52.1	1.02	"	50.2	ND	104	60-133	1.99	21
Chloroform	53.1	1.02	"	50.2	ND	106	70-130	4.97	20
1,2-Dibromoethane	44.5	2.04	"	50.2	ND	88.7	70-130	0.194	20
1,1-Dichloroethane	60.9	2.04	"	50.2	ND	121	70-130	5.32	20
cis-1,2-Dichloroethene	49.6	1.02	"	50.2	ND	98.7	70-130	5.55	20
trans-1,2-Dichloroethene	59.1	1.02	"	50.2	ND	118	70-130	5.05	20
1,2-Dichloropropane	50.2	1.02	"	50.2	ND	100	70-130	4.34	20
trans-1,3-Dichloropropene	40.9	1.02	"	50.2	ND	81.5	70-130	2.80	20
Ethylbenzene	50.6	1.02	"	50.2	ND	101	70-130	4.24	20
Methyl-tert-Butyl Ether	52.5	1.02	"	50.2	ND	70-130	0.362	20	
1-Propylbenzene	45.7	2.04	"	50.2	ND	91.0	70-130	9.61	20
1,1,1,2-Tetrachloroethane	54.0	1.02	"	50.2	ND	107	70-130	0.215	20
Toluene	46.5	1.02	"	50.2	ND	92.7	59-139	5.37	21
1,1,1-Trichloroethane	52.7	1.02	"	50.2	ND	105	70-130	5.04	20
1,1,2-Trichloroethane	46.5	2.04	"	50.2	ND	92.5	70-130	1.56	20
Trichloroethylene	49.2	1.02	"	50.2	ND	97.9	62-137	6.05	24
Surrogate: 4-Bromofluorobenzene	53.6	"		50.2		107	54-133		
Surrogate: Dibromofluoromethane	51.6	"		50.2		103	65-142		
Surrogate: 1,2-Dichloroethane-d4	50.4	"		50.2		100	66-150		
Surrogate: Toluene-d8	48.4	"		50.2		96.3	70-121		

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Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Classical Chemistry Parameters - Quality Control

Analytical Chemists Laboratory, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Notes
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Batch P305035 - NO PREP

Duplicate (P305035-DUP1)	Source: 1305048-02	Prepared: 05/03/13	Analyzed: 05/06/13
% Solids	90.3	0.100 [blank]	90.5
Duplicate (P305035-DUP2)	Source: 1305048-03	Prepared: 05/03/13	Analyzed: 05/06/13
% Solids	91.0	0.100 [blank]	91.2

Batch P305049 - NO PREP

Duplicate (P305049-DUP1)	Source: 1305057-03	Prepared: 05/06/13	Analyzed: 05/07/13
% Solids	98.2	0.100 [blank]	98.0

Analytical Chemists Laboratory, LLC.

Michael E. Miller

Michael E. Miller, Ph.D.

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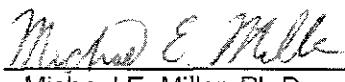
Project: LIRR Morris Park RCRA Closure
Project Number: [none]
Project Manager: Albert Albano

Reported:
05/09/13 09:55

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
- SM Standard Methods for the Examination of Water and Wastewater, 18th edition.
- EPA 40 Code of Federal Regulations, Part 136, October 26, 1984.
- SW SW 846 3rd Edition.
- LT Lachat Method Manual, "Methods List for Automated Ion Analyzers", February 2004.
- ND Indicates analyte not detected at the listed reporting/detection limit.
- dry Sample results reported on a dry weight basis.

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CHAIN OF CUSTODY RECORD

nel C

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Report to: *Al Albano /
Flora Russo*

Results needed by: *Standard*
 (Rush T/A only)

www.achemlabs.com

Laboratory Certification IDs:

