SYOSSET LANDFILL

2018 ANNUAL POST-CLOSURE SUMMARY REPORT

Ground Water-Monitoring Program

TOWN OF OYSTER BAY

DEPARTMENT OF PUBLIC WORKS
SYOSSET, NEW YORK 11791

February 2019

572101

LOCKWOOD
KESSLER &
BARTLETT, INC.
SYOSSET, NEW YORK 11791

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GROUND WATER-MONITORING PROGRAM

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Prepared by:

Lockwood, Kessler and Bartlett, Inc.
One Aerial Way
Syosset, NY 11791

Prepared for:

Town of Oyster Bay
Department of Public Works
150 Miller Place
Syosset, NY 11791

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INTRODUCTION

The Town of Oyster Bay (Town) is required to perform ground-water monitoring at the Syosset Landfill (Landfill) during the post-closure period pursuant to two Records of Decision (RODs) from the United States Environmental Protection Agency (USEPA) Region II for the Landfill. These RODs are enforceable under a Consent Decree (CV-90-4183) entered into by Town and the USEPA.

The scope of the ground water-monitoring program is specified in Section 4 (Groundwater Monitoring System) of the Post-Closure Monitoring and Maintenance Operations Manual (O&M Manual), prepared by Lockwood, Kessler and Bartlett, Inc. (LKB), dated April 2003. The results of the annual groundwater monitoring program have been reported in a separate volume of the Syosset Landfill Annual Post-Closure Summary Reports each year due to the length of the report. In 2018, the Ground Water-Monitoring Program Volume of the 2018 Annual Summary Report is being published separately based on a request from the USEPA.

The main purpose of the ground water-monitoring program is to track ground water-flow and quality conditions now that capping has been completed, to ensure that the Landfill continues to not pose a threat to public health and the environment via the ground-water pathway. The Landfill was removed from the National Priorities List on April 28, 2005.

The USEPA's Fourth Five-Year Review Report was published in February 2017. In this report, the USEPA concluded that the remedies implemented for the site are protective of human health and the environment. In addition, the USEPA granted a reduction in the frequency of post-closure groundwater monitoring from annually to once every fifth quarter enabling the monitoring of groundwater once in each quarter during a Five-Year Review period. In 2018, groundwater monitoring was performed during the first quarter which was five quarters after the previous groundwater monitoring event conducted in the fourth quarter of 2016.

The ground water-monitoring system for the Landfill is comprised of 20 wells. The locations of the wells are indicated in Figure 1. As shown in this figure, thirteen of the wells are located onsite, along the upgradient (south) boundary, within, and along the downgradient (north) boundary of the Landfill. The other eight wells are located offsite, downgradient of the Landfill, in three clusters. The on-site wells are screened in either the shallow, intermediate or deep zone of the Magothy Aquifer, which is the uppermost aquifer. The overlying Upper Glacial Formation is unsaturated beneath the Landfill, and all of the off-site downgradient wells are screened in the Magothy Aquifer.

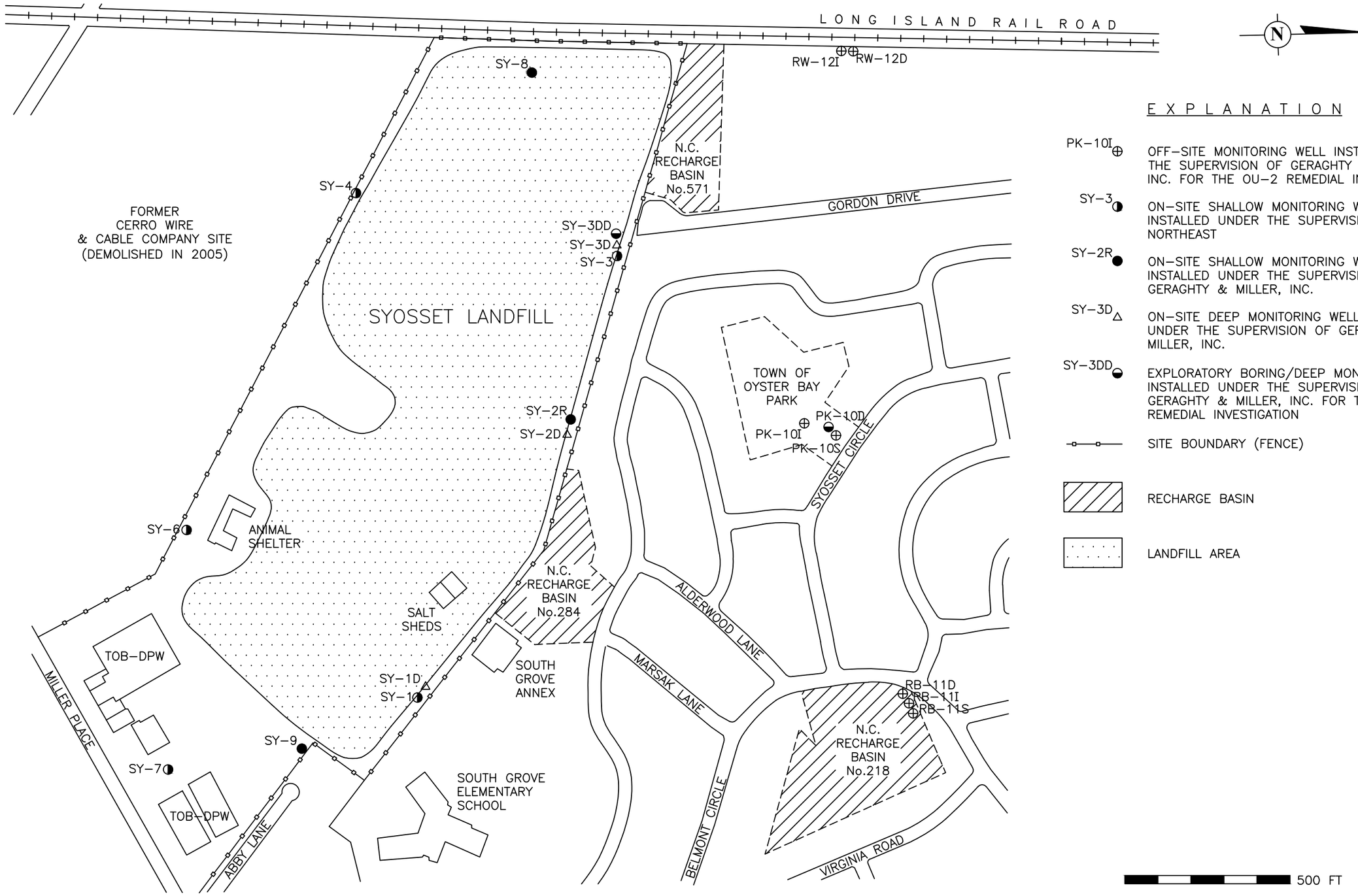

FIGURE 1

GROUNDWATER MONITORING WELL LOCATION PLAN
SYOSSET LANDFILL, SYOSSET, NY

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The post-closure monitoring well network is comprised of the following 11 wells:

- SY-6 (Upgradient Well);
- SY-2R, SY-2D, SY-3, SY-3D and SY-3DD (On-Site Downgradient Wells); and
- PK-10S, PK-10I, PK-10D, RW-12I and RW-12D (Off-Site Downgradient Wells).

This Report presents the results of the 2018 annual ground water-monitoring round, which was performed on March 14th, 26th, 27th and 28th. The scope of work for this monitoring round followed Section 4.0 of the O&M Manual, and incorporated the recommendations in the 2016 ground water-monitoring round report.

Sections 2.0 through 4.0 of this Report summarize the results of monitoring well inspections, water-level measurements and ground-water sampling, respectively. Section 5.0 compares the 2018 results to the previous annual post-closure monitoring results obtained since 2003, and to the 1988 OU-1 RI and 1993 OU-2 RI results. Conclusions and recommendations based on the results are provided in Section 6.0. Each section is supported by tables, figures and appendices, as appropriate.

SECTION 2

RESULTS OF TASK 1 – WELL INSPECTION, MODIFICATION AND/OR REPAIR

Prior to performing the 2018 ground water-monitoring round, the 20 existing monitoring wells were located and inspected. All appeared to be in usable condition, and no significant modifications or repairs were required to the 11 wells that are monitored for ground-water quality. Well SY-9 was found to still be dry, which is consistent with the fact that the water-table elevation site-wide decreased by approximately one foot since the 2016 monitoring round. The inspection information for each existing ground water-monitoring well was recorded on a Well Inspection Checklist form, copies of which are presented in Appendix A.

SECTION 3

RESULTS OF TASK 2 – WATER-LEVEL MEASUREMENT

The 2018 synoptic water-level round was performed on March 14th. Measurements were made to the nearest 0.01-feet utilizing an electronic water-level meter. Water-level measurements were obtained from 19 of the 20 site monitoring wells. Well SY-9 could not be measured because it was dry due to the ongoing near-record low water table.

The 2018 water-level data are summarized in Table 1. Monitoring well construction details are provided in Table 2. Ground water-flow maps for the shallow, intermediate, and deep zones of the Magothy Aquifer in the vicinity of the Landfill, based on the 2018 water-level measurements, are provided in Figures 2, 3 and 4, respectively.

3.1 Horizontal Ground Water-Flow Directions and Gradients

3.1.1 Shallow Zone

As shown in Figure 2, the overall horizontal ground water-flow direction in the shallow zone of the Magothy Aquifer beneath the Landfill is from south to north. Downgradient of the Landfill, horizontal ground water-flow directions converge in the vicinity of Well Cluster PK-10 and then shift direction to the north-northwest. Moreover, based on the ground water-flow directions shown in Figure 2, Well Cluster RW-12 is located sidegradient to, rather than directly downgradient of, the Landfill.

The converging ground water-flow pattern observed in the shallow zone of the Magothy Aquifer downgradient of the Landfill is attributed to the influence of a buried glacial valley that begins beneath the western half of the Landfill and appears to trend to the north-northeast. The Upper Glacial Formation is unconfined and more permeable than the Magothy Formation, which is locally semi-confined. Therefore, in the vicinity of the buried glacial valley, ground water tends to flow out of the section of Magothy Formation in contact with the buried glacial valley and into the Upper Glacial Formation, resulting in the converging flow pattern observed. The buried glacial valley is discussed in more detail in Section 3.3 below.

The horizontal hydraulic gradient for the shallow zone of the Magothy Aquifer, calculated by dividing the difference in water-level elevation between Well SY-6 and Well PK-10S in 2018 (1.65 feet) by the distance between the two wells (1,975 feet), is 0.0008. This gradient similar to the gradients observed from 2013 through 2016, and during the pre-2011 monitoring rounds, and therefore appears to represent typical conditions. In contrast, in 2011 and 2012, lower horizontal hydraulic gradients were observed in this aquifer zone. They were attributed to the unusually rapid rises in the water-table elevation in late 2011 and late 2012 due to the above-normal infiltration from the hurricanes and nor'easters that occurred earlier in those years.

Table 1
Summary of Water-Level Results
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Well No.	MP Elev.	MP Description	WL Depth	WL Elev.	Vertical Gradient (ft/ft)
On-Site Wells					
SY-1	198.48	Top of 2-inch steel casing.	120.80	77.68	-0.0023 (SY-1 / SY-1D)
SY-1D	197.02	Top of 4-inch PVC cap.	119.21	77.81	
SY-2R	190.86	Top of 4-inch PVC casing.	113.52	77.34	0.0045 (SY-2R / SY-2D)
SY-2D	190.91	Top of 3-inch PVC casing.	113.91	77.00	
SY-3	193.96	Top of 2-inch steel casing.	116.51	77.45	0.0085 (SY-3 / SY-3D)
SY-3D	194.47	Top of 3-inch PVC casing.	117.48	76.99	0.0008 (SY-3D / SY-3DD)
SY-3DD	193.95	Top of 2-inch PVC casing.	117.24	76.71	
SY-4	192.39	Top of 2-inch steel casing.	114.00	78.39	
SY-6	186.94	Top of 2-inch steel casing.	108.63	78.31	
SY-7	197.46	Top of 2-inch steel casing.	118.57	78.89	
SY-8	197.94	Top of 4-inch PVC cap.	119.86	78.08	
SY-9	202.41	Top of 4-inch PVC casing.	Dry	<79.50*	
Off-Site Wells					
PK-10S	188.73	Top of 4-inch PVC casing.	112.07	76.66	0.0015 (PK-10S / PK-10I)
PK-10I	187.10	Top of 4-inch PVC casing.	110.76	76.34	0.0000 (PK-10I / PK-10D)
PK-10D	188.25	Top of 4-inch PVC casing.	111.91	76.34	
RW-12I	197.32	Top of 4-inch PVC casing.	121.20	76.12	0.0009 (RW-12I / RW-12D)
RW-12D	197.29	Top of 4-inch PVC casing.	121.30	75.99	
RB-11S	189.91	Top of 4-inch PVC cap.	112.64	77.27	0.0044 (RB-11S / RB-11I)
RB-11I	190.32	Top of 4-inch PVC cap.	113.99	76.33	-0.0001 (RB-11I / RB-11D)
RB-11D	190.60	Top of 4-inch PVC cap.	114.26	76.34	

Notes:
Water-level data collected on March 14, 2018.
MP - Measuring Point.
* Approximate elevation of bottom of well screen.

Table 2
Summary of Construction Details for Monitoring Wells Installed at and Near the Syosset Landfill
(Reference: OU-2 RI Report, 1993)

Well Designation	Completion Date	Well Diameter (inches)	Total Depth (feet below land surface)	Screen Setting (feet below land surface)	Interval Gravel Packed (feet below land surface)	Interval Sealed With Bentonite Pellets (feet below land surface)	Interval Sealed With Bentonite Slurry/Volclay (feet below land surface)	Height of Measuring Point (a) (relative to land surface)	Elevation of Measuring Point (b) (feet above mean sea level)	Well Casing and Screen Material
SY-1 (c)	10/19/82	2	135	125 - 135 (d)	35 - 135 (d)	34 - 35	8 - 34 (e)	-0.15	194.52	Black steel
SY-1D	2/2/88	4	218	182 - 192	179 - 218	177 - 179	2 - 177	+2.31	197.36	PVC
SY-2R	2/12/88	4	150	115 - 125	112 - 150	110 - 112	2 - 110	+1.95	187.12	PVC
SY-2D	2/9/88	3	215	190 - 200	187 - 215	185 - 187	2 - 185	+2.18	186.33	PVC
SY-3 (c)	10/20/82	2	145	135 - 145	47 - 145 (d)	45 - 47	4 - 45 (e)	-0.50	191.38	Black steel
SY-3D	2/25/88	3	240	189 - 199	184 - 240	181 - 184	2 - 181	+2.45	194.74	PVC
SY-3DD	**12/9/92**	**2**	**540**	**530 - 540**	**517 - 540**	**512 - 517 (f)**	**2 - 512**	**0**	**194.23**	**PVC, stainless steel**
SY-4	10/20/82	2	153	143 - 153 (d)	57 - 153 (d)	54 - 57	4 - 54 (e)	-0.20	193.32	Black steel
SY-5 (c) (h)	10/20/82	2.5	135	125 - 135 (d)	46 - 135 (d)	44 - 46	5 - 44 (e)	+4.20	188.07	Galvanized steel
SY-6 (c)	10/19/82	2	145	135 - 145 (d)	31 - 145 (d)	28 - 31	5 - 28 (e)	-0.10	185.92	Black steel
SY-6D	3/9/88	4	215	195 - 205	192 - 215	190 - 192	3 - 192	-0.30	185.60	PVC
SY-7 (c)	10/21/82	2	145	135 - 145 (d)	52 - 145 (d)	49 - 52	5 - 49 (e)	-0.25	197.46	Black steel
SY-8	12/19/87	4	142	127 - 137	125 - 142	122 - 125	2 - 122	+2.25	195.84	PVC
SY-9	1/29/88	4	140	110 - 120	107 - 140	105 - 107	2 - 105	-0.70	199.41	PVC
W-3	11/10/87	2	120	105 - 115	102 - 120	100 - 102	2 - 100	+2.63	190.61	PVC
W-4 (h)	11/18/87	2	120	104 - 114	102 - 120	100 - 102	2 - 100	+2.56	192.82	PVC
PK-10S	**3/25/93**	**4**	**149**	**139 - 149**	**5 - 149**	**(i)**	**(i)**	**-0.40**	**188.70**	**PVC, stainless steel**
PK-10I	**4/14/93**	**4**	**362**	**352 - 362**	**346.5 - 363**	**341.5 - 346.5 (f)**	**2 - 341.5 (g)**	**0**	**187.62**	**PVC, stainless steel**
PK-10D	**12/31/92**	**4**	**499**	**489 - 499**	**477 - 500**	**472 - 477 (f)**	**2 - 472 (g)**	**0**	**188.23**	**PVC, stainless steel**
RB-11S	**8/26/93**	**4**	**143**	**133 - 143**	**120 - 144**	**115 - 120 (f)**	**2 - 115 (g)**	**0**	**189.91**	**PVC, stainless steel**
RB-11I	**8/19/93**	**4**	**358.5**	**348.5 - 358.5**	**339 - 359**	**333 - 339 (f)**	**2 - 333 (g)**	**0**	**190.32**	**PVC, stainless steel**
RB-11D	**8/9/93**	**4**	**503**	**493 - 503**	**487 - 509**	**480 - 487 (f)**	**2 - 480 (g)**	**0**	**190.60**	**PVC, stainless steel**
RW-12I	**10/7/93**	**4**	**360**	**350 - 360**	**338 - 364**	**330 - 338 (f)**	**2 - 330 (g)**	**0**	**197.76**	**PVC, stainless steel**
RW-12D	**9/27/93**	**4**	**500**	**490 - 500**	**482 - 508**	**475 - 482 (f)**	**2 - 482 (g)**	**0**	**197.72**	**PVC, stainless steel**

(a) The measuring point of each well is the top of the well casing.
(b) Survey performed to U.S. Geological Survey (USGS) datum.
(c) Well installed during the ERM-Northeast site investigation.
(d) It appears that this interval consists of formation collapse.
(e) Information not available as to whether grout or backfill (drill cuttings) was used to fill the annular space in this interval.
(f) #00 Sand used above J. Morie, Co. No. 1 Sand.
(g) Volclay grout sealant used (composed of 100 percent bentonite).
(h) Destroyed.
(i) Well PK-10S was installed in the initial PK-10I borehole, which had collapsed at 328 feet due to unstable formation; PK-10S was constructed with the gravel pack extending to within 5 feet of land surface to allow for the gravel pack to stabilize before a permanant seal was installed. PK-10S is currently sealed at the land surface with a steel plate and rubber gasket. Gravel can be monitored/added through a 1-inch diameter access port.
PVC Polyvinyl chloride.

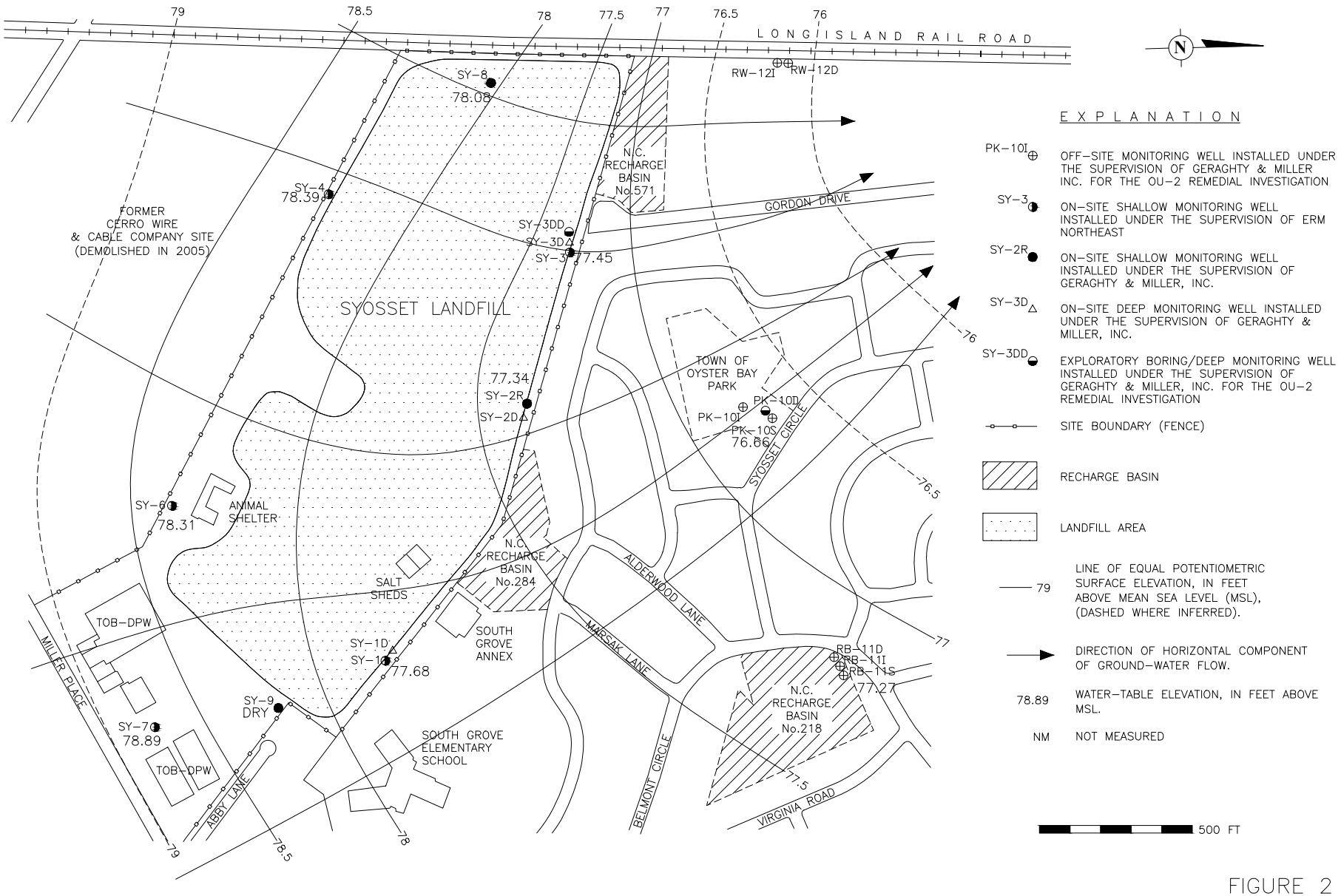

FIGURE 2

POTENTIOMETRIC SURFACE OF THE SHALLOW ZONE OF THE MAGOTHY AQUIFER ON MARCH 4, 2018
SYOSSET LANDFILL, SYOSSET, NY

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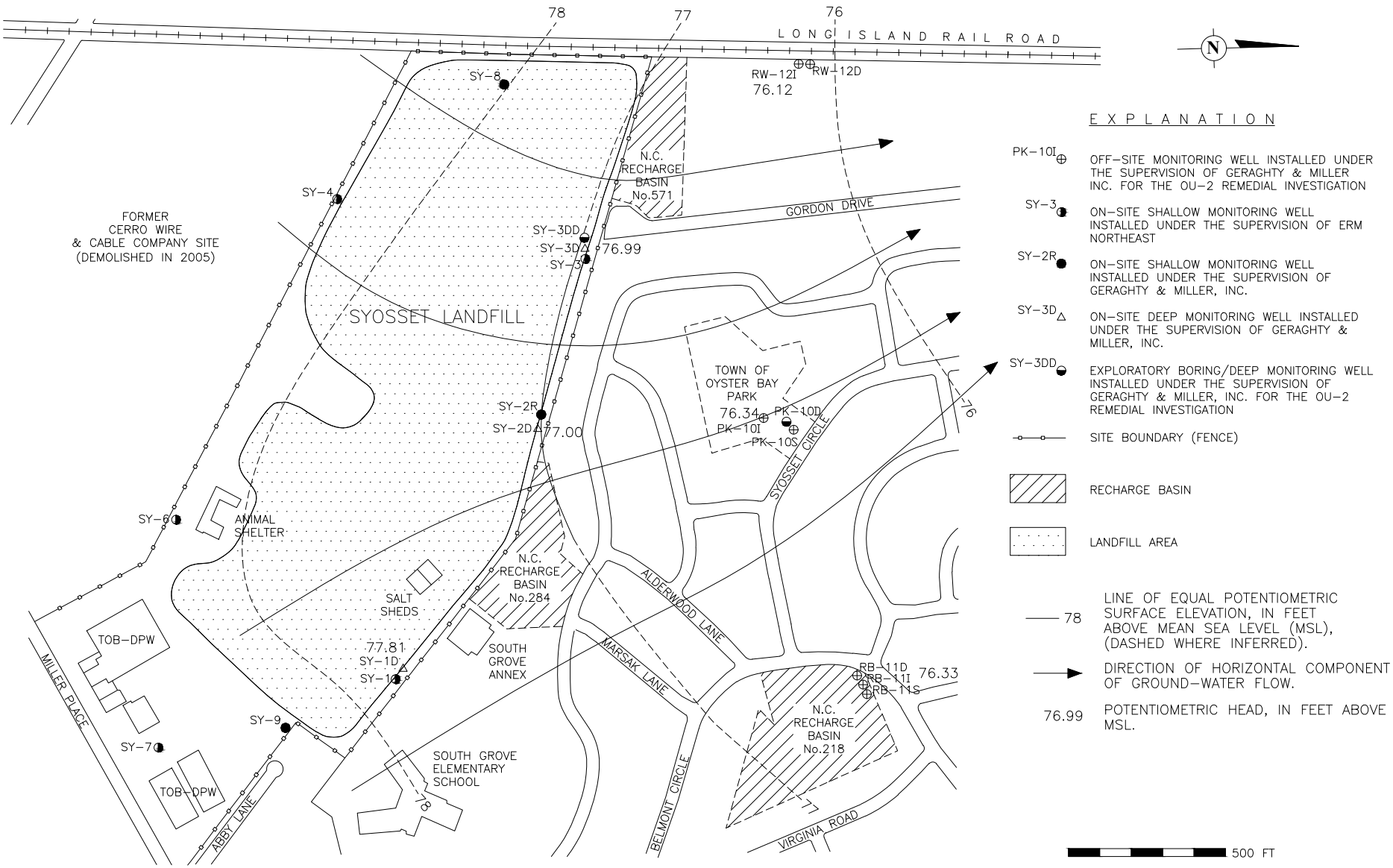

FIGURE 3

POTENTIOMETRIC SURFACE OF THE INTERMEDIATE ZONE OF THE MAGOTHY AQUIFER ON MARCH 14, 2018
SYOSSET LANDFILL, SYOSSET, NY

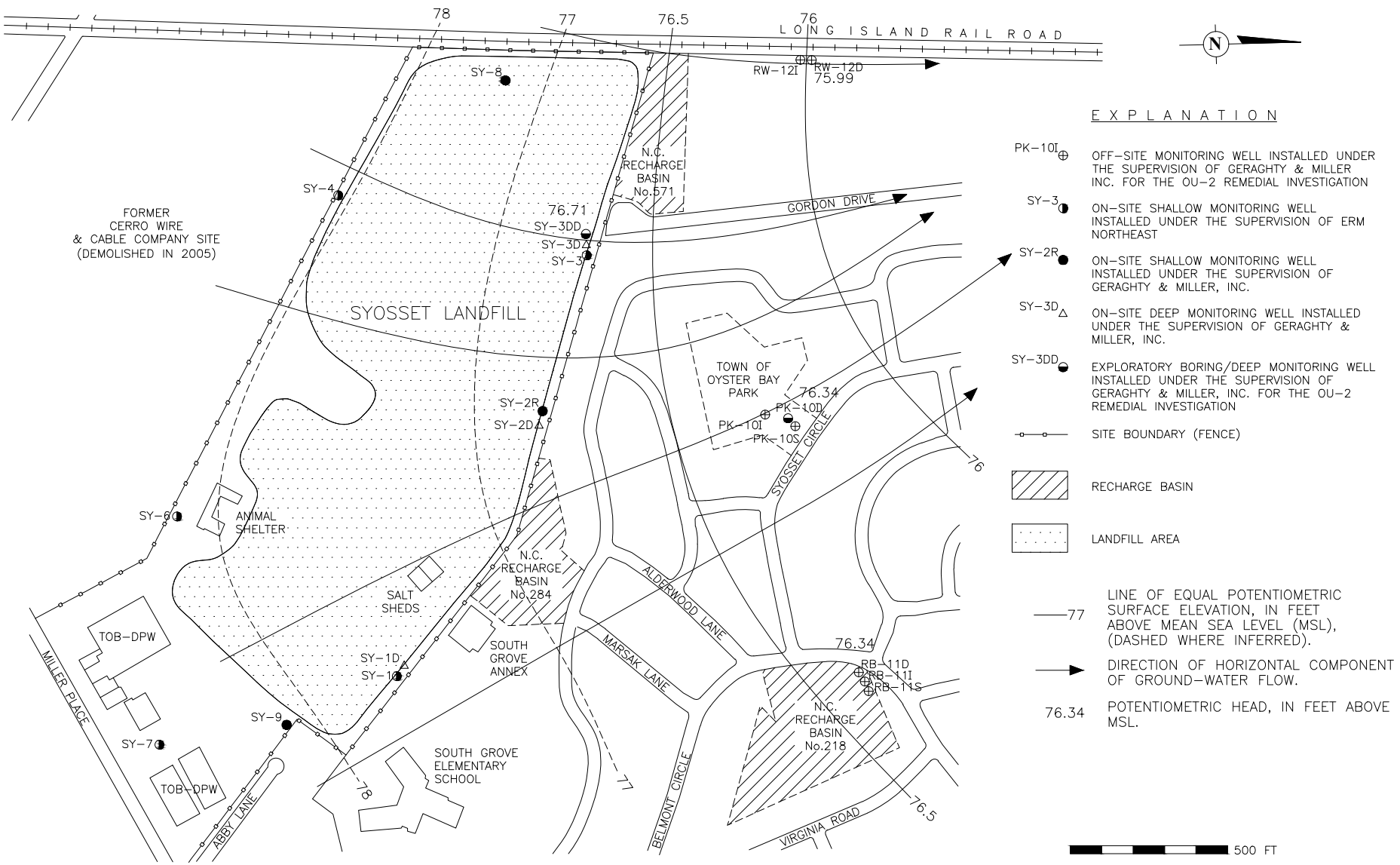

FIGURE 4

DEEP POTENTIOMETRIC SURFACE ZONE OF THE MAGOTHY AQUIFER ON MARCH 14, 2018
SYOSSET LANDFILL, SYOSSET, NY

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3.1.2 Intermediate Zone

As shown in Figure 3, based on the 2018 data, horizontal ground water-flow directions in the intermediate zone of the Magothy Aquifer are also generally from south to north beneath the Landfill. They also converge slightly downgradient of the Landfill in the vicinity of Well Cluster PK-10, although the degree of convergence is much less than is observed in the shallow zone of the Magothy Aquifer, and then also shift direction to the north-northwest.

The horizontal hydraulic gradient for the intermediate zone of the Magothy Aquifer, based on difference in water-level elevation in Wells SY-1D and PK-10I (1.47 feet) and the distance between the wells (1,400 feet), is 0.0010, which is similar to, but slightly higher than, the shallow zone gradient.

3.1.3 Deep Zone

As shown in Figure 4, based on the 2018 data, the horizontal ground water-flow direction in the deep zone of the Magothy Aquifer is generally from south-southeast to north-northwest in the vicinity of the Landfill. This flow direction is based on data from just four downgradient wells and should therefore be considered approximate. However, it is consistent with the shallow and intermediate zone results, as well as the results from previous monitoring rounds. The convergence noted in the shallower zones of the Magothy Aquifer is not observed in this zone. This finding is consistent with the fact that the deep zone of the Magothy Aquifer is not bisected by the buried glacial valley.

The horizontal hydraulic gradient for the deep zone of the Magothy Aquifer, based on the difference in the water-level elevation in Wells SY-3DD and RW-12D (0.72 feet) and the distance between the wells (900 feet), is 0.0008, which is consistent with the horizontal hydraulic gradients in the shallow and intermediate zones of the aquifer.

3.2 Vertical Hydraulic Gradients

Vertical hydraulic gradients are an indication of whether vertical ground water-flow directions, in the absence of confining units, are upward, downward or negligible. Vertical hydraulic gradients calculated using the available 2018 water-level data are included in Table 1. A positive value indicates a downward gradient, whereas a negative value indicates an upward gradient. The vertical hydraulic gradients shown in Table 1 indicate that downward gradients predominate, and that the highest-magnitude downward gradients occur between the shallow and intermediate zones of the Magothy Aquifer at On-Site Downgradient Well Clusters SY-2 and SY-3, and at Off-Site Downgradient Well Cluster RB-11. The vertical hydraulic gradient between the shallow and intermediate zones of the Magothy Aquifer is not calculated for Well Cluster RW-12 because there is no shallow zone well at this location.

A slightly upward gradient was observed between the shallow and intermediate zones of the Magothy Aquifer at Well Cluster SY-1 again in 2018. During pre-2016 monitoring rounds, downward gradients were observed at this location. The slightly upward gradients observed in 2016 and 2018 are attributed to a localized response of the shallow zone of the Magothy Aquifer to below-average recharge from precipitation.

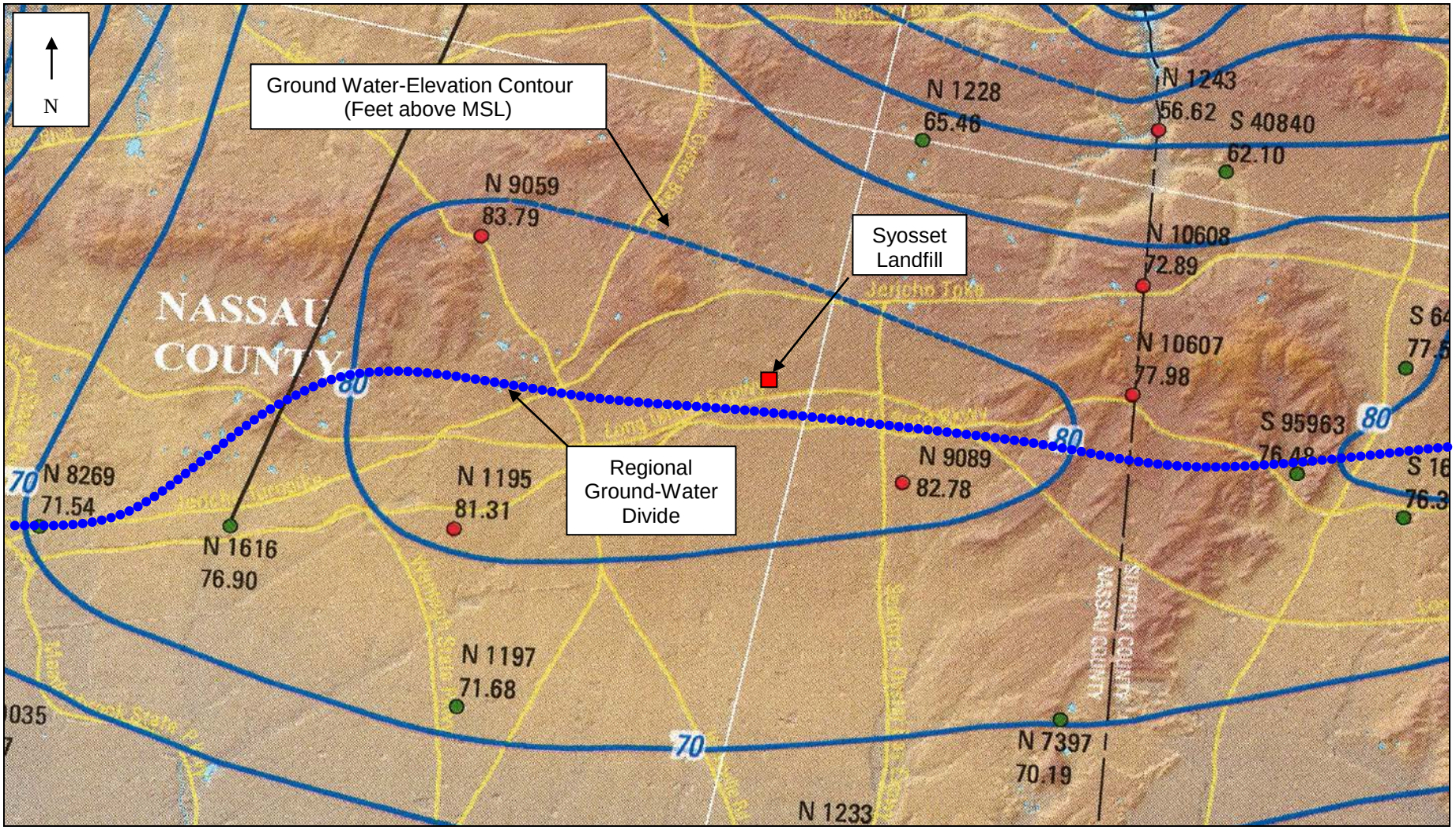
Vertical hydraulic gradients between the intermediate and deep zones of the Magothy Aquifer are lower in magnitude and varied from downward to slightly upward at the three downgradient well clusters for which data are available.

The predominance of downward vertical hydraulic gradients indicates the potential for ground water to migrate vertically downward in the absence of hydraulic barriers such as clay layers. Comparison of the average vertical gradient between the shallow and intermediate zone wells at each cluster (0.002) to the horizontal gradient of the shallow zone of the Magothy Aquifer (0.0008) indicates that it is 2.5 times higher. This finding is consistent with the Landfill being located near the regional ground-water divide, as shown in Figure 5. Typically, ground water-flow directions in such areas have a strong downward component. For this reason, assessment of impacts to the intermediate and deep zone wells must also take ground water-flow patterns in the shallow zone of the Magothy Aquifer into consideration.

3.3 Influence of the Buried Glacial Valley on Ground Water-Flow Patterns

Figure 6 shows a generalized structure contour map of the top of Magothy Formation based on the well boring logs from the OU-1 and OU-2 RIs. As shown in Figure 6, a trough in the Magothy Formation begins beneath the western portion of the Landfill and extends off-site, apparently to the north-northeast. This feature was formed by erosion of the Magothy Formation by the overlying Upper Glacial Formation, and is known as a buried glacial valley.

Due to differences in the hydraulic properties of Upper Glacial and Magothy Formations, the buried glacial valley influences local ground water-flow patterns. Specifically, the Upper Glacial Formation is more permeable than the Magothy Formation, which is finer-grained and contains localized clay layers that can cause semi-confined conditions. Therefore, in the vicinity of the buried glacial valley, ground water tends to flow out of the Magothy Aquifer and into the Upper Glacial Formation due to the hydraulic pressure differential between the formations. The influence of the buried glacial valley is most pronounced where it intersects the water table. Comparison of the structural contours in Figure 6 to the water-level data in Figure 2 indicates that the buried glacial valley gets deeper to the north-northeast and intersects the water table downgradient of the Landfill. This finding explains the converging ground water-flow patterns in the shallow and intermediate zones of the Magothy Aquifer downgradient of the Landfill.



Source: Sheet 1 of USGS Scientific Investigations Map 3326, showing water table-elevation contours during April-May 2013.

FIGURE 5

LOCATION OF SYOSSET LANDFILL
RELATIVE TO REGIONAL GROUND-WATER DIVIDE

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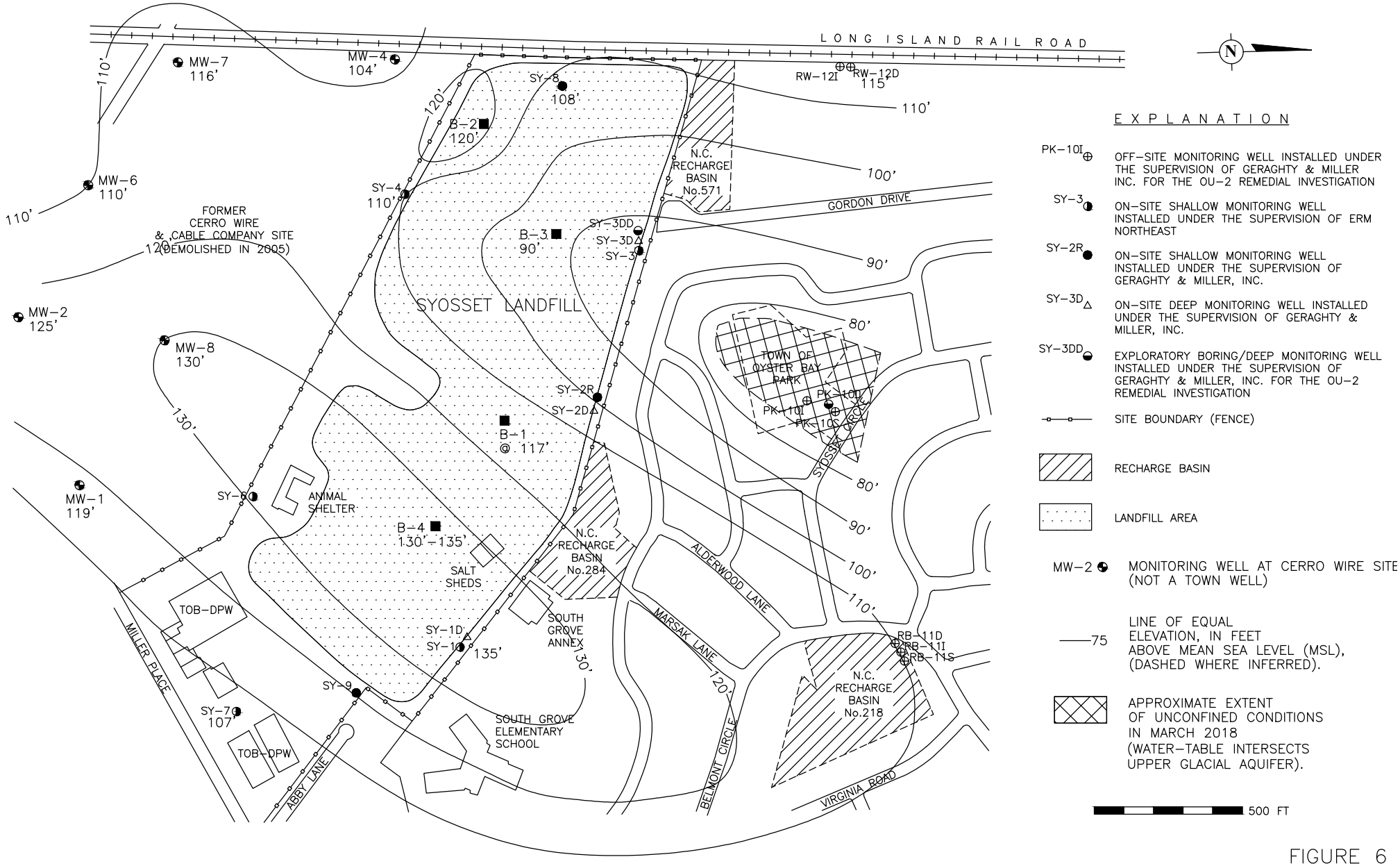

FIGURE 6

GENERALIZED STRUCTURE CONTOUR MAP OF THE TOP OF THE MAGOTHY FORMATION
SYOSSET LANDFILL, SYOSSET, NY

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Moreover, it should be noted that as a result of the tendency for horizontal ground water-flow directions in the shallow and intermediate zones of the Magothy Aquifer to converge downgradient of the Landfill, there is potential for contamination that is not associated with the Landfill to migrate into the area downgradient of the Landfill. For example, in 2005, the gasoline service station located on the northwest corner of the intersection of South Oyster Bay Road and Miller Place replaced its underground storage tanks. LKB personnel noted that the excavated soil stockpile exhibited a very strong gasoline odor, indicating that a release had occurred. This gasoline service-station site could potentially be a source of the gasoline-related VOCs that were previously detected periodically at Well Cluster PK-10.

Also during 2005, the former Cerro Wire site, located adjacent to and upgradient of the Landfill, and comprised of a large industrial building, water tower and paved parking areas, was demolished and a large quantity of contaminated soil was reportedly removed. The site was an open excavation for most of 2005, but was eventually re-graded, covered with topsoil and seeded, and is presently vacant land. The changes at the Cerro Wire site in 2005 have resulted in increased recharge directly upgradient of the Landfill and could potentially result in contamination from that site migrating north beneath the Landfill. Moreover, redevelopment of the former Cerro Wire site is currently being proposed. Future excavation associated with that redevelopment could also potentially influence ground-water conditions beneath the Landfill.

SECTION 4

RESULTS OF TASK 3 – GROUND-WATER MONITORING

The 2018 ground water-quality monitoring round was performed on March 26th, 27th and 28th, and included the following 11 wells specified in the O&M Manual:

- SY-6 (Upgradient Well);
- SY-2R, SY-2D, SY-3, SY-3D and SY-3DD (On-Site Downgradient Wells); and
- PK-10S, PK-10I, PK-10D, RW-12I and RW-12D (Off-Site Downgradient Wells).

These ground water-monitoring wells were purged and sampled utilizing the modified low-flow procedure. The purge water from the off-site downgradient wells was collected and disposed of at a licensed facility. Daily trip blanks, a field blank, a matrix spike/matrix spike duplicate, and an anonymous duplicate sample from Well SY-3, labeled “Well SY-5”, were also collected.