NYSDOH: 10950

NJDEP: NY006

EPA: NY01292

This Area for Lab Use Only		Y	N	Work Order Number/Comments:			Notes (Including P.O. #):								
Samples received intact?		<input checked="" type="checkbox"/>		J = 4.3			1305047								
Samples properly preserved?		<input checked="" type="checkbox"/>													
Samples ambient?		<input checked="" type="checkbox"/>													
Rush turnaround requested?		<input checked="" type="checkbox"/>					Matrix Code: 1-water; 2-soil; 3-sludge; 4-oil; 5-wipe; 6-other								
Sample Identification/ Description/Location	Containers		Sample Information			Matrix Code (see above)	Analysis Requested			NaOH + Ascorbic Acid	HNO ₃	H ₂ SO ₄	HCl	None/Other	
	#	Type	Date	Time	Grab/ Composite										
SS-07 (0-6")	1	6 oz Jar	5/2/13	10:30	G	2	TAL Metals								✓
SS-07 (6-12")				10:35			TAL Metals								✓
SS-06 (0-6")				11:00			TAL Metals AND VOC	(full)							
SS-06 (6-12")				11:05			TAL Metals AND VOCs (full)								
SS-06 (2.5-3")				11:10			TAL Metals AND VOCs (full)								
SS-08 (0-6")				11:30			TAL Metals								
SS-09 (6-12")				11:35			TAL Metals								
SS-05 (0-6")				1:30			TAL Metals								
SS-05 (6-12")				1:35			TAL Metals								
SS-03 (0-6")	↓		↓	1:45	↓	↓	TAL Metals								↓
COLLECTED BY: (PRINT NAME)	Albert Albano			PROJECT NAME / DESCRIPTION:			LIRR Morris Park RCRA Closure								
RELINQUISHED BY: (SIGNATURE)	<i>Al Albano</i>			RECEIVED BY: (SIGNATURE)						DATE:			TIME:	AM	
RELINQUISHED BY: (SIGNATURE)				RECEIVED BY: (SIGNATURE)						DATE:			TIME:	PM	
RELINQUISHED BY: (SIGNATURE)				RECEIVED BY LAB: (SIGNATURE)						DATE:			TIME:	AM	
				<i>Ed Hanan</i>						DATE: 5/3/13			TIME: 14:15	PM	

CHAIN OF CUSTODY RECORD

nel c

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59-01 Central Ave., Farmingdale, NY 11735
Tel: (631) 414-7685 Fax: (631) 414-7688
Info@achemlabs.com

Client: Long Island Rail Road	Report to: LIRR - Albano/Russo
Address: 90-27 Sutphin Blvd, 3 rd Floor	
Jamaica, NY 11435	Results needed by: (Rush T/A only)
Tel: (718) 558-7821	Fax: (718) 526-5309

www.zachettlabz.com

Laboratory Certification IDs:

NYSDOH: 10950

NJDEP: NY000

EPA-NY01292

This Area for Lab Use Only		Y / N	Work Order Number/Comments:			Notes (including P.O. #):								
Samples received intact?		<input checked="" type="checkbox"/>	T = 4.3 °C											
Samples properly preserved?		<input checked="" type="checkbox"/>												
Samples ambient?		<input checked="" type="checkbox"/>												
Rush turnaround requested?		<input checked="" type="checkbox"/>				Matrix Code: 1-water; 2-soil; 3-sludge; 4-oil; 5-wipe; 6-other _____								
Sample Identification/ Description/Location	Containers		Sample Information			Matrix Code (see above)	Analysis Requested			NaOH + Ascorbic Acid	HNO ₃	H ₂ SO ₄	HCl	None/Other
	#	Type	Date	Time	Grab/ Composite									
SS-01 (0-6")	1	6oz Jar	5/2/13	2:30	G	2	TAL Metals							L
SS-01 (6-12")	1	↓	↓	2:35	G	2	TAL Metals							L
SS-04 (0-6")	1	↓	↓	2:45	G	2	TAL metals							L
SS-04 (6-12")	1	↓	↓	2:50	G	2	TAL metals							L
SS-02 (0-6")	1	↓	↓	2:00	G	2	TAL METALS							L
SS-02 (1-5")	1	↓	↓	2:10	G	2	TAL METALS							L
<p>*SPOKE WITH AL ALBANO ON MONDAY 5/6/2013 B1</p>														

* Spoke with Al Albano on
Monday 5/6/2013 8:00

COLLECTED BY:
(PRINT NAME)

Albert Albano

PROJECT NAME

LIRR - Morris Park: RCRA Closure

**RELINQUISHED BY
(SIGNATURE)**

(Signature)

RECEIVED BY
(SIGNATURE)

DATE

TIME: AM
PM

**RELINQUISHED BY
(SIGNATURE)**

RECEIVED BY
(SIGNATURE)

DATE

TIME: AM
PM

**RELINQUISHED BY
(SIGNATURE)**

RECEIVED BY LAB:
(SIGNATURE)

DATE

TIME: 19:17 AM