The samples were analyzed for the following parameters:

- USEPA Target Compound List (TCL) of Volatile Organic Compounds (VOCs)
- NYSDEC Part 360 Baseline Field and Leachate Indicator Parameters
- Total and Dissolved USEPA Target Analyte List (TAL) Inorganic Parameters
- Total Cyanide

The ground-water samples were collected by LKB. The water purged from the off-site downgradient wells was collected and disposed of by Eastern Environmental Solutions, Inc. of Manorville, New York. Laboratory analyses were performed by CHEMTECH of Mountainside, New Jersey. The results were validated by Environmental Data Services, Inc. of Virginia Beach, Virginia.

The field parameter readings and validated laboratory results are summarized in Tables 3 through 7. The monitoring results are compared to NYSDEC Part 703 Ambient Water Quality Standards and Guidelines for Class GA (potable) ground water, except for the parameters arsenic and total dissolved solids (TDS). The results for arsenic and TDS are compared to the Federal MCL for arsenic and SMCL for TDS, respectively, because they are more stringent than the NYSDEC standards for these parameters. The data usability summary reports and validated laboratory data are provided in Appendix B.

4.1 Results of Field Parameter Measurements

Prior to collecting the field parameter readings, a minimum of one well casing volume plus ten percent was purged from each well. Field parameters were then monitored continuously utilizing a YSI Professional Handheld Multiparameter Water Quality Meter equipped with a flow-through cell until the readings stabilized. Turbidity was also monitored with a Hach portable turbidity meter. The final field readings are provided in Table 3. Review of Table 3 indicates noticeable differences for certain field parameters in certain downgradient wells, relative to Well SY-6. The specific differences vary by well and are summarized in the table below:

Well No.	Field Parameter Difference(s) Relative to Upgradient Well SY-6
SY-2R	Higher conductivity, lower pH.
SY-2D	Higher conductivity, lower dissolved oxygen (DO).
SY-3	Higher conductivity, lower DO; negative oxidation-reduction potential (ORP).
SY-3D	Higher temperature and conductivity; lower DO; negative ORP, odor.
SY-3DD	Lower conductivity; higher DO.
PK-10S	Lower temperature, conductivity and pH.
PK-10I	Higher conductivity; lower DO.
PK-10D	Higher conductivity; lower DO.
RW-12I	Higher conductivity; lower DO.
RW-12D	Higher conductivity; lower DO.

Most of these differences, while noticeable, actually represent relatively minor ground water-quality impacts; and most occurred in the on-site downgradient wells. Overall, these findings are consistent with previous years' field parameter results. No significant potentially Landfill-related differences were noted for Well SY-3DD. Turbidity was also lower in all of the downgradient wells relative to Upgradient Well SY-6.

Standards exist for two of the field parameters – pH and turbidity. The pH of ground water in nine of the 11 wells, including the upgradient well, was lower than the 6.5-standard unit range minimum. These results are attributed to naturally-occurring low-pH of the ground water on Long Island. The turbidity of the ground water in all of the downgradient wells was less than the 5-NTU limit. The only exceedance for turbidity occurred in Well SY-6 and is attributed to its shallower depth and the low water table.

Table 3
Summary of Field Parameter Monitoring Results
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Field Parameter	Units	Water[1] Quality Standard	Upgradient Well	Downgradient Wells									
				On-Site					Off-Site				
			SY-6	SY-2R	SY-2D	SY-3	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
Temperature	°C	--	15.2	14.2	14.5	16.5	17.1	15.7	13.1	15.7	14.5	14.1	14.8
Conductivity	µS/cm	--	319	1,470	1,434	1,460	1,923	32.9	126	1,989	469	1,791	965
Dissolved Oxygen	mg/L	--	5.54	3.78	1.41	0.39	0.59	7.66	5.48	0.46	0.53	0.66	0.59
pH	SU	6-5-8.5	**6.13**	**5.23**	**5.85**	6.50	6.56	**5.61**	**5.38**	**5.93**	**5.40**	**6.44**	**5.73**
Oxidation-Reduction Potential	mV	--	153	63.6	123	-97.9	-57.6	91.6	170	205	191	95.5	157
Field Observations	NA	--	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,	Clear,
		--	No Odor	No Odor	Slight Odor	No Odor	Strong Odor	No Odor	No Odor	No Odor	No Odor	No Odor	No Odor
Turbidity	NTU	5	**11.50**	2.61	2.71	1.72	0.67	0.81	0.69	0.36	0.25	0.63	0.22

Notes:

1 = NYSDEC Part 703 Ambient Water Quality Standards or Guidance Value (GV) for Class GA (Potable) ground water.
°C = Degrees Celcius.
µS/cm = microSiemens per centimeter.
milligrams per Liter = milligrams per Liter.
SU = Standard Units.
mV = milliVolts.
NA = Not applicable.
NTU = Nephelometric Turbidity Units.
Bold and Underlined = Exceeds ground water-quality standard or guidance value.
-- = No standard or guidance value.

4.2 Results of Volatile Organic Compound (VOC) Analyses

The 2018 VOC results are summarized in Table 4. As shown in Table 4, VOCs detections in Upgradient Well SY-6 were limited to a low, estimated concentration of acetone. Regarding the on-site downgradient wells, VOCs were not detected in Wells SY-2R, SY-2D, SY-3 and SY-3DD. VOCs were detected in Well SY-3D, but were limited to low, primarily estimated concentrations of four VOCs that are much lower than their respective Class GA ground-water standards. The four VOCs detected in Well SY-3D were the solvents acetone, cis-1,2-dichloroethene and trichloroethene (TCE), and the aromatic hydrocarbon chlorobenzene.

At Off-Site Downgradient Well Cluster PK-10, VOCs were not detected in the shallow zone well, Well PK-10S. VOCs were detected in the two deeper wells, Wells PK-10I and PK-10D, but were limited to relatively low, primarily estimated, concentrations of one to three VOCs in each well. The VOCs detected in these two wells were chlorobenzene, chloroform and TCE, all at concentrations lower than their respective Class GA ground-water standard or guidance value, as applicable.

At Off-Site Downgradient Well Cluster RW-12, a number of chlorinated solvents and aromatic hydrocarbons were detected in both wells. For the most part, the same VOCs were detected in both wells, however the highest concentration of most of the VOCs occurred in the deep zone well, Well RW-12D. Total VOC concentrations in these two wells were 29.5 ug/L and 47.0 ug/L, respectively. These results represent decreases of approximately 45 and 51 percent, respectively, relative to the 2016 results, but are still consistent with the historical results for these wells.

The concentrations of three VOCs in Well RW-12I (chlorobenzene, 1,2-dichlorobenzene and 1,4-dichlorobenzene) and five VOCs in Well RW-12D (chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane and cis-1,2-dichloroethene) were higher than their respective Class GA ground-water standards. However, with the exception of the chlorobenzene detections, which exceeded the 5-ug/L Class GA standard by factors of approximately two and three in Wells RW-12I and RW-12D, respectively, the VOC exceedances in these two wells were low in magnitude.

In summary, the VOC results from the 2018 post-closure monitoring round continue to indicate that the Landfill is not a significant source of VOCs. Specifically, VOC detections in the on-site downgradient wells were limited to low, primarily estimated concentrations of three VOCs in Well SY-3D. Moreover, the fact that most of the VOCs detected at Off-Site Downgradient Well Cluster RW-12 are not present in the on-site downgradient wells indicates that they are not Landfill-related. This finding is consistent with the ground water-flow directions shown in Figures 2 through 4, which indicate that Well Cluster RW-12 is located sidegradient to, rather than directly downgradient of, the Landfill.

Table 4
Summary of Volatile Organic Compound (VOC) Results
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Analyte	Units	Water[1] Quality Standard	Upgradient Well	Downgradient Wells										
				On-Site						Off-Site				
			SY-6	SY-2R	SY-2D	SY-3	SY-5[2]	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
1,1,1-Trichloroethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,2,2-Tetrachloroethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,2-Trichloroethane	ug/L	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1,2-Trichlorotrifluoroethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,1-Dichloroethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3	**5.4**
1,1-Dichloroethene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.8 J	<0.2
1,2,3-Trichlorobenzene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2,4-Trichlorobenzene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dibromoethane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichlorobenzene	ug/L	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**3.1**	**4.8**
1,2-Dichloroethane	ug/L	0.6	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,2-Dichloropropane	ug/L	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
1,3-Dichlorobenzene	ug/L	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.2	1.7
1,4-Dichlorobenzene	ug/L	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	**4.9**	**6.6**
2-Butanone	ug/L	50[GV]	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	<2.5	<2.5	<2.5	<2.5	<2.5
2-Hexanone	ug/L	50[GV]	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<2.5	<2.5	<2.5	<2.5	<2.5
4-Methyl-2-pentanone	ug/L	--	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	ug/L	50[GV]	4.4 J	<0.5	<0.5	<0.5	<0.5	10.2	<0.5	<1	<1	<1	<1	<1
Benzene	ug/L	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.51 J	<0.2
Bromochloromethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
Bromodichloromethane	ug/L	50[GV]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromoform	ug/L	50[GV]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Bromomethane	ug/L	5	<0.2 J	<0.2 J	<0.2 J	<0.2 J	<0.2 J	<0.2 J	<0.2	<0.2 J	<0.2 J	<0.2 J	<0.2 J	<0.2 J
Carbon disulfide	ug/L	60[GV]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Carbon tetrachloride	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chlorobenzene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	0.24 J	<0.2	<0.2	2.1	0.59 J	**9.7**	**18.3**
Chloroethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
Chloroform	ug/L	7	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	3.2	<0.2	0.99 J
Chloromethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
cis-1,2-Dichloroethene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	0.35 J	<0.2	<0.2	<0.2	<0.2	2.7	**5.2**
cis-1,3-Dichloropropene	ug/L	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cyclohexane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dibromochloromethane	ug/L	50[GV]	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Dichlorodifluoromethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Ethylbenzene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Isopropylbenzene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
m&p-xylenes	ug/L	10*	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4
Methyl acetate	ug/L	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5
Methyl tert-butyl ether	ug/L	10[GV]	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.35	<0.5	<0.5	<0.5	<0.5	<0.5
Methylcyclohexane	ug/L	--	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Methylene chloride	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
o-xylene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Styrene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Tetrachloroethene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	1.8	0.67 J
Toluene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
trans-1,2-Dichloroethene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
trans-1,3-Dichloropropene	ug/L	0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Trichloroethene	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	0.2 J	<0.2	<0.2	<0.2	0.23 J	0.84 J	0.62 J
Trichlorofluoromethane	ug/L	5	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Vinyl chloride	ug/L	2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.96 J	1.9
No. of Target VOCs Detected[3]:	out of 51	N/A	1/51	0/51	0/51	0/51	0/51	4/51	0/51	0/51	1/51	3/51	12/51	11/51
Total VOC Concentration[4]:	ug/L	--	4.4 J	ND	ND	ND	ND	10.8 J	ND	ND	2.1	4.0 J	29.5 J	47.0 J

Notes:
ug/L = micrograms per Liter.
1 = NYSDEC Part 703 Ambient Water Quality Standards or Guidance Value (GV) for Class GA (Potable) ground water.
2 = Duplicate sample collected from Well SY-3.
3 = m- and p-xylene counted as one VOC, total excludes total xylenes.
4 = Based on all target VOCs detected, including estimated concentrations.
J = Estimated concentration.
Bold and Underlined = Exceeds ground water-quality standard or guidance value.
* = Based on 5-ug/L limit for eash isomer.
NA = Not applicable.
ND = None detected.
-- = No standard or guidance value.

4.3 Results of NYSDEC Part 360 Leachate Indicator Analyses

The leachate indicator parameters analyzed for included alkalinity, ammonia, BOD (biological oxygen demand), bromide, chloride, color, COD (chemical oxygen demand) total hardness, nitrate, total phenols, sulfate, TDS, TKN (total Kjeldahl nitrogen), and TOC (total organic carbon).

As shown in Table 5, compared to Upgradient Well SY-6, the concentrations of every leachate indicator parameter except BOD, bromide, nitrate, total phenols and sulfate were noticeably higher in Wells SY-3 and SY-3D, which monitor the shallow and intermediate zones of the Magothy Aquifer, respectively, at the downgradient Landfill boundary. Elevated levels of leachate-related contaminants were not detected in Well SY-3DD, which monitors the deep zone of the Magothy Aquifer at the downgradient Landfill boundary. At On-Site Downgradient Well Cluster SY-2, only chloride and TDS were present at concentrations significantly higher than in Upgradient Well SY-6.

Comparison of the leachate parameter results for the upgradient and on-site downgradient wells to the Class GA ground-water standards indicates that Landfill-related exceedances in these wells were limited to: chloride and TDS in Wells SY-2R and SY-2D; color in Well SY-2D; and ammonia, chloride, color and TDS in Wells SY-3 and SY-3D. No exceedances occurred in Upgradient Well SY-6 or in On-Site Downgradient Well SY-3DD.

Comparison of the leachate indicator parameter results for the off-site downgradient wells to the Class GA ground-water standards indicates that exceedances were limited to: ammonia, chloride and TDS in Well PK-10I; and ammonia and TDS in Wells RW-12I and RW-12D. No exceedances occurred in Wells PK-10S and PK-10D.

Based on comparison of the leachate indicator parameter results for the on-site and off-site downgradient wells, most of the parameters detected at elevated concentrations in the on-site downgradient wells were detected at similar concentrations in Off-Site Downgradient Well PK-10I, indicating Landfill-related impacts in this well. However, this comparison also indicates that most of the parameters (e.g., alkalinity, ammonia, bromide, COD, hardness, nitrate, sulfate, TKN and TOC) were detected at higher concentrations in one or both wells at Well Cluster RW-12 than in the on-site downgradient wells. Moreover, at least one parameter (e.g., chloride) detected at relatively high concentrations in most on-site downgradient wells and Downgradient Off-Site Well PK-10I, was detected at much lower concentrations in Well Cluster RW-12. These disparities, together with the VOC and ground water-flow direction results, suggest that the leachate indicator parameters detected at Well Cluster RW-12 are not Landfill-related.

Taken as a whole, the 2018 leachate indicator parameter results indicate that the Landfill continues to be a relatively minor source of the Part 360 leachate-related contaminants.

Table 5
Summary of Leachate Indicator Parameter Results
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Analyte	Units	Water[1] Quality Standard	Upgradient Well	Downgradient Wells										
				On-Site						Off-Site				
			SY-6	SY-2R	SY-2D	SY-3	SY-5[2]	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
Alkalinity	mg/L	--	118	114	47.8	232	221	220	3.8	7.8	130	24.8	892	90.8
Ammonia	mg/L	2	0.087 J	0.078 J	0.11	**11.3**	**11.1**	**18.7**	0.053 J	0.059 J	**3.6**	0.067 J	**69.6**	**5**
BOD	mg/L	--	<2	<2	<2	<2	<2	<2	3.8	<2	<2	<2	<2 J	<2 J
Bromide	mg/L	2	<0.066	<0.066	<0.066	0.28 J	0.28 J	0.42 J	<0.066	<0.066	0.85	0.7	1.9	1.1
Chloride	mg/L	250	6.9	**461**	**461**	**372**	**365**	**508**	4.8	12.3	**583**	112	144	206
COD	mg/L	--	<5	6.59 J	15.5	15.5	12.5	14.5	<5	<5	<5	<2.43	31.4	<2.43
Color	cu	15	<5	<5	**20**	**300**	**300**	**400**	<5	<5	<5	<5	5 J	5 J
Hardness, Total	mg/L	--	161	80.5	105	191	188	186	6.42 J	40.9	186	92.8	338	277
Nitrate	mg/L	10	1.9	2.5	1.4	<0.027	<0.027	<0.027	0.72	3.2	<0.027	4.2	0.41 J	9.6 J
Phenols, Total	mg/L	0.001	<0.01 J	<0.01 J	<0.01 J	<0.01 J	<0.01 J	<0.01 J	<0.05 J	<0.01	<0.01	<0.01	<0.01	<0.01
Sulfate	mg/L	250	38.7	36.6	15.7	36.2	35.1	40.5	<0.75	17.6 J	36 J	22.4 J	64.4	183
TDS	mg/L	500*	208	**808**	**779**	**859**	**815**	**1,034**	56	87	**1,147**	261	**842 J**	**733**
TKN	mg/L	--	0.25 J	0.24 J	0.26 J	10.5 J	10.8 J	8.1 J	0.24 J	0.17 J	5.6	0.26 J	67	5.3
TOC	mg/L	--	1.8	2.2	2.2	5.3	4.8	4.5	0.63	0.62	2.6	1.3	17.2	5.2

Notes:

1 = NYSDEC Part 703 Ambient Water Quality Standards or Guidance Value (GV) for Class GA (Potable) ground water.

2 = Duplicate sample collected from Well SY-3.

* = TDS limit is Federal SMCL, which is more stringent than the 1,000-mg/L NYSDEC limit for Class GA ground water.

mg/L = milligrams per Liter.

cu = color units.

J = Estimated concentration.

BOD = Biological oxygen demand.

COD = Chemical oxygen demand.

TDS = Total dissolved solids.

TKN = Total Kjeldhal nitrogen.

TOC = Total organic carbon.

Bold & Underlined = Exceeds ground water-quality standard or guidance value.

-- = No standard or guidance value.

4.4 Results of USEPA Target Analyte List (TAL) and Cyanide Analyses

The samples were analyzed for both total and dissolved TAL parameters, and total cyanide. The RCRA (Resource Conservation and Recovery Act) and PPL (Priority Pollutant List) metals, which are a subset of 14 of the more toxic metals, are included in the TAL parameters. The results are summarized in Table 6, and the RCRA and PPL metals are identified with asterisks.

As shown in Table 6, of the 24 parameters analyzed for, three (antimony, cadmium and selenium) were not detected. Of the 21 detected parameters, 12 (aluminum, barium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, silver, vanadium and zinc), were only detected sporadically and/or at low concentrations less than their respective Class GA standard or guidance value. The highest concentration of one other parameter (zinc) was detected in the upgradient well. The remaining nine detected TAL parameters include four RCRA/PPL metals (arsenic, beryllium, selenium and thallium) and calcium, iron, magnesium, manganese, potassium and sodium. The results for these nine parameters are discussed below.

Arsenic was detected in On-Site Downgradient Wells SY-3 and SY-3D at total and dissolved concentrations higher than the 10-ug/L federal MCL. Comparison of the total and dissolved results for these two wells indicates that the arsenic is in dissolved form. The only other detections of arsenic occurred in Off-Site Downgradient Wells PK-10D, RW-12I and RW-12D, and were primarily limited to low, estimated concentrations that are much lower than the federal MCL. The dissolved arsenic concentration in Well RW-12I was slightly higher than the MCL, however since the total arsenic concentration in Well RW-12I was much lower than the MCL, this dissolved arsenic exceedance is considered to be spurious.

Beryllium was only detected in On-Site Downgradient Well SY-2R, at total and dissolved concentrations slightly higher than the 3-ug/L Class GA guidance value. Comparison of the total and dissolved results indicates that the beryllium is in dissolved form.

Selenium was only detected in filtered samples from Off-Site Downgradient Wells RW-12I and RW-12D, at estimated concentrations. The dissolved selenium concentration in Well RW-12I is slightly higher than the 10-ug/L standard, but is likely spurious as total selenium was not detected in unfiltered samples from this well cluster.

Thallium was only detected at low, estimated concentrations in the unfiltered duplicate sample from Well SY-3, the unfiltered sample from Well PK-10I, and in the filtered sample from Well SY-3DD. However, these detections are higher than the 0.5-ug/L Class GA standard and may be Landfill-related.

Calcium, iron, magnesium, manganese, potassium and sodium were each detected in one or more downgradient wells at concentrations noticeably higher than in Upgradient Well SY-6. Except for sodium, which had a more widespread occurrence, the highest

Table 6
Summary of Total and Dissolved Metals Results
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Analyte	Units	Water[1] Quality Standard	Upgradient Well	Downgradient Wells										
				On-Site						Off-Site				
			SY-6	SY-2R	SY-2D	SY-3	SY-5[2]	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
TOTAL METALS RESULTS														
Aluminum	ug/L	--	17.7 J	267	325	13.8 J	13.1 J	7.2 J	<200	10.7 J	17.6 J	<200	22.0 J	13.0 J
Antimony*	ug/L	3	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0
Arsenic*	ug/L	10**	<10.0	<10.0	<10.0	**41.3**	**42.5**	**18.7**	<10.0	<10.0	<10.0	3.0 J	<10.0	3.4 J
Barium*	ug/L	1,000	84.1 J	75.7 J	82.4 J	155 J	152 J	194 J	<200	14.9 J	60.1 J	34.2 J	60.0 J	77.1 J
Beryllium*	ug/L	3[GV]	<5.0	**3.5 J**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium*	ug/L	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Calcium	ug/L	--	40,900	24,300	32,100	44,900	44,000	50,000	1,530 J	12,000	50,000	24,000	70,900	71,700
Chromium*	ug/L	50	2.5 J	1.4 J	<10.0	<10	<10.0	<10.0	2.7 J	1.4 J	<10.0	1.2 J	1.4 J	<10.0
Cobalt	ug/L	--	<50.0	5.1 J	<50.0	<50.0	<50.0	18.6 J	<50.0	<50.0	98.0	3.1 J	<50.0	<50.0
Copper*	ug/L	200	20.4 J	3.9 J	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0
Cyanide	ug/L	200	<10.0	3.7 J	<10.0	<10.0	<10.0	<10.0	2.7 J	<10.0	<10.0	<10.0	<10.0	<10.0
Iron	ug/L	300	212	40.9 J	158	**36,200**	**35,700**	**23,200**	<100	17.9 J	<100	<100	137	<100
Lead*	ug/L	25	3.7 J	<10.0	2.6 J	3.8 J	3.9 J	2.3 J	2.0 J	2.2 J	<10	<10.0	<10.0	<10.0
Magnesium	ug/L	--	14,400	4,820	5,960	19,200	18,900	14,900	632 J	2,660 J	14,900	7,990	39,100	23,800
Manganese	ug/L	300	26.3	32.4	**453**	**3,790**	**3,720**	**897**	2.4 J	15.0 J	**1,530**	24.9	52	12.8 J
Mercury*	ug/L	0.7	<0.20	<0.20	<0.20	0.062 J	0.059 J	0.16 J	<0.20	<0.20	<0.44	<0.20	<0.20	<0.20
Nickel*	ug/L	100	5.2 J	28.3 J	<40.0	<40.0	<40.0	<40.0	13.1 J	3.7 J	3.6 J	12.3 J	7.4 J	3.6 J
Potassium	ug/L	--	<5,000	1,750 J	4,590 J	15,100	14,900	24,500	<5,000	<5,000	16,400	<5,000	68,900	2,920 J
Selenium*	ug/L	10	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0 J	<35.0 J	<35.0 J	<35.0	<35.0
Silver*	ug/L	50	<10.0	<10.0	<10.0	0.91 J	0.94 J	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Sodium	ug/L	20,000	6,940	**267,000**	**233,000**	**224,000**	**218,000**	**282,000**	3,210 J	6,250	**316,000**	**55,900**	**140,000**	**137,000**
Thallium*	ug/L	0.5	<25.0	<25.0	<25.0	<25.0	**4.3 J**	<25.0	<25.0	<25.0	**3.7 J**	<25.0	<25.0	<25.0
Vanadium	ug/L	--	2.8 J	<50.0	<50.0	<50.0	<50.0	<50.0	3.8 J	<50.0	<50.0	<50.0	<50.0	<50.0
Zinc*	ug/L	2,000[GV]	1,260	53.5 J	11.9 J	<60.0	6.5 J	3.1 J	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0
DISSOLVED METALS RESULTS														
Aluminum	ug/L	--	<200	230	19.3 J	20.9 J	21.0 J	<200	<200	<200	20.4 J	9.7 J	26.7 J	24.7 J
Antimony*	ug/L	3	<60.0	<60.0	<60.0	60	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0
Arsenic*	ug/L	10**	<10.0	3.5 J	3.3 J	**53.5**	**56.1**	**16.0**	<10.0	<10.0	<10.0	<10.0	**10.8**	3.7 J
Barium*	ug/L	1,000	80.3 J	72.8 J	79.2 J	153 J	154 J	192 J	<200	13.7 J	59.7 J	32.5 J	60.3 J	74.3 J
Beryllium*	ug/L	3[GV]	<5.0	**3.4 J**	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Cadmium*	ug/L	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Calcium	ug/L	--	39,600	23,400	30,500	43,800	43,900	49,000	1,500 J	11,700	50,000	23,200	70,400	70,200
Chromium*	ug/L	50	<10.0	1.6 J	<10.0	<10.0	<10.0	<10.0	1.8 J	<10.0	<10.0	<10.0	<10.0	<10.0
Cobalt	ug/L	--	<50.0	4.7 J	<50.0	<50.0	<50.0	18.6 J	<50.0	<50.0	92.1	2.7 J	<50.0	<50.0
Copper*	ug/L	200	19.6 J	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	2.5 J	<25.0	2.8 J	2.6 J	<25.0
Iron	ug/L	300	65.2 J	16.3 J	<100	**34,900**	**35,500**	**23,000**	<100	<100	<100	<100	106	<100
Lead*	ug/L	25	<10.0	2.6 J	3.9 J	2.7 J	3.2 J	2.5 J	3.1 J	<10.0	<10.0	1.9 J	<10.0	<10.0
Magnesium	ug/L	--	14,100	4,270 J	5,470	17,600	17,600	14,600	636 J	2.700 J	15,000	7,750	38,500	23,200
Manganese	ug/L	300	25.2	30.2	**361**	**3,740**	**3,750**	**874**	2.1 J	<15.0	**1,550**	24.6	50.1	12.4 J
Mercury*	ug/L	0.7	0.040 J	<0.20	<0.20	<0.20	0.039 J	0.039 J	0.043 J	<0.20	<0.37	<0.20	<0.20	<0.20
Nickel*	ug/L	100	4.3 J	26.0 J	<40.0	<40.0	<40.0	<40.0	9.9 J	2.7 J	2.8 J	10.9 J	6.8 J	3.3 J
Potassium	ug/L	--	<5,000	<5,000	4,070 J	14,400	14,600	24,300	<5,000	<5,000	16,200	<5,000	67,000	2,660 J
Selenium*	ug/L	10	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0	<35.0 J	<35.0 J	<35.0 J	**12.9 J**	6.4 J
Silver*	ug/L	50	<10.0	<10.0	<10.0	<10.0	0.79 J	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Sodium	ug/L	20,000	7,100	**247,000**	**211,000**	**208,000**	**206,000**	**278,000**	3,250 J	5,920	**313,000**	**53,600**	**137,000**	**134,000**
Thallium*	ug/L	0.5	<25.0	<25.0	<25.0	<25.0	<25.0	<25.0	**2.1 J**	<25.0	<25.0	<25.0	<25.0	<25.0
Vanadium	ug/L	--	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Zinc*	ug/L	2,000[GV]	1,220	51.7 J	17.4 J	<60.0	5.0 J	7.8 J	4.6 J	12.7 J	13.5 J	13.5 J	10.0 J	9.4 J

Notes:

ug/L = micrograms per Liter.

1 = NYSDEC Part 703 Ambient Water Quality Standard or Guidance Value (GV) for Class GA (Potable) ground water.

2 = Duplicate sample collected from Well SY-3.

J = Estimated concentration.

Bold & Underlined = Exceeds ground water-quality standard or guidance value.

* = RCRA/PPL metal.

** = USEPA MCL, revised downward from 50 ug/L effective January 2006. NYSDEC TOGS 1.1.1 Ambient Water Quality Standard is 25 ug/L.

-- = No standard or guidance value.

concentrations of these parameters occurred in Wells SY-3, SY-3D, PK-10I, RW-12I and/or RW-12D.

Comparison of the results for the on-site and off-site downgradient wells indicates that Landfill-related off-site impacts are minimal. For example, arsenic was only detected at significant concentrations in two on-site downgradient wells. The highest concentrations of iron, manganese and sodium also occurred in on-site downgradient wells, whereas the highest concentrations of calcium, magnesium and potassium occurred in Off-Site Downgradient Well Cluster RW-12. The differences in the results for the on-site downgradient wells and Off-Site Downgradient Well Cluster RW-12 suggest that certain parameters detected at Well Cluster RW-12 are not Landfill-related. Review of Table 6 also indicates that overall, the detected TAL parameters were present at similar concentrations in unfiltered and filtered samples. This indicates that the detected TAL parameters are primarily present in ground-water in dissolved form.

Taken as a whole, the TAL parameter and total cyanide results indicate that the Landfill continues to be a relatively minor source of certain metals/inorganic parameters, but is not a significant source of the RCRA/PPL metals. The only Landfill-related exceedances for the RCRA/PPL metals in 2018 were for arsenic in Wells SY-3 and SY-3D, beryllium in Well SY-2R, and possibly thallium in Wells SY-3 and PK-10I. The arsenic and beryllium exceedances appear to be limited to the downgradient landfill boundary as exceedances for these parameters did not occur in the deeper on-site downgradient wells at these two clusters, or in the off-site downgradient wells. The thallium exceedances may be Landfill-related but are for sporadic low, estimated concentrations.

SECTION 5

COMPARISON OF CURRENT MONITORING RESULTS TO PREVIOUS MONITORING RESULTS

The 2018 ground water-monitoring results were compared to previous post-closure monitoring results, and the OU-1 RI and the OU-2 RI results, to determine if ground water-flow patterns and/or quality conditions have changed significantly since the Landfill was capped. This entailed 1) comparison of the current and historical post-closure water-level data, 2) comparison of the current and previous overall results for each parameter group, 3) comparison, on a well-to-well basis, of the current and previous results for Landfill-related exceedances of the ground-water standards or guidance values, and 4) trend analyses for the leachate indicator parameters that have historically been detected on a regular basis.

5.1 Temporal Variation in Water-Level Elevations

The 2018 water-level results are compared to post-closure water-level data collected since 2003 in Table 7. Review of Table 7 indicates that in March 2018 water-level elevations were, on average: 0.75 feet higher relative to 2003 data, -1.21 feet lower relative to 2005 data, -6.62 feet lower relative to the 2006 data, -7.89 feet lower relative to the 2007 data, -7.48 feet lower relative to the 2008 data, -6.58 feet lower relative to the 2009 data, -9.16 feet lower relative to the 2010 data, -10.47 feet lower relative to the 2011 data, -8.37 feet lower relative to the 2012 data, -6.97 feet lower relative to the 2013 data, -6.51 feet lower relative to the 2014 data, -4.74 feet lower relative to the 2015 data, and -0.97 feet lower relative to the 2016 data. These changes are attributed to natural temporal variations in recharge from precipitation, such as the below-normal precipitation in 2015 and 2016, and the increased recharge directly upgradient of the Landfill since 2005 resulting from the demolition work at the former Cerro Wire property.

Comparison of the current ground water-contour maps (Figures 2, 3 and 4) to previous post-closure ground water-contour maps indicates that, overall, ground water-flow directions are similar. One notable difference is that during the period from 2005 through 2008, ground water-flow directions in the shallow and intermediate zones of the Magothy Aquifer showed less convergence downgradient of the Landfill. This difference is attributed to the fact that the water-table elevation rose at a faster than normal rate during that period, which temporarily masked the influence of the buried glacial valley on ground water-flow patterns. The other notable difference is that in 2011 and 2012, water-level contours in the shallow and intermediate zones of the aquifer beneath the eastern half of the Landfill extended further south (upgradient) than is typically observed. This difference is attributed to the above-normal infiltration from the hurricanes and nor’easters that occurred earlier in these years.

Table 7
Changes in Ground-Water Elevations
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Well Number	Water Level Elevation (ft. above Mean Sea Level)														Change in Water Elevation (ft.)											
	2003	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018	'16' to '18	'15' to '18	'14 to '18	'13 to '18	'12 to '18	'11 to '18	'10 to '18	'09 to '18	'08 to '18	'07 to '18	'06 to '18	'05 to '18	'03 to '18
On-Site Wells:																											
SY-1	77.63	79.59	84.87	86.16	85.87	84.63	87.04	88.63	86.20	85.02	84.86	82.78	78.74	77.68	-1.06	-5.10	-7.18	-7.34	-8.52	-10.95	-9.36	-6.95	-8.19	-8.48	-7.19	-1.91	0.05
SY-1D	77.16	79.27	84.62	85.87	85.32	84.48	86.94	88.34	86.13	84.89	84.47	82.63	78.79	77.81	-0.98	-4.82	-6.66	-7.08	-8.32	-10.53	-9.13	-6.67	-7.51	-8.06	-6.81	-1.46	0.65
SY-2R	76.65	78.62	84.06	85.35	84.73	83.91	86.48	87.95	85.81	84.36	83.95	82.15	78.30	77.34	-0.96	-4.81	-6.61	-7.02	-8.47	-10.61	-9.14	-6.57	-7.39	-8.01	-6.72	-1.28	0.69
SY-2D	76.35	78.41	83.31	85.02	84.57	83.61	86.30	87.67	85.60	84.15	83.64	81.92	78.14	77.00	-1.14	-4.92	-6.64	-7.15	-8.60	-10.67	-9.30	-6.61	-7.57	-8.02	-6.31	-1.41	0.65
SY-3	76.77	78.46	84.09	85.27	84.85	83.98	86.70	88.16	85.97	84.35	84.10	82.22	78.36	77.45	-0.91	-4.77	-6.65	-6.90	-8.52	-10.71	-9.25	-6.53	-7.40	-7.82	-6.64	-1.01	0.68
SY-3D	76.04	77.94	83.53	84.74	84.28	83.46	86.14	87.44	85.47	83.86	83.28	81.67	77.92	76.99	-0.93	-4.68	-6.29	-6.87	-8.48	-10.45	-9.15	-6.47	-7.29	-7.75	-6.54	-0.95	0.95
SY-3DD	75.43	77.67	83.24	84.41	84.05	83.25	85.91	86.94	85.22	83.59	82.82	81.31	77.66	76.71	-0.95	-4.60	-6.11	-6.88	-8.51	-10.23	-9.20	-6.54	-7.34	-7.70	-6.53	-0.96	1.28
SY-4	78.04	79.71	84.80	86.24	85.69	84.91	87.40	90.19	86.79	85.55	85.11	83.15	79.31	78.39	-0.92	-4.76	-6.72	-7.16	-8.40	-11.80	-9.01	-6.52	-7.30	-7.85	-6.41	-1.32	0.35
SY-6	77.92	79.98	84.96	86.40	85.88	85.13	87.43	87.84	85.63	85.65	85.16	83.20	79.35	78.31	-1.04	-4.89	-6.85	-7.34	-7.32	-9.53	-9.12	-6.82	-7.57	-8.09	-6.65	-1.67	0.39
SY-7	NA	NA	NA	86.83	86.27	85.48	87.71	89.21	86.82	85.91	85.90	83.64	79.88	78.89	-0.99	-4.75	-7.01	-7.02	-7.93	-10.32	-8.82	-6.59	-7.38	-7.94	NA	NA	NA
SY-8	77.34	78.62	84.40	98.91*	85.28	97.62*	87.02	109.06*	86.23	84.55	84.61	82.56	78.60	78.08	-0.52	-4.48	-6.53	-6.47	-8.15	NA	-8.94	NA	-7.20	NA	-6.32	-0.54	0.34
SY-9	NA	NA	86.21	87.57	87.16	86.31	88.60	88.73	86.44	85.53	85.13	83.11	Dry	Dry	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Off-Site Wells:																											
PK-10S	75.84	77.95	83.38	84.52	84.12	83.24	85.98	87.20	85.31	83.7	83.22	81.46	77.77	76.66	-1.11	-4.80	-6.56	-7.04	-8.65	-10.54	-9.32	-6.58	-7.46	-7.86	-6.72	-1.29	0.82
PK-10I	75.31	77.47	83.01	84.12	83.78	82.89	85.57	86.69	84.88	83.27	82.67	81.00	77.31	76.34	-0.97	-4.66	-6.33	-6.93	-8.54	-10.35	-9.23	-6.55	-7.44	-7.78	-6.67	-1.13	1.03
PK-10D	75.32	77.45	83.04	84.10	83.72	82.86	85.55	86.63	84.86	83.25	82.57	80.97	77.32	76.34	-0.98	-4.63	-6.23	-6.91	-8.52	-10.29	-9.21	-6.52	-7.38	-7.76	-6.70	-1.11	1.02
RW-12I	74.99	77.07	82.57	83.65	83.32	82.50	85.28	86.32	84.64	82.90	82.21	80.70	77.04	76.12	-0.92	-4.58	-6.09	-6.78	-8.52	-10.20	-9.16	-6.38	-7.20	-7.53	-6.45	-0.95	1.13
RW-12D	74.66	76.76	82.46	83.57	83.29	82.46	85.25	86.27	84.58	82.82	82.06	80.59	76.97	75.99	-0.98	-4.60	-6.07	-6.83	-8.59	-10.28	-9.26	-6.47	-7.30	-7.58	-6.47	-0.77	1.33
RB-11S	76.71	78.57	83.85	85.16	85.28	83.78	86.33	87.65	85.40	84.04	83.91	81.95	NM	77.27	NA	-4.68	-6.64	-6.77	-8.13	-10.38	-9.06	-6.51	-8.01	-7.89	-6.58	-1.30	0.56
RB-11I	NA	77.58	82.88	84.20	83.82	82.84	85.48	86.61	84.74	83.22	82.56	80.99	NM	76.33	NA	-4.66	-6.23	-6.89	-8.41	-10.28	-9.15	-6.51	-7.49	-7.87	-6.55	-1.25	NA
RB-11D	75.55	77.74	83.26	84.34	83.95	83.07	85.64	86.67	84.87	83.32	82.60	81.16	77.47	76.34	-1.13	-4.82	-6.26	-6.98	-8.53	-10.33	-9.30	-6.73	-7.61	-8.00	-6.92	-1.40	0.79
														Averages:	-0.97	-4.74	-6.51	-6.97	-8.37	-10.47	-9.16	-6.58	-7.48	-7.89	-6.62	-1.21	0.75

Notes:

* - These water-level data for Well SY-8 appear to be anomalous, and were not used.

NM - Not measured.

NA - Not available.
Monitoring was not performed in 2017.

5.2 Temporal Variation in Ground-Water Quality

The 2018 ground water-quality results are also consistent with the previous post-closure monitoring results and the OU-1 and OU-2 RI results; and continue to indicate that the Landfill is not a significant source of VOCs or toxic metals, but that relatively minor Landfill-related impacts are present in Off-Site Downgradient Well PK-10I. Moreover, based on comparison of the results for on-site and off-site wells, and ground water-flow directions, the elevated levels of VOCs and certain leachate indicator and inorganic parameters at Well Cluster RW-12 do not appear to be Landfill-related. The gasoline-related VOCs detected in Well PK-10S in 2003 and 2008 were not detected in 2018. Semivolatile organic compounds, pesticides and polychlorinated biphenyls were not detected during the July 2003 initial (baseline) post-closure monitoring round, and with USEPA approval samples are no longer collected and analyzed for these parameters.

The 2018 total VOC results are compared to previous results in Table 8. Review of Table 8 indicates that relative to 2016, total VOC concentrations were similar or slightly lower in every well except On-Site Downgradient Well SY-3 and Off-Site Downgradient Wells RW-12I and RW-12D. In Well SY-3D, the total VOC concentration increased relative to 2016, primarily due to acetone. In Wells RW-12I and RW-12D, total VOC concentrations decreased substantially relative to 2016 but are still consistent with the historical results for these wells. Overall, total VOC concentrations in the downgradient wells continue to exhibit stable or decreasing trends. Moreover, no exceedances of a VOC ground water-quality standard or guidance value have occurred in an on-site downgradient well since 2003.

The 2018 exceedances for leachate indicator parameters are compared to previous exceedances in Table 9. Review of Table 9 indicates that these exceedances were similar to the 2016 results. Overall, the parameters for which exceedances are noted have been stable or decreasing over time in every well. This finding indicates that, with respect to exceedances of the ground-water standards and guidance values for leachate indicator parameters, ground water-quality conditions downgradient of the Landfill have been relatively consistent since 1993. Moreover, the relatively small number of exceedances listed in Table 9 demonstrates that the Landfill is not a significant source of Part 360 leachate indicator parameters at concentrations exceeding the Class GA ground water-quality standards or guidance values.

With respect to metals/inorganic parameters, the exceedances noted in the filtered samples from each well since 1993 are compared in Table 10. The results for the filtered samples are utilized because LKB noted that there were marked differences in the total results versus the dissolved results for certain samples collected during the OU-2 RI. This most likely was due to the presence of entrained sediment in the unfiltered samples as they were not collected utilizing a low-flow method. For this reason, only the results for the filtered samples are compared.

Table 8
Comparison of Current Total VOC Results to Previous Results
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Well Number	Dec. 1993	Jul. 2003	Dec. 2005	Dec. 2006	Dec. 2007	Dec. 2008	Nov. 2009	Dec. 2010	Nov. 2011	Dec. 2012	Dec. 2013	Sept. 2014	Dec. 2015	Dec. 2016	Mar. 2018
	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results	Total VOC Results
Upgradient Well															
SY-6	0.0	3.6	1.2	1.4	0.0	0.0	0.65	0.50	1.80	0.40	0.00	0.0	0.50	0.0	4.4 J
On-Site Downgradient Wells															
SY-2R	0.6	3.6	0.0	0.2	0.0	4.2	0.0	0.0	0.0	0.0	0.72	0.0	0.0	0.0	0.0
SY-2D	7.9	2.8	4.9	3.9	2.1	1.5	0.0	0.0	0.25	0.0	0.2 / 0.0*	0.0	0.0	0.24	0.0
SY-3	10.7	23.9	0.7	1.6	5.5	74.0	1.3	1.77	4.5 / 0.8*	0.0	1.26	0.0	0.74	1.04	0.0 / 0.0*
SY-3D	11.4	20.9	6.0	3.8	3.9	2.2	1.9	7.98	2.9	0.7 / 0.0*	0.42	0.0	1.58	1.01 / 0.95*	10.8
SY-3DD	0.0	10.0	0.0	0.6	0.0	0.0	1.9	11.2	2.9	0.44	0.0	0.0	2.03	0.57	0.0
Off-Site Downgradient Wells															
PK-10S	13.9	218	0.3	0.5	0.0	102	0.5	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
PK-10I	15.6	33.4	17.0	15.0	11.0	13.6	7.7	5.25	3.4	2.7	4.34	2.2	4.3	7.99	2.10
PK-10D	6.5	21.8	1.8	2.0	3.1	10.2	5.1	5.41	4.4	3.9	1.69	2.7	4.27	5.18	4.02 J
RW-12I	260	154	134	88.0	72.6	72.2	62.4	66.4	53.1	69.5	62.5	30.7	41.0	53.9	29.5 J
RW-12D	31.9	200	111	73.0	65.8	87.6	60.8	41.3	64.0	80.5	64.4	34.8	63.2	96.5	47.0 J

Notes:

Results are in units of ug/L.

Totals include estimated concentrations, totals for 2003-2010 include TICs.

* = Results for duplicate sample.

Monitoring was not performed in 2017.

Table 9
Comparison of Current Leachate Indicator Parameter Exceedances to Previous Exccedances
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Well Number	Exceedances In July/Dec.'93	Exceedances In July 2003	Exceedances In Dec. 2005	Exceedances In Dec. 2006	Exceedances In Dec. 2007	Exceedances In Dec. 2008	Exceedances In Nov. 2009	Exceedances In Dec. 2010	Exceedances In Nov. 2011	Exceedances In Dec. 2012	Exceedances In Dec. 2013	Exceedances In Sept. 2014	Exceedances In Dec. 2015	Exceedances In Dec. 2016	Exceedances In Mar. 2018
Upgradient Well															
SY-6	None Noted	Color	None Noted	None Noted	None Noted	None Noted	Phenols	Phenols	None Noted	None Noted	None Noted	None Noted	Phenols	None Noted	None Noted
On-Site Downgradient Wells															
SY-2R	Chloride and TDS	Color	Bromide (Slight)	Chloride and TDS	Chloride and TDS	Bromide Chloride and TDS	Chloride and TDS	None Noted	None Noted	Chloride and TDS	None Noted	Chloride and TDS	Chloride Phenols and TDS	Chloride and TDS	Chloride and TDS
SY-2D	Ammonia	Ammonia	Ammonia	Ammonia (Very Slight)	Ammonia (Very Slight)	None Noted	None Noted	TDS	Chloride and TDS	Chloride and TDS	Chloride and TDS	Chloride and TDS	Chloride Phenols and TDS	Chloride and TDS	Chloride, Color and TDS
SY-3	Ammonia Chloride and TDS	Ammonia Chloride Color and TDS	Ammonia Bromide Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia and TDS	Ammonia and Color	Ammonia Color and TDS	Ammonia Color, Phenols and TDS	Ammonia Color and TDS	Ammonia Color and TDS	Ammonia Color and TDS	Ammonia, Color Phenols and TDS	Ammonia, Color and TDS	Ammonia, Chloride, Color and TDS
SY-3D	Ammonia Chloride and TDS	Ammonia Bromide Chloride and TDS	Ammonia Bromide Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride, Color and TDS	Ammonia Chloride, Color and TDS	Ammonia Chloride Color, Phenols and TDS	Ammonia Chloride Color and TDS	Ammonia Chloride Color and TDS	Ammonia Chloride Color and TDS	Ammonia Chloride Color, Phenols and TDS	Ammonia Chloride Color and TDS	Ammonia, Chloride, Color and TDS
SY-3DD	None Noted	Color	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	Phenols	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted
Off-Site Downgradient Wells															
PK-10S	Sulfate*	Color	None Noted	None Noted	None Noted	None Noted	Color	None Noted	None Noted	None Noted	None Noted	None Noted	Phenols	Phenols	None Noted
PK-10I	Ammonia Chloride and TDS	Ammonia Color and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Bromide Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride Phenols and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Chloride and TDS	Ammonia Bromide Chloride and TDS	Ammonia, Chloride and TDS
PK-10D	None Noted	None Noted	Color	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	Phenols	None Noted	None Noted	Phenols	None Noted	None Noted
RW-12I	Ammonia	Ammonia Bromide and TDS	Ammonia and Color	Ammonia Bromide and TDS	Ammonia Bromide and TDS	Ammonia Bromide and TDS	Ammonia Bromide and TDS	Ammonia Bromide and TDS	Ammonia Bromide and TDS	Ammonia Bromide Phenols and TDS	Ammonia Bromide Phenols and TDS	Ammonia Bromide and TDS	Ammonia, Color Phenols and TDS	Ammonia Bromide and TDS	Ammonia and TDS
RW-12D	Ammonia and TDS	Ammonia and TDS	Ammonia Color and TDS	Ammonia and TDS	Ammonia and TDS	Ammonia and TDS	Ammonia and TDS	Ammonia and TDS	Ammonia and TDS	Ammonia Pheniols and TDS	Ammonia and TDS	Ammonia Phenols and TDS	Ammonia and TDS	Ammonia Bromide and TDS	Ammonia and TDS

Notes:
* = Not Landfill-related.

Table 10
Comparison of Filtered Sample Inorganic Parameter Exceedances to Previous Exceedances
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Well Number	Exceedances In July/Dec.'93	Exceedances In July 2003	Exceedances In Dec. 2005	Exceedances In Dec. 2006	Exceedances In Dec. 2007	Exceedances In Dec. 2008	Exceedances In Nov. 2009	Exceedances In Dec. 2010	Exceedances In Nov. 2011	Exceedances In Dec. 2012	Exceedances In Dec. 2013	Exceedances In Sept. 2014	Exceedances In Dec. 2015	Exceedances In Dec. 2016	Exceedances In Mar. 2018
Upgradient Well															
SY-6	Sodium	None Noted	Iron	Iron	Iron and Zinc	Iron and Zinc	Iron and Zinc	Zinc	Antimony and Zinc	Zinc	None Noted	Zinc	Iron and Zinc	None Noted	None Noted
On-Site Downgradient Wells															
SY-2R	Iron and Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium and Thalliun	Sodium	Antimony and Sodium	Sodium	Sodium	Sodium	Beryllium, Nickel and Sodium	Beryllium and Sodium	Beryllium and Sodium
SY-2D	Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese Sodium and Thallium	Manganese and Sodium	Manganese Sodium and Thallium	Manganese and Sodium	Antimony Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium
SY-3	Antimony Arsenic, Iron Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Iron Manganese and Sodium	Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese Sodium and Thallium	Arsenic, Iron Manganese and Sodium	Antimony Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium
SY-3D	Iron Magnesium Manganese and Sodium	Magnesium Manganese and Sodium	Manganese and Sodium	Iron Magnesium Manganese and Sodium	Iron Magnesium Manganese and Sodium	Arsenic, Iron Magnesium Manganese and Sodium	Arsenic, Iron Manganese Sodium and Thallium	Arsenic, Iron Manganese and Sodium	Antimony, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese Sodium and Thallium	Arsenic, Iron Manganese and Sodium	Arsenic, Iron Manganese and Sodium
SY-3DD	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	Thallium	None Noted	Thallium
Off-Site Downgradient Wells															
PK-10S	Iron and Sodium	None Noted	Selenium (slight)	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted	None Noted
PK-10I	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese Sodium and Thallium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium	Manganese and Sodium
PK-10D	Nickel*	Nickel*	Mercury* and Nickel*	Nickel* and Sodium (slight)	Mercury* and Sodium (slight)	Mercury* and Sodium (slight)	Mercury* and Sodium	Mercury* and Sodium	Mercury* and Sodium	Mercury* and Sodium	Mercury* and Sodium	Mercury* and Sodium	Mercury*, Iron and Sodium	Mercury* and Sodium	Sodium
RW-12I	Sodium	Sodium	Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium Sodium and Thallium	Iron Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Magnesium and Sodium	Arsenic** Selenium and Sodium
RW-12D	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium	Sodium

Notes:
* = Not Landfill-related.
** = This exceedance is spurious, as an exceedance for total arsenic did not occur in the unfiltered sample from Well RW-12I.
The 2003 iron results were qualified as rejected by data validator. The 2003 iron concentrations in Wells SY-3, SY-3D, RW-12I and RW-12D likely exceeded the limit but are not listed above.
Prior to 2006, the limit for arsenic was 25 ug/L. In 2006 it was lowered to 10 ug/L (new MCL). The 2003 arsenic concentrations in Wells SY-3 and SY-3D exceeded the current limit.

Review of Table 10 indicates that the overall distribution of exceedances for dissolved metals/inorganic parameters is similar for all 14 post-closure monitoring rounds since 2003, particularly in the off-site downgradient wells. Taken as a whole, the results of this comparison indicate that the Landfill is not a significant source of the most toxic metals, and is only a relatively minor source of the other metals/inorganic parameters at concentrations exceeding the Class GA ground-water standards and guidance values.

5.3 Results of Trend Analyses

Trend analyses were performed to further assess post-closure changes in ground water-quality conditions. The trend analyses were performed for nine NYSDEC Part 360 leachate indicator parameters that have been detected on a relatively consistent basis during the post-closure monitoring rounds. A series of nine graphs showing the trends for each parameter in all wells from 2003 through 2018 is provided in Appendix C. These results are also summarized in Table 11. The prior results from the 1988 OU-1 RI ground water-monitoring events and the 1993 OU-2 RI ground water-monitoring events, if available for a parameter and/or well, are also summarized in Table 11. Table 11 also identifies long-term trends (based on all available data) and trends since 2005 (to differentiate changes that may be related to the 2005 demolition work at the upgradient former Cerro Wire Site) for each parameter and well, and summarizes the numbers of parameters with flat, decreasing or increasing trends in each well for both timeframes.

Review of the 2003 to 2018 trend graphs in Appendix C, and the Long-Term Trend Summary in Table 11, indicates that over the long term, a majority of the parameters in a majority of the wells exhibit flat or decreasing trends. In fact, none of the wells now have more parameters with increasing trends than flat and decreasing trends combined over the long term.

Review of the Trend Since 2005 Summary in Table 11 shows that since 2005 no wells have more parameters with increasing trends than flat or decreasing trends combined either. Based on this finding, the short-term impacts previously attributed to the increased recharge associated with the demolition work at the former Cerro Wire Site in 2005 have dissipated, as predicted in the 2008 Report, and ground water-quality conditions downgradient of the Landfill continue to be stable or improving over time.

Table 11
Trend Analysis Summary for Selected Part 360 Leachate Indicator Parameters
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Date*	Upgradient Well	Downgradient Wells									
		On-Site					Off-Site				
	SY-6	SY-2R	SY-2D	SY-3	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
Alkalinity											
OU1 RI 5/2/1988	72	26	270	880	1,300	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	66	26	280	890	1,200	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	195	39	100	716	1,180	14	23	404	25	167	74
OU2 RI 12/1/1993	202	35	82	727	1,020	9.6	24	419	18	162	80
6/26/2003	99	11	66	710	140	6.0	11	350	22	100	170
12/27/2005	22	13	71	150	510	8.8	12	320	22	680	230
12/27/2006	48	12	66	190	390	7.8	12	270	23	680	210
12/21/2007	56	8.8	56	180	350	6.6	6.0	220	22	950	180
12/29/2008	48	18	66	250	310	6.0	10	150	24	950	140
11/3/2009	57	30	52	200	270	6.32	12	130	28	510	110
12/6/2010	44	22	46	190	240	8.64	13	95	26	980	70
11/15/2011	51	11	45	160	220	5.9	10	84	24	1,000	98
12/13/2012	55	17	42	140	220	6	11	76	20	920	93
11/11/2013	50.1	9.84	37.7	172	217	8.24	13.3	90.3	22.7	876	86.5
9/24/2014	49.1	9.92	34.6	180	232	6.16	12.2	91	24.2	858	87.3
12/4/2015	69.8	10.2	31.1	164	244	4.56	11.6	104	22.5	845	89.8
12/8/2016	109	29.2	31.9	366	466	5.04	9.36	122	20.8	805	101
3/27/2018	118	114	47.8	232	220	3.8	7.8	130	24.8	892	90.8
Long-Term Trend:	Flat	Flat	Dec.	Dec.	Dec.	Flat	Flat	Dec.	Flat	Inc.	Flat
Trend Since 2005:	Inc.	Flat	Flat	Inc.	Dec.	Flat	Flat	Dec.	Flat	Inc.	Dec.
Ammonia											
OU1 RI 5/2/1988	0.05	0.05	18	91	130	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	0.05	0.05	17	90	130	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	0.06	0.04	4.9	68	146	0.04	0.35	39	0.04	16	0.04
OU2 RI 12/1/1993	0.09	0.26	7.0	123	84	0.04	0.05	38	0.04	15	0.11
6/26/2003	0.29	0.26	2.7	61	9.9	0.3	0.2	32	0.26	4.7	4.8
12/27/2005	0.2	0.2	2.8	4.3	40	0.2	0.2	21	0.2	55	8.9
12/27/2006	0.2	0.70	2.1	4.3	39	0.2	0.2	19	0.2	47	6.8
12/21/2007	0.23	0.33	2.2	7.5	40	0.2	0.2	15	0.2	84	8.1
12/29/2008	0.2	0.33	1.9	9.7	38	0.20	0.35	15	0.24	89	9.9
11/3/2009	0.27	0.29	1.77	4.38	3.92	0.20	0.30	4.51	0.27	4.08	5.90
12/6/2010	0.05	0.1	1.4	9.8	21	0.12	0.04	3.2	0.12	74	3.1
11/15/2011	0.03	0.03	0.74	7.96	26.9	0.051	0.03	3.58	0.03	100	5.26
12/13/2012	0.07	0.091	0.751	7.78	15.7	0.09	0.05	4.17	0.049	83.1	6.1
11/11/2013	0.073	0.188	0.604	8.84	15.2	0.15	0.075	3.2	0.12	73.6	5.7
9/24/2014	0.062	0.05	0.378	8.1	14.5	0.042	0.050	4.93	0.05	76.5	5.79
12/4/2015	0.113	0.093	0.224	7.6	12.5	0.066	0.063	4.18	0.13	78.4	5.09
12/8/2016	0.083	0.045	0.073	10.9	16.3	0.042	0.09	5.21	0.067	82.5	5.75
3/27/2018	0.087	0.078	0.11	11.3	18.7	0.053	0.059	3.6	0.067	69.6	5
Long-Term Trend:	Flat	Flat	Flat	Flat	Dec.	Flat	Flat	Flat	Flat	Flat	Flat
Trend Since 2005:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Chemical Oxygen Demand											
OU1 RI 5/2/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 12/1/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6/26/2003	2.5	2.5	2.5	45	6	2.5	2.5	29	2.5	2.5	13
12/27/2005	38	2.5	2.5	5	25	2.5	2.5	2.5	2.5	39	17
12/27/2006	2.5	2.5	2.5	8	27	2.5	2.5	15	2.5	46	27
12/21/2007	2.5	2.5	2.5	38	21	2.5	2.5	9.13	2.5	65	18
12/29/2008	5.92	5.92	2.5	26	22	2.5	2.5	2.5	2.5	16	18
11/3/2009	2.5	5.98	2.5	38	26	2.5	2.5	5.98	2.5	67	9.83
12/6/2010	2.5	2.5	2.5	10.8	18.1	2.5	2.5	2.5	2.5	62.2	2.5
11/15/2011	1.20	1.20	3.79	11.6	14.6	1.20	4.77	5.75	2.81	71.4	16.5
12/13/2012	1.255	5.56	6.55	2.58	17.3	1.25	1.25	1.25	1.25	54.1	7.68
11/11/2013	3.03	4.97	4	11.8	18.5	2.5	2.5	7.88	2.5	52.5	9.82
9/24/2014	2.5	2.5	2.5	5.76	5.76	2.5	2.5	9.76	2.5	52.8	10.8
12/4/2015	5	6.59	15.5	15.5	14.5	2.5	2.5	2.5	2.5	31.4	2.5
Long-Term Trend:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Trend Since 2005:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Chloride											
OU1 RI 5/2/1988	30	52	220	99	340	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	20	57	200	110	330	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	43	449	108	136	269	4.2	15	291	14	106	122
OU2 RI 12/1/1993	34	613	97	176	265	4.5	14	287	14.2	118	139
6/26/2003	19	140	120	380	300	3.5	7.8	19	19	26	150
12/27/2005	18	180	160	380	510	4.1	10	340	47	190	160
12/27/2006	3.4	470	140	430	680	3.3	8.9	350	64	170	190
12/21/2007	7.2	480	150	490	770	3.9	11	390	90	240	190
12/29/2008	10	640	170	210	820	4.3	7.2	370	91	170	170
11/3/2009	7.8	420	200	160	910	4.1	7.9	450	120	190	200
12/6/2010	14	160	230	170	860	4.71	9.09	440	110	170	170
11/15/2011	4.7	220	310	180	820	4.5	13	490	110	170	200
12/13/2012	12	400	320	230	800	4.6	14	470	120	170	200
11/11/2013	9.54	218	291	228	820	4.15	12.5	469	118	160	199
9/24/2014	7.47	322	278	200	749	4.22	14.6	504	133	163	207
12/4/2015	5.14	399	252	190	524	4.5	11.8	506	128	146	197
12/8/2016	4.94	398	266	199	549	4.75	11.8	556	119	147	210
3/27/2018	6.9	461	461	372	508	4.8	12.3	583	112	144	206
Long-Term Trend:	Flat	Inc.	Inc.	Inc.	Inc.	Flat	Flat	Inc.	Inc.	Flat	Flat
Trend Since 2005:	Flat	Flat	Inc.	Dec.	Dec.	Flat	Flat	Inc.	Inc.	Dec.	Flat

Table 11
Trend Analysis Summary for Selected Part 360 Leachate Indicator Parameters
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Date*	Upgradient Well	Downgradient Wells									
		On-Site					Off-Site				
	SY-6	SY-2R	SY-2D	SY-3	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
Hardness											
OU1 RI 5/2/1988	100	50	150	330	440	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	80	54	120	370	460	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	176	138	68.4	362	470	7.6	68.8	285	12.2	169	132
OU2 RI 12/1/1993	181	121	58.4	348	468	6.6	67.8	312	12.2	164	144
6/26/2003	120	54	51	200	490	6.0	53	220	22	42	250
12/27/2005	36	58	69	96	271	10	42	175	49	348	260
12/27/2006	52	178	70	350	359	6.1	42	187	70	350	317
12/21/2007	50	83	74	207	365	5.0	39	195	90	479	316
12/29/2008	100	109	96	185	330	11	46	180	114	453	276
11/3/2009	102	57	84	159	273	7	46	162	110	412	223
12/6/2010	66	36	97	159	266	7	43	165	111	409	208
11/15/2011	59.9	84.4	92.3	136	220	7.3	43.4	150	109	410	249
12/13/2012	77.3	127	121	140	112	6.68	42.3	166	112	6.62	110
11/11/2013	64	47.4	92.7	122	229	5.63	39.8	157	101	371	246
9/24/2014	85.13	124	76	131	211	5.73	38.9	160	117	347	253
12/4/2015	135	128	69.7	139	190	6.36	40.2	197	127	427	308
12/8/2016	156	105	76.1	166	192	6.76	39.4	181	99.2	357	273
3/27/2018	161	80.5	105	191	186	6.42	40.9	186	92.8	338	277
Long-Term Trend:	Flat	Flat	Flat	Dec.	Dec.	Flat	Flat	Dec.	Inc.	Inc.	Inc.
Trend Since 2005:	Inc.	Flat	Flat	Dec.	Dec.	Flat	Flat	Flat	Flat	Dec.	Flat
Sulfate											
OU1 RI 5/2/1988	50	50	47	42	22	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	40	54	68	16	14	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	10	56	23	33	27	1.8	40	89	16	31	32
OU2 RI 12/1/1993	20	58	17	26	23	11.9	51	110	12	34	54
6/26/2003	12	29	19	20	64	1	1,800	21	2.8	1	18
12/27/2005	1	29	22	40	41	1	29	67	1	79	120
12/27/2006	5.9	94	76	90	96	1.5	24	120	1	120	170
12/21/2007	6.5	39	13	36	42	1.5	21	46	8.1	64	130
12/29/2008	75	36	16	38	45	0.7	22	1.5	8.4	58	130
11/3/2009	54	33	12	36	41	1.6	27	28	9.64	61	190
12/6/2010	20	34	13	35	41	2.21	23	37	10	63	220
11/15/2011	19	27	14	34	40	2.1	20	37	10	64	180
12/13/2012	20	30	17	39	41	2.1	18	37	12	65	180
11/11/2013	15.8	33.8	13.2	43.1	44.7	2.01	17.8	39.3	10.7	61.7	230
9/24/2014	47.2	31.1	11	37.3	46.6	1.93	18.3	39.6	13.6	65.3	191
12/4/2015	72.7	26.8	11.1	39.1	45.9	1.83	17.1	36.6	17.9	62.1	204
12/8/2016	42.3	34.3	10.7	42.2	47.4	1.95	18.2	35.9	20.4	71	199
3/27/2018	38.7	36.6	15.7	36.2	40.5	0.38	17.6	36	22.4	64.4	183
Long-Term Trend:	Flat	Flat	Flat	Flat	Flat	Flat	Dec.	Flat	Flat	Flat	Inc.
Trend Since 2005:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Inc.
Total Dissolved Solids (TDS)											
OU1 RI 5/2/1988	210	210	670	820	1,400	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	180	230	630	830	1,400	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	287	861	282	726	1,240	44	162	918	87	345	320
OU2 RI 12/1/1993	323	850	299	757	1,400	54	181	1,020	85	408	511
6/26/2003	175	360	334	1,373	821	125	172	1,004	114	177	536
12/27/2005	64	490	380	790	1,200	42	130	940	160	940	710
12/27/2006	69	930	320	950	1,400	26	120	880	200	890	750
12/21/2007	83	750	330	1,000	1,400	11	85	840	210	1,000	680
12/29/2008	170	1,100	380	650	1,700	10	90	880	270	1,100	690
11/3/2009	190	800	390	470	1,800	44	100	910	300	1,100	630
12/6/2010	131	474	505	512	1,680	30	95	930	275	1,300	631
11/15/2011	99	458	596	511	1,620	24	95	985	301	1,470	684
12/13/2012	131	753	653	611	1,570	31	89	950	314	1,310	725
11/11/2013	94	417	602	708	1,800	9	96	944	298	1,110	694
9/24/2014	158	720	564	556	1,472	29	105	997	372	994	756
12/4/2015	215	773	503	545	1,236	27	90	1,074	324	1,027	773
12/8/2016	198	787	554	538	1,138	28	86	1,175	307	974	805
3/27/2018	208	808	779	859	1,034	56	87	1,147	261	842	733
Long-Term Trend:	Flat	Inc.	Inc.	Dec.	Flat	Flat	Dec.	Inc.	Inc.	Inc.	Inc.
Trend Since 2005:	Inc.	Flat	Inc.	Dec.	Dec.	Flat	Flat	Inc.	Inc.	Flat	Inc.
Total Kjeldhal Nitrogen											
OU1 RI 5/2/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 12/1/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6/26/2003	1	1	2.49	93	11	1	1	37	1	3.53	5.12
12/27/2005	0.5	0.5	0.5	3.8	51	0.5	0.5	21	0.5	40	7
12/27/2006	0.57	0.66	1.32	2.61	15	0.63	0.56	6.16	0.59	19	16
12/21/2007	1.5	1.5	4.3	10	49	1.1	1.4	18	1.6	95	9.7
12/29/2008	1.5	1.5	3.8	11	40	1.6	1.8	12	1.51	100	8.82
11/3/2009	0.5	0.5	1.25	13	34	0.5	0.5	11	0.5	55	7.45
12/6/2010	0.486	0.5	1.9	16	40	0.2	0.2	6.9	0.222	140	2.7
11/15/2011	0.307	0.1	0.758	7.8	25	0.1	0.1	3.9	0.096	94	5.8
12/13/2012	0.25	0.3	0.86	8.1	17	0.1	0.1	3.7	0.22	84	5.2
11/11/2013	0.102	0.181	0.608	8.4	17.5	0.243	0.3	4.8	0.224	81.5	5.5
9/24/2014	0.208	0.230	0.588	9.7	14.4	0.172	0.2	4.89	0.296	84.5	5.79
12/4/2015	0.177	0.355	0.429	12.5	16.6	0.5	0.251	4.9	0.432	99.4	5.72
12/8/2016	0.338	0.354	0.228	10.8	15.8	0.16	0.24	4.82	0.196	77	5.66
3/27/2018	0.25	0.240	0.26	10.5	8.1	0.24	0.17	5.6	0.26	67	5.3
Long-Term Trend:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Inc.	Flat
Trend Since 2005:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat

Table 11
Trend Analysis Summary for Selected Part 360 Leachate Indicator Parameters
Syosset Landfill 2018 Annual Post-Closure Ground Water-Monitoring Report

Date*	Upgradient Well	Downgradient Wells									
		On-Site					Off-Site				
	SY-6	SY-2R	SY-2D	SY-3	SY-3D	SY-3DD	PK-10S	PK-10I	PK-10D	RW-12I	RW-12D
Total Organic Carbon											
OU1 RI 5/2/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU1 RI 6/6/1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 11/2/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OU2 RI 12/1/1993	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6/26/2003	1.24	0.74	1.05	17	3.19	0.4	0.4	5.17	0.4	1.27	6.73
12/27/2005	8.88	1.03	1.31	2.61	9.72	0.4	0.603	5.21	0.58	17	8.43
12/27/2006	0.4	0.5	0.459	2.43	6.51	0.4	0.4	3.65	0.4	16	7.27
12/21/2007	0.75	1.13	0.88	2.63	6.13	0.4	0.438	3.18	0.527	3.83	8.14
12/29/2008	1.49	1.21	1.08	3.55	6.4	0.4	0.701	2.63	0.885	4.34	7.23
11/3/2009	2.81	2.13	1.55	7.09	9.57	0.4	0.721	3.04	1.06	41	7.01
12/6/2010	1.2	1.1	0.859	3	4.3	0.196	0.416	1.7	0.944	24	3.3
11/15/2011	0.79	0.88	1	2.6	3.8	0.29	0.82	1.7	1	27	4.5
12/13/2012	1.2	1.3	1.2	3.7	4.3	0.35	0.71	2.1	1.3	22	5.6
11/11/2013	1.25	1.2	0.863	4.27	4.1	0.755	0.903	2.33	1.36	22	4.39
9/24/2014	1.55	1.07	0.84	4.2	5.25	0.236	0.566	2.25	1.53	21.9	4.81
12/4/2015	2.18	1.53	1.05	3.65	5.04	0.705	0.567	2.43	1.37	19.9	4.78
12/8/2016	2.01	1.94	4.23	4.23	4.91	0.311	0.522	2.41	1.1	19.4	4.42
3/27/2018	1.8	2.2	2.2	5.3	4.5	0.63	0.62	2.6	1.3	17.2	5.2
Long-Term Trend:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Trend Since 2005:	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat	Flat
Long-Term Trend Summary											
Total Flat:	9	7	6	5	6	9	7	5	6	5	6
Total Decreasing:	0	0	1	3	3	0	2	2	0	0	0
Total Increasing:	0	2	2	1	1	0	0	2	3	4	3
Trend Since 2005 Summary											
Total Flat:	6	9	7	5	5	9	9	6	7	6	6
Total Decreasing:	0	0	0	3	4	0	0	1	0	2	1
Total Increasing:	3	0	2	1	0	0	0	2	2	1	2

Notes:

All results are in units of milligrams per Liter (mg/L).

N/A = Not Available (Well not installed yet, not sampled during monitoring round, or sample not analyzed for that parameter).

* = Approximate date (Monitoring rounds typically take place over several days).

SECTION 6

CONCLUSIONS AND RECOMENDATIONS

Based on the above results from the 2018 annual post-closure ground water-monitoring round, LKB concludes the following:

1. The ground water-monitoring system, specifically the existing monitoring well network and modified low-flow purging and sampling method specified in the O&M Manual, continues to provide ground water-flow and ground water-quality data of sufficient quantity and quality to monitor the Landfill during the post-closure period.

2. The Landfill is not a significant source of VOCs or the toxic RCRA/PPL metals, and is only a relatively minor source of certain leachate-related contaminants and the other TAL inorganic parameters at concentrations exceeding Class GA ground-water standards and guidance values.

3. Although arsenic was detected in On-Site Downgradient Wells SY-3 and SY-3D at concentrations exceeding the federal MCL, the fact that arsenic was not detected in the deeper well at this cluster (Well SY-3DD) and was only detected at very low, estimated total concentrations in two of the five off-site downgradient wells (Wells PK-10D and RW-12D) indicates that off-site impacts are negligible. The slight exceedance for dissolved arsenic in the filtered sample from Well RW-12I is spurious because total arsenic was only detected at a low, estimated concentration in the unfiltered sample from this well.

4. Although an exceedance for beryllium occurred in Well SY-2R again in 2018 it was still relatively low in magnitude, and the limit for beryllium is a guidance value rather than an actual standard. Moreover, beryllium was not detected in any of the other wells. Therefore, there are no off-site impacts from beryllium.

5. Although a low-magnitude exceedance for dissolved selenium occurred in the filtered sample from Off-Site Downgradient Well RW-12I, this detection is spurious because total selenium was not detected in the unfiltered sample from this well.

6. Exceedances for total thallium occurred in the duplicate sample from On-Site Downgradient Well SY-3D, but not the actual sample, and in Off-Site Downgradient Well PK-10I. An exceedance for dissolved thallium also occurred in the filtered sample from On-Site Downgradient Well SY-3DD. Based on the pattern of these exceedances they are likely Landfill-related, but since they are relatively low in magnitude and are based on estimated, possibly spurious concentrations, they are not considered to be significant.

7. Overall, the current results show stable or improving ground water-quality conditions at the downgradient well locations relative to the previous post-closure monitoring rounds, the 1988 OU-1 RI results and the 1993 OU-2 RI results. This finding indicates that the selected remedy has been effective in mitigating ground water-quality impacts associated with the Landfill.

8. Based on the distribution of contaminants in ground water and ground water-flow directions, the majority of the contaminants detected in Well Cluster RW-12 do not appear to be Landfill-related. This conclusion is consistent with the conclusions of previous post-closure monitoring reports and the OU-2 RI Report.

9. Taken as a whole, the results of the 2018 ground water-monitoring round continue to support the de-listing of the Landfill from the NPL, which occurred on April 28, 2005.

10. The stable or improving ground water-quality conditions in the upgradient well and on-site downgradient wells continue to indicate that ground-water conditions have equilibrated following the demolition work at the adjacent former Cerro Wire property in 2005.

Following the 2016 monitoring round, which was performed during the fourth quarter, the USEPA reduced the frequency of ground-water monitoring from annually to once every fifth calendar quarter, to provide one round of data for each calendar quarter during a Five-Year Review period. Accordingly, monitoring was not required in 2017 and the 2018 monitoring round was performed during the first quarter. The next round of ground-water monitoring will therefore be performed during the second quarter of 2019.

Based on the above information, LKB recommends that the following work items be implemented during the 2019 annual monitoring round.

1. Continue to collect the duplicate sample from one of the on-site downgradient wells as these wells exhibit the highest degree of Landfill-related impacts.

2. Continue to collect and dispose of the purged ground water from the off-site downgradient wells, but discharge the purged ground water from the on-site wells onto the ground surface due to the low levels of contaminants encountered.

3. Continue to evaluate ground-water quality conditions at the upgradient well and the on-site downgradient wells for influences related to future development and related construction activities at the former Cerro Wire property which may increase recharge directly upgradient of the Landfill.

APPENDIX A

Completed Well Inspection Checklist Forms

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-1
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. Steel Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	On inside of lid

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	120.80’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-1D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	119.21’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-2R
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
6. Remarks on Integrity of Casing	OK
Depth to Water from Top of PVC	113.52’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-2D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	Casing lid missing
Lock – Intact	☐	☒	No Lock
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	Grip-Plug Present, Casing Kinked
5. Depth to Water from Top of PVC	113.91’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-3
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. Steel Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	On Cap

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	116.51’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-3D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	Inside of Lid

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	117.48’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-3DD
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☐	☒	Casing lid hinge broken
Lock – Intact	☒	☐	Not locked, broken hinge
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	117.24’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-4
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under rip-rap)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. Steel Casing (Stick-up) Straight	☐	☒	Slightly bent, but okay
5. Designated Leveling Point Clearly Marked	☐	☒	No room on steel
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	114.00’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-6
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	108.53’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-7
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	Road sand in curb box
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☐	☒	Not used, flush mount
Lock – Intact	☐	☒	N/A, curb box
4. Steel Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	118.57’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-8
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under veg/soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	Intact, but lower than PVC
Lock – Intact	☐	☒	Cannot lock
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	119.86’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. SY-9
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	(Presumed, under new soil)
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☐	☒	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	OK
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	Dry

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. PK-10S
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted, flush-mount
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	Inside of Lid, Closet to Road

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	112.07’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. PK-10I
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☐	☒	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	Closest to ball court

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	110.76’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. PK-10D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Needs new bolts
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	111.91’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. RW-12I
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted, flush-mount
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	121.20’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. RW-12D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted, flush-mount
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	121.30’

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. RB-11S
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted, flush-mount
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	112.64

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. RB-11I
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☒	☐	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	113.99

SYOSSET LANDFILL
POST-CLOSURE MONITORING AND MAINTENANCE PROGRAM

2018 GROUNDWATER MONITORING WELL INSPECTION CHECKLIST

WELL NO. RB-11D
DATE: 3/14/2018
PERSONNEL: J. Maggio and R. Chen

CHECKLIST FOR INSPECTION OF OUTSIDE OF EXISTING WELLS

	Yes	No	Remarks
1. Cement Seal			
Intact	☒	☐	
Cracked	☐	☒	
Missing	☐	☒	
2. Ponding of Water Around Cement Seal	☐	☒	
3. Protective Steel Pipe & Lock (if used)			
Pipe – Intact	☒	☐	
Lock – Intact	☒	☐	Bolted
4. PVC Casing (Stick-up) Straight	☒	☐	
5. Designated Leveling Point Clearly Marked	☒	☐	
6. PVC Cap Vented Properly	☒	☐	
7. Well is Protected	☒	☐	
8. Well is Clearly Marked	☐	☒	

CHECKLIST FOR INSPECTION OF INSIDE OF EXISTING WELLS

1. Bottom of Well from Top of PVC Casing	N/A
2. Stick-Up	N/A (Flush-Mount)
3. Bottom of Well Below Grade	N/A
4. Remarks on Integrity of Casing	OK
5. Depth to Water from Top of PVC	114.26’

APPENDIX B

Validated Laboratory Results

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SYOSSET LANDFILL POST CLOSURE, SYOSSET, NEW YORK

Client: Lockwood, Kessler, & Bartlett, Syosset, New York
SDG: J2083
Laboratory: ChemTech, Mountainside, New Jersey
Site: Syosset Landfill, Syosset, New York
Date: May 28, 2018

VOCs/SVOCs/Cyanide/Wet Chemistry			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1β	SY-6-20180326	J2083-01	Water
2	SY-3DD-20180326	J2083-02	Water
3*	TB-20180326	J2083-03	Water

* - VOC only β - SVOC, Cyanide, and Wet Chemistry only

Total & Dissolved Metals/Mercury			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	SY-6-20180326	J2083-01	Water
2T	SY-3DD-20180326	J2083-02	Water
4D	SY-6-20180326	J2083-04	Water
5D	SY-3DD-20180326	J2083-05	Water

T - Total Metals & Mercury & Cyanide D - Dissolved Metals & Mercury only

A Data Usability Summary Review was performed on the analytical data for four water samples and one aqueous trip blank sample collected on March 26, 2018 by Lockwood, Kessler & Bartlett at the Syosset Landfill in Syosset, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3", "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" the "Methods for Chemical Analysis of Water and Wastes" and the "Standard Methods for the Examination of Water and Wastewater".

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW846 8260C
SVOCs	USEPA SW846 8270D SIM
Metals/Mercury/Cn	USEPA CLP Method ISM02.3
Alkalinity	Standard Method SM2320 B
Ammonia (as N)	Standard Method SM4500-NH3
Bromide	USEPA Method 300.0
Chloride	USEPA Method 300.0
Nitrate	USEPA Method 300.0

Analysis	*Method References*
Sulfate	USEPA Method 300.0
BOD5	Standard Method SM5210 B
COD	Standard Method SM5220D
Color	Standard Method SM2120 B
Phenolics	USEPA SW-846 Method 9065
Total Dissolved Solids	Standard Method SM2540C
Total Kjeldahl Nitrogen	Standard Method SM4500-N Org B or C
Total Organic Carbon	Standard Method SM5310B

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review, and the site QAPP as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation
- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation

- Field Duplicate sample precision

Overall Usability Issues

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Chloromethane	0.71	None	All ND
TB-20180326	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Total & Dissolved Metals & Hardness & Cyanide

Holding Times

- All samples were prepared and analyzed within 14 days for cyanide, 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- ICP/MS tuning not required.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
PBW001 (Total)	Potassium	90.6	None	All ND
PBW001 (Dissolved)	Potassium	272	None	All ND

Field Blank

- The field blanks are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

ICP Interference Check Sample

- The ICP ICS exhibited acceptable recoveries.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Duplicate (MS/DUP) Recoveries

- The MS/DUP samples exhibited acceptable percent recoveries (%R) and RPD values.

ICP Serial Dilution

- The ICP serial dilution exhibited acceptable %D values.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Wet Chemistry Parameters: Alkalinity, Ammonia, Bromide, Chloride, Nitrate, Sulfate, BOD5, COD, Color, Phenolics, TDS, TKN, TOC

Holding Times

- All samples were prepared and analyzed within the recommended time for each analysis.

Initial and Continuing Calibration

- All %R criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. mg/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Ammonia as N	0.085	None	None for Wet Chemistry parameters
	TKN	0.24	None	
	TOC	0.40	None	

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS Sample ID	Compound	MS %R/RPD	Qualifier	Affected Samples
REFERENCE	Ammonia as N	10%/-120%/200	None	4X Rule Applies
	TKN	294%/304%/OK	J/UJ	All Samples
	Phenolics	58%/59%/OK		

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Compound Quantitation

- EDS Sample ID #1 exhibited a high concentration of sulfate and was flagged (OR) for over the calibration range by the laboratory. The sample was diluted and reanalyzed and the dilution result for this compound should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/29/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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Report of Analysis

2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	SY-3DD-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	DB-624UI ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX000477.D	1		03/27/18 23:18	VX032718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

NW 5128.8

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Report of Analysis

2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	SY-3DD-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	DB-624UI ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX000477.D	1		03/27/18 23:18	VX032718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	57.4		61 - 141		115%	SPK: 50
1868-53-7	Dibromofluoromethane	50.9		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	48.3		65 - 126		97%	SPK: 50
460-00-4	4-Bromofluorobenzene	40.4		58 - 135		81%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	108916	5.68				
540-36-3	1,4-Difluorobenzene	195587	6.87				
3114-55-4	Chlorobenzene-d5	188577	10.12				
3855-82-1	1,4-Dichlorobenzene-d4	97748	12.09				

JW 5/28/18

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Report of Analysis

3

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	TB-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	DB-624UI ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX000476.D	1		03/27/18 22:52	VX032718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

5/28/18

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Report of Analysis

3

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	TB-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	DB-624UI ID : 0.18	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VX000476.D	1		03/27/18 22:52	VX032718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	57.1		61 - 141		114%	SPK: 50
1868-53-7	Dibromofluoromethane	50.3		69 - 133		101%	SPK: 50
2037-26-5	Toluene-d8	47.3		65 - 126		95%	SPK: 50
460-00-4	4-Bromofluorobenzene	39.6		58 - 135		79%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	106725	5.68				
540-36-3	1,4-Difluorobenzene	191166	6.87				
3114-55-4	Chlorobenzene-d5	184621	10.12				
3855-82-1	1,4-Dichlorobenzene-d4	93036	12.09				

EPA SAMPLE NO.

SY-6-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-01

% Solids: Date Received: 03/27/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	17.7	J	03/29/2018	1636
7440-36-0	Antimony	60.0	U	03/29/2018	1636
7440-38-2	Arsenic	10.0	U	03/29/2018	1636
7440-39-3	Barium	84.1	J	03/29/2018	1636
7440-41-7	Beryllium	5.0	U	03/29/2018	1636
7440-43-9	Cadmium	5.0	U	03/29/2018	1636
7440-70-2	Calcium	40900		03/29/2018	1636
7440-47-3	Chromium	2.5	J	03/29/2018	1636
7440-48-4	Cobalt	50.0	U	03/29/2018	1636
7440-50-8	Copper	20.4	J	03/29/2018	1636
7439-89-6	Iron	212		03/29/2018	1636
7439-92-1	Lead	3.7	J	03/29/2018	1636
7439-95-4	Magnesium	14400		03/29/2018	1636
7439-96-5	Manganese	26.3		03/29/2018	1636
7440-02-0	Nickel	5.2	J	03/29/2018	1636
7440-09-7	Potassium	5000	U	03/29/2018	1636
7782-49-2	Selenium	35.0	U	03/29/2018	1636
7440-22-4	Silver	10.0	U	03/29/2018	1636
7440-23-5	Sodium	6940		03/29/2018	1636
7440-28-0	Thallium	25.0	U	03/29/2018	1636
7440-62-2	Vanadium	2.8	J	03/29/2018	1636
7440-66-6	Zinc	1260		03/29/2018	1636
Hardness	Hardness (total)	161		03/29/2018	1636

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3DD-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-02

% Solids: Date Received: 03/27/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	03/29/2018	1640
7440-36-0	Antimony	60.0	U	03/29/2018	1640
7440-38-2	Arsenic	10.0	U	03/29/2018	1640
7440-39-3	Barium	200	U	03/29/2018	1640
7440-41-7	Beryllium	5.0	U	03/29/2018	1640
7440-43-9	Cadmium	5.0	U	03/29/2018	1640
7440-70-2	Calcium	1530	J	03/29/2018	1640
7440-47-3	Chromium	2.7	J	03/29/2018	1640
7440-48-4	Cobalt	50.0	U	03/29/2018	1640
7440-50-8	Copper	25.0	U	03/29/2018	1640
7439-89-6	Iron	100	U	03/29/2018	1640
7439-92-1	Lead	2.0	J	03/29/2018	1640
7439-95-4	Magnesium	632	J	03/29/2018	1640
7439-96-5	Manganese	2.4	J	03/29/2018	1640
7440-02-0	Nickel	13.1	J	03/29/2018	1640
7440-09-7	Potassium	5000	U	03/29/2018	1640
7782-49-2	Selenium	35.0	U	03/29/2018	1640
7440-22-4	Silver	10.0	U	03/29/2018	1640
7440-23-5	Sodium	3210	J	03/29/2018	1640
7440-28-0	Thallium	25.0	U	03/29/2018	1640
7440-62-2	Vanadium	3.8	J	03/29/2018	1640
7440-66-6	Zinc	60.0	U	03/29/2018	1640
Hardness	Hardness (total)	6.42	J	03/29/2018	1640

NOTE: Hardness (total) is reported in mg/L

Comments:

MW S1281.8

EPA SAMPLE NO.

SY-6-20180326

4D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-04

% Solids: Date Received: 03/27/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	03/29/2018	1652
7440-36-0	Antimony	60.0	U	03/29/2018	1652
7440-38-2	Arsenic	10.0	U	03/29/2018	1652
7440-39-3	Barium	80.3	J	03/29/2018	1652
7440-41-7	Beryllium	5.0	U	03/29/2018	1652
7440-43-9	Cadmium	5.0	U	03/29/2018	1652
7440-70-2	Calcium	39600		03/29/2018	1652
7440-47-3	Chromium	10.0	U	03/29/2018	1652
7440-48-4	Cobalt	50.0	U	03/29/2018	1652
7440-50-8	Copper	19.6	J	03/29/2018	1652
7439-89-6	Iron	65.2	J	03/29/2018	1652
7439-92-1	Lead	10.0	U	03/29/2018	1652
7439-95-4	Magnesium	14100		03/29/2018	1652
7439-96-5	Manganese	25.2		03/29/2018	1652
7440-02-0	Nickel	4.3	J	03/29/2018	1652
7440-09-7	Potassium	5000	U	03/29/2018	1652
7782-49-2	Selenium	35.0	U	03/29/2018	1652
7440-22-4	Silver	10.0	U	03/29/2018	1652
7440-23-5	Sodium	7100		03/29/2018	1652
7440-28-0	Thallium	25.0	U	03/29/2018	1652
7440-62-2	Vanadium	50.0	U	03/29/2018	1652
7440-66-6	Zinc	1220		03/29/2018	1652

NOTE: Hardness (total) is reported in mg/L

Comments:

sw 5/28/18

EPA SAMPLE NO.

SY-3DD-20180326

5D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-05

% Solids: Date Received: 03/27/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	03/29/2018	1656
7440-36-0	Antimony	60.0	U	03/29/2018	1656
7440-38-2	Arsenic	10.0	U	03/29/2018	1656
7440-39-3	Barium	200	U	03/29/2018	1656
7440-41-7	Beryllium	5.0	U	03/29/2018	1656
7440-43-9	Cadmium	5.0	U	03/29/2018	1656
7440-70-2	Calcium	1500	J	03/29/2018	1656
7440-47-3	Chromium	1.8	J	03/29/2018	1656
7440-48-4	Cobalt	50.0	U	03/29/2018	1656
7440-50-8	Copper	25.0	U	03/29/2018	1656
7439-89-6	Iron	100	U	03/29/2018	1656
7439-92-1	Lead	3.1	J	03/29/2018	1656
7439-95-4	Magnesium	636	J	03/29/2018	1656
7439-96-5	Manganese	2.1	J	03/29/2018	1656
7440-02-0	Nickel	9.9	J	03/29/2018	1656
7440-09-7	Potassium	5000	U	03/29/2018	1656
7782-49-2	Selenium	35.0	U	03/29/2018	1656
7440-22-4	Silver	10.0	U	03/29/2018	1656
7440-23-5	Sodium	3250	J	03/29/2018	1656
7440-28-0	Thallium	2.1	J	03/29/2018	1656
7440-62-2	Vanadium	50.0	U	03/29/2018	1656
7440-66-6	Zinc	4.6	J	03/29/2018	1656

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-6-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-01

% Solids: Date Received: 03/27/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1708

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3DD-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-02

% Solids: Date Received: 03/27/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1710

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-6-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-04

% Solids: Date Received: 03/27/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.040	J	04/04/2018	1713

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3DD-20180326

5D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-05

% Solids: Date Received: 03/27/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.043	J	04/04/2018	1715

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-6-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-01

% Solids: Date Received: 03/27/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1614

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3DD-20180326

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2083

Matrix: WATER Lab Sample ID: J2083-02

% Solids: Date Received: 03/27/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	2.7	J	04/02/2018	1549

NOTE: Hardness (total) is reported in mg/L

Comments:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18 14:30
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	SY-6-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	118		1	0.4	1	2	mg/L		04/04/18 14:34	SM2320 B
Ammonia as N	0.087	J	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:04	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		03/27/18 12:53	300.0
Chloride	6.9		1	0.075	0.075	0.15	mg/L		03/27/18 12:53	300.0
Nitrate	1.9		1	0.027	0.065	0.13	mg/L		03/27/18 12:53	300.0
Sulfate	~~42.6~~ use DL	~~OR~~	~~1~~	~~0.13~~	~~0.375~~	~~0.75~~	~~mg/L~~		~~03/27/18 12:53~~	300.0
BOD5	2	U	1	2	2	2	mg/L		03/28/18 10:30	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/02/18 12:02	SM5220 D
Color	5	U	1	5	5	5	cu		03/28/18 09:52	SM2120 B
Phenolics	0.05 UJ	~~U~~	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:13	9065
TDS	208		1	0.031	5	10	mg/L		03/27/18 16:00	SM2540C
TKN	0.25 J	~~J~~	1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:20	SM4500-N Org B or C plus NH3 G
TOC	1.8		1	0.08	0.25	0.5	mg/L		03/28/18 13:21	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

IDL

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18 14:30
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	SY-6-20180326DL	SDG No.:	J2083
Lab Sample ID:	J2083-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Sulfate	38.7	D	2	0.26	0.75	1.5	mg/L		03/27/18 15:26	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NWS/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/26/18 16:00
Project:	Syosset Landfill	Date Received:	03/27/18
Client Sample ID:	SY-3DD-20180326	SDG No.:	J2083
Lab Sample ID:	J2083-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	3.8		1	0.4	1	2	mg/L		04/04/18 14:45	SM2320 B
Ammonia as N	0.053	J	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:04	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		03/27/18 13:24	300.0
Chloride	4.8		1	0.075	0.075	0.15	mg/L		03/27/18 13:24	300.0
Nitrate	0.72		1	0.027	0.065	0.13	mg/L		03/27/18 13:24	300.0
Sulfate	0.75	U	1	0.13	0.375	0.75	mg/L		03/27/18 13:24	300.0
BOD5	3.8		1	2	2	2	mg/L		03/28/18 10:30	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/02/18 12:02	SM5220 D
Color	5	U	1	5	5	5	cu		03/28/18 10:14	SM2120 B
Phenolics	0.05	UJ ~~U~~	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:13	9065
TDS	56		1	0.031	5	10	mg/L		03/27/18 16:00	SM2540C
TKN	0.24	J ~~J~~	1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:20	SM4500-N Org B or C plus NH3 G
TOC	0.63		1	0.08	0.25	0.5	mg/L		03/28/18 12:02	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SYOSSET LANDFILL POST CLOSURE, SYOSSET, NEW YORK

Client: Lockwood, Kessler, & Bartlett, Syosset, New York
SDG: J2116
Laboratory: ChemTech, Mountainside, New Jersey
Site: Syosset Landfill, Syosset, New York
Date: May 28, 2018

VOCs/SVOCs/Wet Chemistry			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	SY-3D-20180327	J2116-01	Water
1RE*	SY-3D-20180327RE	J2116-01RE	Water
1DL1β	SY-3D-20180327DL1	J2116-01DL1	Water
1DL2β	SY-3D-20180327DL2	J2116-01DL2	Water
2MS	J2116-01MS	J2116-02	Water
3MSD	J2116-01MSD	J2116-03	Water
4	SY-3-20180327	J2116-04	Water
4DL1β	SY-3-20180327DL1	J2116-04DL1	Water
5	SY-2R-20180327	J2116-05	Water
5DL1β	SY-2R-20180327DL1	J2116-05DL1	Water
5DL2β	SY-2R-20180327DL2	J2116-05DL2	Water
6	SY-5-20180327	J2116-06	Water
6DL1β	SY-5-20180327DL1	J2116-06DL1	Water
6DL2β	SY-5-20180327DL2	J2116-06DL2	Water
7	SY-2D-20180327	J2116-07	Water
7DL1β	SY-2D-20180327DL1	J2116-07DL1	Water

* - VOC only β - Wet Chemistry only

Total & Dissolved Metals/Mercury/Cn			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	SY-3D-20180327	J2116-01	Water
2TMS	SY-3D-20180327MS	J2116-02	Water
3TMSD	SY-3D-20180327MSD	J2116-03	Water
4T	SY-3-20180327	J2116-04	Water
5T	SY-2R-20180327	J2116-05	Water
6T	SY-5-20180327	J2116-06	Water
7T	SY-2D-20180327	J2116-07	Water
8D	SY-3D-20180327	J2116-08	Water
9DMS	SY-3D-20180327MS	J2116-09	Water
10DMSD	SY-3D-20180327MSD	J2116-10	Water
11D	SY-3-20180327	J2116-11	Water
12D	SY-2R-20180327	J2116-12	Water
13D	SY-5-20180327	J2116-13	Water
14D	SY-2D-20180327	J2116-14	Water

T - Total Metals & Mercury & Cyanide D - Dissolved Metals & Mercury only

A Data Usability Summary Review was performed on the analytical data for ten water samples collected on March 27, 2018 by Lockwood, Kessler & Bartlett at the Syosset Landfill in Syosset, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3", "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" the "Methods for Chemical Analysis of Water and Wastes" and the "Standard Methods for the Examination of Water and Wastewater".

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW846 8260C
SVOCs	USEPA SW846 8270D SIM
Metals/Mercury/Cn	USEPA CLP Method ISM02.3
Alkalinity	Standard Method SM2320 B
Ammonia (as N)	Standard Method SM4500-NH3
Bromide	USEPA Method 300.0
Chloride	USEPA Method 300.0
Nitrate	USEPA Method 300.0
Sulfate	USEPA Method 300.0
BOD5	Standard Method SM5210 B
COD	Standard Method SM5220D
Color	Standard Method SM2120 B
Phenolics	USEPA SW-846 Method 9065
Total Dissolved Solids	Standard Method SM2540C
Total Kjeldahl Nitrogen	Standard Method SM4500-N Org B or C
Total Organic Carbon	Standard Method SM5310B

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review, and the site QAPP as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries

- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation
- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples except for the following.

Sample ID	Date Sampled	Date Extracted	# of Days	Qualifier
1RE	3/27/18 (1100)	4/10/18 (1853)	>14	J/UJ

Note: Reanalyzed outside HT due to CCAL deficiency in original analysis. The original analysis results should be used for reporting.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The following table presents compounds that exceeded various percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D	Qualifier	Affected Samples
4/7/18	Bromomethane	30.84%	J/UJ	All Except 1RE

Method Blank

- The method blanks were free of contamination.

Field Blank

- The following table lists field QC samples with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL of acetone, 2-butanone and methylene chloride (common laboratory contaminants) less than ten times (10x) the highest associated blank (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U). For all other compounds >RL, an action level of five times (5x) the highest associated blank concentration is used.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Chloromethane	0.71	U	4-6

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SY-3-20180327 ug/L	SY-5-20180327 ug/L	RPD	Qualifier
None	ND	ND	-	-

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

Surrogate Spike Recoveries

- The following table presents surrogate percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). For severely low surrogate recoveries (<10%), non-detected results in the affected samples are rejected (R) and are unusable for project objectives.

EDS Sample ID	Compound	%R	Qualifier
5	Terphenyl-d14	173%	None - Sample ND

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/MSD Sample ID	Compound	MS %R/MS %R/RPD	Qualifier	Affected Samples
2	1,4-Dioxane	17%/67%/119	J	2

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SY-3-20180327 ug/L	SY-5-20180327 ug/L	RPD	Qualifier
1,4-Dioxane	0.46	0.45	2%	None

Total & Dissolved Metals & Hardness & Cyanide

Holding Times

- All samples were prepared and analyzed within 14 days for cyanide, 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- ICP/MS tuning not required.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The following table lists method blanks with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL and less than ten times (10x) the highest associated blank concentration (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
PBW001 (Total)	Potassium	90.6	None	All Associated >10X
PBW001 (Dissolved)	Potassium	272	U	12

Field Blank

- The field blanks are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

ICP Interference Check Sample

- The ICP ICS exhibited acceptable recoveries.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD samples exhibited acceptable percent recoveries (%R) and RPD values.

ICP Serial Dilution

- An ICP serial dilution was not performed.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Total Metals/Hg/Cn				
Compound	SY-3-20180327 ug/L	SY-5-20180327 ug/L	RPD	Qualifier
Aluminum	13.8	13.1	5%	None
Arsenic	41.3	42.5	3%	
Barium	155	152	2%	
Calcium	44,900	44,000	2%	
Iron	36,200	35,700	1%	
Lead	3.8	3.9	3%	
Magnesium	19,200	18,900	2%	
Manganese	3,790	3,720	2%	
Potassium	15,100	14,900	1%	
Silver	0.91	0.94	3%	
Sodium	224,000	218,000	3%	
Thallium	25.0U	4.3	NC	
Zinc	60.0U	6.5	NC	
Hardness*	191 mg/L	188 mg/L	2%	
Mercury	0.062	0.059	5%	

Dissolved Metals/Hg				
Compound	SY-3-20180327 ug/L	SY-5-20180327 ug/L	RPD	Qualifier
Aluminum	20.9	21.0	0%	None
Arsenic	53.5	56.1	5%	
Barium	153	154	1%	
Calcium	43,800	43,900	0%	
Iron	34,900	35,500	2%	None
Lead	2.7	3.2	17%	
Magnesium	17,600	17,600	0%	
Manganese	3,740	3,750	0%	
Potassium	14,400	14,600	1%	
Silver	10.0U	0.79	NC	
Sodium	208,000	206,000	1%	
Zinc	60.0U	5.0	NC	
Mercury	0.20U	0.039	NC	

Wet Chemistry Parameters: Alkalinity, Ammonia, Bromide, Chloride, Nitrate, Sulfate, BOD5, COD, Color, Phenolics, TDS, TKN, TOC

Holding Times

- All samples were prepared and analyzed within the recommended holding time for each analysis.

Initial and Continuing Calibration

- All %R criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. mg/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Ammonia as N	0.085	None	None for Wet Chemistry parameters
	TKN	0.24	None	
	TOC	0.4	None	

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS Sample ID	Compound	MS %R/RPD	Qualifier	Affected Samples
1	Sulfate	-85%/-109%/OK	None	4X Rule Applies
	Chloride	-1,600%/-1,667%/OK	None	
	Ammonia as N	10%/-120%/200	None	
	TKN	294%/304%/OK	J	All Samples
	Phenolics	58%/59%/OK	UJ	All Samples

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Compound Quantitation

- All samples exhibited high concentrations of ammonia as N, chloride, sulfate, and/or TKN and were flagged (OR) for over the calibration range by the laboratory. The samples were diluted and reanalyzed and the dilution results for these compounds should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

Compound	SY-3-20180327 mg/L	SY-5-20180327 mg/L	RPD	Qualifier
Alkalinity	232	221	5%	None
Ammonia as N	11.3	11.1	2%	
Bromide	0.28	0.28	0%	
Chloride	372	365	2%	
Sulfate	36.2	35.1	3%	
COD	15.5	12.5	21%	
Color	300	300	0%	
TDS	859	815	5%	
TKN	10.5	10.8	3%	
TOC	5.3	4.8	10%	

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/29/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047446.D	1		04/07/18 18:44	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	10.2		0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.2	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047446.D	1		04/07/18 18:44	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	0.24	J	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.6		61 - 141		107%	SPK: 50
1868-53-7	Dibromofluoromethane	51.2		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	52.5		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	51.9		58 - 135		104%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1137740	7.66				
540-36-3	1,4-Difluorobenzene	1886090	8.59				
3114-55-4	Chlorobenzene-d5	1777050	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	742088	13.35				

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Report of Analysis

IRE

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327RE	SDG No.:	J2116
Lab Sample ID:	J2116-01RE	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

use original

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047502.D	1		04/10/18 18:53	VN041018

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	UJ U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	0.35	J J	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	UJ U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

IRE

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327RE	SDG No.:	J2116
Lab Sample ID:	J2116-01RE	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

use original

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047502.D	1		04/10/18 18:53	VN041018

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	UJ U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	36.2		61 - 141		72%	SPK: 50
1868-53-7	Dibromofluoromethane	39		69 - 133		78%	SPK: 50
2037-26-5	Toluene-d8	39.2		65 - 126		78%	SPK: 50
460-00-4	4-Bromofluorobenzene	32.6		58 - 135		65%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	428406	7.67				
540-36-3	1,4-Difluorobenzene	667968	8.59				
3114-55-4	Chlorobenzene-d5	572808	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	189022	13.35				

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-04	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047447.D	1		04/07/18 19:09	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1 ~~0.36~~ UJ	~~J~~	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1 UJ	~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-04	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047447.D	1		04/07/18 19:09	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.9		61 - 141		108%	SPK: 50
1868-53-7	Dibromofluoromethane	52.3		69 - 133		105%	SPK: 50
2037-26-5	Toluene-d8	52.6		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.7		58 - 135		105%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1107920	7.67				
540-36-3	1,4-Difluorobenzene	1833850	8.59				
3114-55-4	Chlorobenzene-d5	1749710	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	740246	13.35				

mw 5/28/18

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2R-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047448.D	1		04/07/18 19:34	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	0.68 U	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1 UJ	UJ	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2R-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-05	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047448.D	1		04/07/18 19:34	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.1		61 - 141		106%	SPK: 50
1868-53-7	Dibromofluoromethane	51.7		69 - 133		103%	SPK: 50
2037-26-5	Toluene-d8	52.9		65 - 126		106%	SPK: 50
460-00-4	4-Bromofluorobenzene	50.9		58 - 135		102%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1105660	7.66				
540-36-3	1,4-Difluorobenzene	1797660	8.59				
3114-55-4	Chlorobenzene-d5	1693700	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	675010	13.35				

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-5-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047449.D	1		04/07/18 19:59	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	~~0.55~~	~~U~~	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-5-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047449.D	1		04/07/18 19:59	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	54.3		61 - 141		109%	SPK: 50
1868-53-7	Dibromofluoromethane	52.5		69 - 133		105%	SPK: 50
2037-26-5	Toluene-d8	53.3		65 - 126		107%	SPK: 50
460-00-4	4-Bromofluorobenzene	52		58 - 135		104%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1123110	7.67				
540-36-3	1,4-Difluorobenzene	1857580	8.59				
3114-55-4	Chlorobenzene-d5	1779900	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	711687	13.35				

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047450.D	1		04/07/18 20:23	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

NW 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047450.D	1		04/07/18 20:23	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	54		61 - 141		108%	SPK: 50
1868-53-7	Dibromofluoromethane	52		69 - 133		104%	SPK: 50
2037-26-5	Toluene-d8	52.9		65 - 126		106%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.3		58 - 135		107%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1107430	7.67				
540-36-3	1,4-Difluorobenzene	1818140	8.59				
3114-55-4	Chlorobenzene-d5	1751710	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	731459	13.35				

EPA SAMPLE NO.

SY-3D-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

1T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-01

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	7.2	J	03/29/2018	1709
7440-36-0	Antimony	60.0	U	03/29/2018	1709
7440-38-2	Arsenic	18.7		03/29/2018	1709
7440-39-3	Barium	194	J	03/29/2018	1709
7440-41-7	Beryllium	5.0	U	03/29/2018	1709
7440-43-9	Cadmium	5.0	U	03/29/2018	1709
7440-70-2	Calcium	50000		03/29/2018	1709
7440-47-3	Chromium	10.0	U	03/29/2018	1709
7440-48-4	Cobalt	18.6	J	03/29/2018	1709
7440-50-8	Copper	25.0	U	03/29/2018	1709
7439-89-6	Iron	23200		03/29/2018	1709
7439-92-1	Lead	2.3	J	03/29/2018	1709
7439-95-4	Magnesium	14900		03/29/2018	1709
7439-96-5	Manganese	897		03/29/2018	1709
7440-02-0	Nickel	40.0	U	03/29/2018	1709
7440-09-7	Potassium	24500		03/29/2018	1709
7782-49-2	Selenium	35.0	U	03/29/2018	1709
7440-22-4	Silver	10.0	U	03/29/2018	1709
7440-23-5	Sodium	282000		03/29/2018	1709
7440-28-0	Thallium	25.0	U	03/29/2018	1709
7440-62-2	Vanadium	50.0	U	03/29/2018	1709
7440-66-6	Zinc	3.1	J	03/29/2018	1709
Hardness	Hardness (total)	186		03/29/2018	1709

NOTE: Hardness (total) is reported in mg/L

Comments:

NW S1c8|.8

EPA SAMPLE NO.

SY-3-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-04

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13.8	J	03/29/2018	1725
7440-36-0	Antimony	60.0	U	03/29/2018	1725
7440-38-2	Arsenic	41.3		03/29/2018	1725
7440-39-3	Barium	155	J	03/29/2018	1725
7440-41-7	Beryllium	5.0	U	03/29/2018	1725
7440-43-9	Cadmium	5.0	U	03/29/2018	1725
7440-70-2	Calcium	44900		03/29/2018	1725
7440-47-3	Chromium	10.0	U	03/29/2018	1725
7440-48-4	Cobalt	50.0	U	03/29/2018	1725
7440-50-8	Copper	25.0	U	03/29/2018	1725
7439-89-6	Iron	36200		03/29/2018	1725
7439-92-1	Lead	3.8	J	03/29/2018	1725
7439-95-4	Magnesium	19200		03/29/2018	1725
7439-96-5	Manganese	3790		03/29/2018	1725
7440-02-0	Nickel	40.0	U	03/29/2018	1725
7440-09-7	Potassium	15100		03/29/2018	1725
7782-49-2	Selenium	35.0	U	03/29/2018	1725
7440-22-4	Silver	0.91	J	03/29/2018	1725
7440-23-5	Sodium	224000		03/29/2018	1725
7440-28-0	Thallium	25.0	U	03/29/2018	1725
7440-62-2	Vanadium	50.0	U	03/29/2018	1725
7440-66-6	Zinc	60.0	U	03/29/2018	1725
Hardness	Hardness (total)	191		03/29/2018	1725

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2R-20180327

5T

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-05

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	267		03/29/2018	1729
7440-36-0	Antimony	60.0	U	03/29/2018	1729
7440-38-2	Arsenic	10.0	U	03/29/2018	1729
7440-39-3	Barium	75.7	J	03/29/2018	1729
7440-41-7	Beryllium	3.5	J	03/29/2018	1729
7440-43-9	Cadmium	5.0	U	03/29/2018	1729
7440-70-2	Calcium	24300		03/29/2018	1729
7440-47-3	Chromium	1.4	J	03/29/2018	1729
7440-48-4	Cobalt	5.1	J	03/29/2018	1729
7440-50-8	Copper	3.9	J	03/29/2018	1729
7439-89-6	Iron	40.9	J	03/29/2018	1729
7439-92-1	Lead	10.0	U	03/29/2018	1729
7439-95-4	Magnesium	4820	J	03/29/2018	1729
7439-96-5	Manganese	32.4		03/29/2018	1729
7440-02-0	Nickel	28.3	J	03/29/2018	1729
7440-09-7	Potassium	1750	J	03/29/2018	1729
7782-49-2	Selenium	35.0	U	03/29/2018	1729
7440-22-4	Silver	10.0	U	03/29/2018	1729
7440-23-5	Sodium	267000		03/29/2018	1729
7440-28-0	Thallium	25.0	U	03/29/2018	1729
7440-62-2	Vanadium	50.0	U	03/29/2018	1729
7440-66-6	Zinc	53.5	J	03/29/2018	1729
Hardness	Hardness (total)	80.5		03/29/2018	1729

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-5-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

6T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-06

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13.1	J	03/29/2018	1733
7440-36-0	Antimony	60.0	U	03/29/2018	1733
7440-38-2	Arsenic	42.5		03/29/2018	1733
7440-39-3	Barium	152	J	03/29/2018	1733
7440-41-7	Beryllium	5.0	U	03/29/2018	1733
7440-43-9	Cadmium	5.0	U	03/29/2018	1733
7440-70-2	Calcium	44000		03/29/2018	1733
7440-47-3	Chromium	10.0	U	03/29/2018	1733
7440-48-4	Cobalt	50.0	U	03/29/2018	1733
7440-50-8	Copper	25.0	U	03/29/2018	1733
7439-89-6	Iron	35700		03/29/2018	1733
7439-92-1	Lead	3.9	J	03/29/2018	1733
7439-95-4	Magnesium	18900		03/29/2018	1733
7439-96-5	Manganese	3720		03/29/2018	1733
7440-02-0	Nickel	40.0	U	03/29/2018	1733
7440-09-7	Potassium	14900		03/29/2018	1733
7782-49-2	Selenium	35.0	U	03/29/2018	1733
7440-22-4	Silver	0.94	J	03/29/2018	1733
7440-23-5	Sodium	218000		03/29/2018	1733
7440-28-0	Thallium	4.3	J	03/29/2018	1733
7440-62-2	Vanadium	50.0	U	03/29/2018	1733
7440-66-6	Zinc	6.5	J	03/29/2018	1733
Hardness	Hardness (total)	188		03/29/2018	1733

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2D-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

7T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-07

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	325		03/29/2018	1737
7440-36-0	Antimony	60.0	U	03/29/2018	1737
7440-38-2	Arsenic	10.0	U	03/29/2018	1737
7440-39-3	Barium	82.4	J	03/29/2018	1737
7440-41-7	Beryllium	5.0	U	03/29/2018	1737
7440-43-9	Cadmium	5.0	U	03/29/2018	1737
7440-70-2	Calcium	32100		03/29/2018	1737
7440-47-3	Chromium	10.0	U	03/29/2018	1737
7440-48-4	Cobalt	50.0	U	03/29/2018	1737
7440-50-8	Copper	25.0	U	03/29/2018	1737
7439-89-6	Iron	158		03/29/2018	1737
7439-92-1	Lead	2.6	J	03/29/2018	1737
7439-95-4	Magnesium	5960		03/29/2018	1737
7439-96-5	Manganese	453		03/29/2018	1737
7440-02-0	Nickel	40.0	U	03/29/2018	1737
7440-09-7	Potassium	4590	J	03/29/2018	1737
7782-49-2	Selenium	35.0	U	03/29/2018	1737
7440-22-4	Silver	10.0	U	03/29/2018	1737
7440-23-5	Sodium	233000		03/29/2018	1737
7440-28-0	Thallium	25.0	U	03/29/2018	1737
7440-62-2	Vanadium	50.0	U	03/29/2018	1737
7440-66-6	Zinc	11.9	J	03/29/2018	1737
Hardness	Hardness (total)	105		03/29/2018	1737

NOTE: Hardness (total) is reported in mg/L

Comments:

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EPA SAMPLE NO.

SY-3D-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

8D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-08

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	03/29/2018	1750
7440-36-0	Antimony	60.0	U	03/29/2018	1750
7440-38-2	Arsenic	16.0		03/29/2018	1750
7440-39-3	Barium	192	J	03/29/2018	1750
7440-41-7	Beryllium	5.0	U	03/29/2018	1750
7440-43-9	Cadmium	5.0	U	03/29/2018	1750
7440-70-2	Calcium	49000		03/29/2018	1750
7440-47-3	Chromium	10.0	U	03/29/2018	1750
7440-48-4	Cobalt	18.6	J	03/29/2018	1750
7440-50-8	Copper	25.0	U	03/29/2018	1750
7439-89-6	Iron	23000		03/29/2018	1750
7439-92-1	Lead	2.5	J	03/29/2018	1750
7439-95-4	Magnesium	14600		03/29/2018	1750
7439-96-5	Manganese	874		03/29/2018	1750
7440-02-0	Nickel	40.0	U	03/29/2018	1750
7440-09-7	Potassium	24300		03/29/2018	1750
7782-49-2	Selenium	35.0	U	03/29/2018	1750
7440-22-4	Silver	10.0	U	03/29/2018	1750
7440-23-5	Sodium	278000		03/29/2018	1750
7440-28-0	Thallium	25.0	U	03/29/2018	1750
7440-62-2	Vanadium	50.0	U	03/29/2018	1750
7440-66-6	Zinc	7.8	J	03/29/2018	1750

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

11D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-11

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	20.9	J	04/05/2018	1259
7440-36-0	Antimony	60.0	U	04/05/2018	1259
7440-38-2	Arsenic	53.5		04/05/2018	1259
7440-39-3	Barium	153	J	04/05/2018	1259
7440-41-7	Beryllium	5.0	U	04/05/2018	1259
7440-43-9	Cadmium	5.0	U	04/05/2018	1259
7440-70-2	Calcium	43800		04/05/2018	1259
7440-47-3	Chromium	10.0	U	04/05/2018	1259
7440-48-4	Cobalt	50.0	U	04/05/2018	1259
7440-50-8	Copper	25.0	U	04/05/2018	1259
7439-89-6	Iron	34900		04/05/2018	1259
7439-92-1	Lead	2.7	J	04/05/2018	1259
7439-95-4	Magnesium	17600		04/05/2018	1259
7439-96-5	Manganese	3740		04/05/2018	1259
7440-02-0	Nickel	40.0	U	04/05/2018	1259
7440-09-7	Potassium	14400		04/05/2018	1259
7782-49-2	Selenium	35.0	U	04/05/2018	1259
7440-22-4	Silver	10.0	U	04/05/2018	1259
7440-23-5	Sodium	208000		04/05/2018	1259
7440-28-0	Thallium	25.0	U	04/05/2018	1259
7440-62-2	Vanadium	50.0	U	04/05/2018	1259
7440-66-6	Zinc	60.0	U	04/05/2018	1259

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2R-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

12D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-12

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	230		04/05/2018	1303
7440-36-0	Antimony	60.0	U	04/05/2018	1303
7440-38-2	Arsenic	3.5	J	04/05/2018	1303
7440-39-3	Barium	72.8	J	04/05/2018	1303
7440-41-7	Beryllium	3.4	J	04/05/2018	1303
7440-43-9	Cadmium	5.0	U	04/05/2018	1303
7440-70-2	Calcium	23400		04/05/2018	1303
7440-47-3	Chromium	1.6	J	04/05/2018	1303
7440-48-4	Cobalt	4.7	J	04/05/2018	1303
7440-50-8	Copper	25.0	U	04/05/2018	1303
7439-89-6	Iron	16.3	J	04/05/2018	1303
7439-92-1	Lead	2.6	J	04/05/2018	1303
7439-95-4	Magnesium	4270	J	04/05/2018	1303
7439-96-5	Manganese	30.2		04/05/2018	1303
7440-02-0	Nickel	26.0	J	04/05/2018	1303
7440-09-7	Potassium 5000	~~1230~~ u	~~J~~	04/05/2018	1303
7782-49-2	Selenium	35.0	U	04/05/2018	1303
7440-22-4	Silver	10.0	U	04/05/2018	1303
7440-23-5	Sodium	247000		04/05/2018	1303
7440-28-0	Thallium	25.0	U	04/05/2018	1303
7440-62-2	Vanadium	50.0	U	04/05/2018	1303
7440-66-6	Zinc	51.7	J	04/05/2018	1303

NOTE: Hardness (total) is reported in mg/L

Comments:

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EPA SAMPLE NO.

SY-5-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

13D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-13

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	21.0	J	04/05/2018	1307
7440-36-0	Antimony	60.0	U	04/05/2018	1307
7440-38-2	Arsenic	56.1		04/05/2018	1307
7440-39-3	Barium	154	J	04/05/2018	1307
7440-41-7	Beryllium	5.0	U	04/05/2018	1307
7440-43-9	Cadmium	5.0	U	04/05/2018	1307
7440-70-2	Calcium	43900		04/05/2018	1307
7440-47-3	Chromium	10.0	U	04/05/2018	1307
7440-48-4	Cobalt	50.0	U	04/05/2018	1307
7440-50-8	Copper	25.0	U	04/05/2018	1307
7439-89-6	Iron	35500		04/05/2018	1307
7439-92-1	Lead	3.2	J	04/05/2018	1307
7439-95-4	Magnesium	17600		04/05/2018	1307
7439-96-5	Manganese	3750		04/05/2018	1307
7440-02-0	Nickel	40.0	U	04/05/2018	1307
7440-09-7	Potassium	14600		04/05/2018	1307
7782-49-2	Selenium	35.0	U	04/05/2018	1307
7440-22-4	Silver	0.79	J	04/05/2018	1307
7440-23-5	Sodium	206000		04/05/2018	1307
7440-28-0	Thallium	25.0	U	04/05/2018	1307
7440-62-2	Vanadium	50.0	U	04/05/2018	1307
7440-66-6	Zinc	5.0	J	04/05/2018	1307

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO.

SY-2D-20180327

14D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-14

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	19.3	J	04/05/2018	1311
7440-36-0	Antimony	60.0	U	04/05/2018	1311
7440-38-2	Arsenic	3.3	J	04/05/2018	1311
7440-39-3	Barium	79.2	J	04/05/2018	1311
7440-41-7	Beryllium	5.0	U	04/05/2018	1311
7440-43-9	Cadmium	5.0	U	04/05/2018	1311
7440-70-2	Calcium	30500		04/05/2018	1311
7440-47-3	Chromium	10.0	U	04/05/2018	1311
7440-48-4	Cobalt	50.0	U	04/05/2018	1311
7440-50-8	Copper	25.0	U	04/05/2018	1311
7439-89-6	Iron	100	U	04/05/2018	1311
7439-92-1	Lead	3.9	J	04/05/2018	1311
7439-95-4	Magnesium	5470		04/05/2018	1311
7439-96-5	Manganese	361		04/05/2018	1311
7440-02-0	Nickel	40.0	U	04/05/2018	1311
7440-09-7	Potassium	4070	J	04/05/2018	1311
7782-49-2	Selenium	35.0	U	04/05/2018	1311
7440-22-4	Silver	10.0	U	04/05/2018	1311
7440-23-5	Sodium	211000		04/05/2018	1311
7440-28-0	Thallium	25.0	U	04/05/2018	1311
7440-62-2	Vanadium	50.0	U	04/05/2018	1311
7440-66-6	Zinc	17.4	J	04/05/2018	1311

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3D-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-01

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.16	J	04/04/2018	1717

NOTE: Hardness (total) is reported in mg/L

Comments:

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EPA SAMPLE NO.

SY-3-20180327 4

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-04

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.062	J	04/04/2018	1729

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2R-20180327 5

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-05

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1731

NOTE: Hardness (total) is reported in mg/L

Comments:

NW 5128118

EPA SAMPLE NO.

SY-5-20180327

6

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-06

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.059	J	04/04/2018	1733

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2D-20180327

7

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-07

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1735

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3D-20180327

8

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-08

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.039	J	04/04/2018	1738

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-3-20180327

11

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-11

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1744

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-2R-20180327 12

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-12

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1747

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

SY-5-20180327 13

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-13

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.039	J	04/04/2018	1749

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 14

SY-2D-20180327

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-14

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1751

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO.

SY-3D-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-01

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1549

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 4

SY-3-20180327

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-04

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1550

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 5

SY-2R-20180327

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-05

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	3.7	J	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 6

SY-5-20180327

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-06

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO. 7

SY-2D-20180327

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2116

Matrix: WATER Lab Sample ID: J2116-07

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 11:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	220		1	0.4	1	2	mg/L		04/04/18 14:41	SM2320 B
Ammonia as N See DL1	18.3	OR	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:04	SM 4500-NH3 B plus G
Bromide	0.42	J	1	0.066	0.25	0.5	mg/L		03/28/18 13:37	300.0
Chloride See DL2	309	OR	1	0.075	0.075	0.15	mg/L		03/28/18 13:37	300.0
Nitrate	0.13	U	1	0.027	0.065	0.13	mg/L		03/28/18 13:37	300.0
Sulfate See DL1	68.5	OR	1	0.13	0.375	0.75	mg/L		03/28/18 13:37	300.0
BOD5	2	U	1	2	2	2	mg/L		03/29/18 10:40	SM5210 B
COD	14.5		1	2.43	5	10	mg/L		04/02/18 12:04	SM5220 D
Color	400	D	10	50	50	50	cu		03/29/18 09:15	SM2120 B
Phenolics	0.05 UJ	B	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:13	9065
TDS	1034		1	0.031	5	10	mg/L		03/28/18 16:45	SM2540C
TKN	8.1 J		1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:20	SM4500-N Org B or C plus NH3 G
TOC	4.5		1	0.08	0.25	0.5	mg/L		03/28/18 16:16	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

ss 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

IDL1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 11:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327DL	SDG No.:	J2116
Lab Sample ID:	J2116-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	18.7	D	20	0.68	1	2	mg/L	03/29/18 14:23	03/30/18 15:46	SM 4500-NH3 B plus G
Chloride	See DL2 528	OR	5	0.38	0.375	0.75	mg/L		03/28/18 18:47	300.0
Sulfate	40.5	D	5	0.66	1.9	3.8	mg/L		03/28/18 18:47	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

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Report of Analysis

1DL2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 11:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3D-20180327DL2	SDG No.:	J2116
Lab Sample ID:	J2116-01DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	508	D	100	7.5	7.5	15	mg/L		03/28/18 19:18	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/29/18

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Report of Analysis

4

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 12:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-04	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	232		1	0.4	1	2	mg/L		04/04/18 14:48	SM2320 B
Ammonia as N See DL	11.7	OR	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:12	SM 4500-NH3 B plus G
Bromide	0.28	J	1	0.066	0.25	0.5	mg/L		03/28/18 14:08	300.0
Chloride See DL	255	OR	1	0.075	0.075	0.15	mg/L		03/28/18 14:08	300.0
Nitrate	0.13	U	1	0.027	0.065	0.13	mg/L		03/28/18 14:08	300.0
Sulfate	36.2		1	0.13	0.375	0.75	mg/L		03/28/18 14:08	300.0
BOD5	2	U	1	2	2	2	mg/L		03/29/18 10:40	SM5210 B
COD	15.5		1	2.43	5	10	mg/L		04/02/18 12:07	SM5220 D
Color	300	J	10	50	50	50	cu		03/29/18 09:21	SM2120 B
Phenolics	0.05 UJ	J	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:13	9065
TDS	859		1	0.031	5	10	mg/L		03/28/18 16:45	SM2540C
TKN See DL	10.1	OR	1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:31	SM4500-N Org B or C plus NH3 G
TOC	5.3		1	0.08	0.25	0.5	mg/L		03/28/18 16:35	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

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Report of Analysis

4DL

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 12:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-3-20180327DL	SDG No.:	J2116
Lab Sample ID:	J2116-04DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	11.3	D	10	0.34	0.5	1	mg/L	03/29/18 14:23	03/30/18 15:46	SM 4500-NH3 B plus G
Chloride	372	D	50	3.8	3.75	7.5	mg/L		03/28/18 19:49	300.0
TKN	10.5 J	D	2	0.19	0.5	1	mg/L	03/29/18 09:15	03/30/18 11:04	SM4500-N Org B or C plus NH3 G

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

JW 5/28/18

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Report of Analysis

5

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 13:45
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2R-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-05	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	114		1	0.4	1	2	mg/L		04/04/18 14:53	SM2320 B
Ammonia as N	0.078	J	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:12	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		03/28/18 15:10	300.0
Chloride	265	OR	1	0.075	0.075	0.15	mg/L		03/28/18 15:10	300.0
Nitrate	2.5		1	0.027	0.065	0.13	mg/L		03/28/18 15:10	300.0
Sulfate	45.5	OR	1	0.13	0.375	0.75	mg/L		03/28/18 15:10	300.0
BOD5	2	U	1	2	2	2	mg/L		03/29/18 10:40	SM5210 B
COD	6.59	J	1	2.43	5	10	mg/L		04/02/18 12:07	SM5220 D
Color	5	U	1	5	5	5	cu		03/29/18 09:26	SM2120 B
Phenolics	0.05 UJ U		1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	808		1	0.031	5	10	mg/L		03/28/18 16:45	SM2540C
TKN	0.24 J		1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:31	SM4500-N Org B or C plus NH3 G
TOC	2.2		1	0.08	0.25	0.5	mg/L		03/28/18 16:54	SM5310B

See DL2

See DL1

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

mw 5/28/18

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Report of Analysis

SDL1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 13:45
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2R-20180327DL	SDG No.:	J2116
Lab Sample ID:	J2116-05DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride See DL2	357	OR	2	0.15	0.15	0.3	mg/L		03/28/18 21:22	300.0
Sulfate	36.6	D	2	0.26	0.75	1.5	mg/L		03/28/18 21:22	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW 4/28/18

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Report of Analysis

5DL2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 13:45
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2R-20180327DL2	SDG No.:	J2116
Lab Sample ID:	J2116-05DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	461	D	100	7.5	7.5	15	mg/L		03/29/18 10:36	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

3/29/18

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Report of Analysis

6

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 12:15
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-5-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-06	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	221		1	0.4	1	2	mg/L		04/04/18 14:56	SM2320 B
Ammonia as N See DL1	11.2	OR	1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:12	SM 4500-NH3 B plus G
Bromide	0.28	J	1	0.066	0.25	0.5	mg/L		03/28/18 14:39	300.0
Chloride See DL2	256	OR	1	0.075	0.075	0.15	mg/L		03/28/18 14:39	300.0
Nitrate	0.13	U	1	0.027	0.065	0.13	mg/L		03/28/18 14:39	300.0
Sulfate See DL1	37.6	OR	1	0.13	0.375	0.75	mg/L		03/28/18 14:39	300.0
BOD5	2	U	1	2	2	2	mg/L		03/29/18 10:40	SM5210 B
COD	12.5		1	2.43	5	10	mg/L		04/02/18 12:08	SM5220 D
Color	300	Ø	10	50	50	50	cu		03/29/18 09:32	SM2120 B
Phenolics	0.05 U7	Ø	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	815		1	0.031	5	10	mg/L		03/28/18 16:45	SM2540C
TKN See DL1	10.7	OR	1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:31	SM4500-N Org B or C plus NH3 G
TOC	4.8		1	0.08	0.25	0.5	mg/L		03/28/18 17:13	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

ms 3/28/18

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Report of Analysis

60L1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 12:15
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-5-20180327DL	SDG No.:	J2116
Lab Sample ID:	J2116-06DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	11.1	D	10	0.34	0.5	1	mg/L	03/29/18 14:23	03/30/18 15:46	SM 4500-NH3 B plus G
Chloride	See DL2 308	OR	2	0.15	0.15	0.3	mg/L		03/28/18 20:20	300.0
Sulfate	35.1	D	2	0.26	0.75	1.5	mg/L		03/28/18 20:20	300.0
TKN	10.8 J	D	2	0.19	0.5	1	mg/L	03/29/18 09:15	03/30/18 11:04	SM4500-N Org B or C plus NH3 G

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

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Report of Analysis

6DL2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 12:15
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-5-20180327DL2	SDG No.:	J2116
Lab Sample ID:	J2116-06DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	365	D	50	3.8	3.75	7.5	mg/L		03/28/18 20:51	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/29/18

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Report of Analysis

7

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 15:10
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2D-20180327	SDG No.:	J2116
Lab Sample ID:	J2116-07	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	47.8		1	0.4	1	2	mg/L		04/04/18 15:01	SM2320 B
Ammonia as N	0.11		1	0.034	0.05	0.1	mg/L	03/29/18 14:23	03/30/18 15:12	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		03/28/18 15:41	300.0
Chloride (See DL)	~~242~~	~~OR~~	~~1~~	~~0.075~~	~~0.075~~	~~0.15~~	~~mg/L~~		~~03/28/18 15:41~~	300.0
Nitrate	1.4		1	0.027	0.065	0.13	mg/L		03/28/18 15:41	300.0
Sulfate	15.7		1	0.13	0.375	0.75	mg/L		03/28/18 15:41	300.0
BOD5	2	U	1	2	2	2	mg/L		03/29/18 10:40	SM5210 B
COD	15.5		1	2.43	5	10	mg/L		04/02/18 12:08	SM5220 D
Color	20		1	5	5	5	cu		03/29/18 09:38	SM2120 B
Phenolics	0.05 UJ ~~B~~		1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	779		1	0.031	5	10	mg/L		03/28/18 16:45	SM2540C
TKN	0.26 J ~~J~~		1	0.096	0.25	0.5	mg/L	03/29/18 09:15	03/30/18 10:31	SM4500-N Org B or C plus NH3 G
TOC	2.2		1	0.08	0.25	0.5	mg/L		03/28/18 17:31	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW 5/28/18

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Report of Analysis

7DL

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/27/18 15:10
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-2D-20180327DL	SDG No.:	J2116
Lab Sample ID:	J2116-07DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	461	D	100	7.5	7.5	15	mg/L		03/29/18 11:07	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SYOSSET LANDFILL POST CLOSURE, SYOSSET, NEW YORK

Client: Lockwood, Kessler, & Bartlett, Syosset, New York
SDG: J2136
Laboratory: ChemTech, Mountainside, New Jersey
Site: Syosset Landfill, Syosset, New York
Date: May 28, 2018

VOCs/SVOCs/Cyanide/Wet Chemistry			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	PK-10D-20180328	J2136-01	Water
1MSβ	PK-10D-20180328MS	J2136-01MS	Water
1MSDβ	PK-10D-20180328MSD	J2136-01MSD	Water
2	PK-10S-20180328	J2136-02	Water
3	PK-10I-20180328	J2136-03	Water
3MS†	PK-10I-20180328MS	J2136-03MS	Water
3MSD†	PK-10I-20180328MSD	J2136-03MSD	Water
6*	SY-6-20180328	J2136-06	Water
7*	TB-20180328	J2136-07	Water

* - VOC only β - Ammonia, COD and TKN only † - Anions and Nitrate only

Total & Dissolved Metals/Mercury			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	PK-10D-20180328	J2136-01	Water
2T	PK-10S-20180328	J2136-02	Water
3T	PK-10I-20180328	J2136-03	Water
3TMS*	PK-10I-20180328MS	J2136-03MS	Water
3TDUP*	PK-10I-20180328DUP	J2136-03DUP	Water
8D	PK-10D-20180328	J2136-08	Water
9D	PK-10S-20180328	J2136-09	Water
10D	PK-10I-20180328	J2136-10	Water

T - Total Metals & Mercury & Cyanide D - Dissolved Metals & Mercury only * - Mercury only

A Data Usability Summary Review was performed on the analytical data for seven water samples and one aqueous trip blank sample collected on March 28, 2018 by Lockwood, Kessler & Bartlett at the Syosset Landfill in Syosset, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3", "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" the "Methods for Chemical Analysis of Water and Wastes" and the "Standard Methods for the Examination of Water and Wastewater".

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW846 8260C
SVOCs	USEPA SW846 8270D SIM
Metals/Mercury/Cn	USEPA CLP Method ISM02.3
Alkalinity	Standard Method SM2320 B
Ammonia (as N)	Standard Method SM4500-NH3
Bromide	USEPA Method 300.0
Chloride	USEPA Method 300.0
Nitrate	USEPA Method 300.0
Sulfate	USEPA Method 300.0
BOD5	Standard Method SM5210 B
COD	Standard Method SM5220D
Color	Standard Method SM2120 B
Phenolics	USEPA SW-846 Method 9065
Total Dissolved Solids	Standard Method SM2540C
Total Kjeldahl Nitrogen	Standard Method SM4500-N Org B or C
Total Organic Carbon	Standard Method SM5310B

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review, and the site QAPP as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation

- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The following table presents compounds that exceeded various percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for

compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D	Qualifier	Affected Samples
4/7/18	Bromomethane	30.84%	J/UJ	All Samples

Method Blank

- The method blanks were free of contamination.

Field Blank

- The following table lists field QC samples with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL of acetone, 2-butanone and methylene chloride (common laboratory contaminants) less than ten times (10x) the highest associated blank (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U). For all other compounds >RL, an action level of five times (5x) the highest associated blank concentration is used.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Chloromethane	0.71	U	1, 3
TB-20180328	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Total & Dissolved Metals & Hardness & Cyanide

Holding Times

- All samples were prepared and analyzed within 14 days for cyanide, 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- ICP/MS tuning not required.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The following table lists method blanks with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL and less than ten times (10x) the highest associated blank concentration (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
PBW001 (Total)	Copper	2.0	U	1T, 3T
	Potassium	80.4	None	All ND or >10X
	Zinc	3.3	U	1T-3T
PBW001 (Dissolved)	Potassium	186	None	All ND or >10X
PBW003	Mercury	0.045	U	1T-3T, 9D-10D

Field Blank

- The field blanks are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

ICP Interference Check Sample

- The ICP ICS exhibited acceptable recoveries.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/DUP) Recoveries

- The following table presents MS/DUP samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/DUP Sample ID	Compound	MS %R/RPD	Qualifier	Affected Samples
REFERENCE	Selenium	24%/OK	J/UJ	All Samples

ICP Serial Dilution

- An ICP serial dilution was not performed.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Wet Chemistry Parameters: Alkalinity, Ammonia, Bromide, Chloride, Nitrate, Sulfate, BOD5, COD, Color, Phenolics, TDS, TKN, TOC

Holding Times

- All samples were prepared and analyzed within the recommended time for each analysis.

Initial and Continuing Calibration

- All %R criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. mg/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Ammonia as N	0.085	None	None for Wet Chemistry parameters
	TKN	0.24	None	
	TOC	0.40	None	

Matrix Spike/Matrix Spike Duplicate (MS/DUP) Recoveries

- The following table presents MS/DUP samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS Sample ID	Compound	MS %R/RPD	Qualifier	Affected Samples
3	Sulfate	79%/OK	J/UJ	All Samples
	Chloride	-2,767%/OK	None	4X Rule Applies

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Compound Quantitation

- All samples exhibited high concentrations of ammonia as N, chloride, and/or sulfate and were flagged (OR) for over the calibration range by the laboratory. The samples were diluted and reanalyzed and the dilution results for these compounds should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/29/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10D-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047440.D	1		04/07/18 16:15	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	~~0.68~~	~~U~~	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1 UJ	~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	3.2		0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.23	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

NW 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10D-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047440.D	1		04/07/18 16:15	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	0.59	J	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.2		61 - 141		106%	SPK: 50
1868-53-7	Dibromofluoromethane	50.8		69 - 133		102%	SPK: 50
2037-26-5	Toluene-d8	52.4		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	51.4		58 - 135		103%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1148510	7.67				
540-36-3	1,4-Difluorobenzene	1882150	8.59				
3114-55-4	Chlorobenzene-d5	1765970	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	734247	13.35				

NW 5/28/18

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10S-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047441.D	1		04/07/18 16:40	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ ~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

MW 5128 1.8

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10S-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047441.D	1		04/07/18 16:40	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	54.6		61 - 141		109%	SPK: 50
1868-53-7	Dibromofluoromethane	51.9		69 - 133		104%	SPK: 50
2037-26-5	Toluene-d8	52.8		65 - 126		106%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.7		58 - 135		107%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1141320	7.67				
540-36-3	1,4-Difluorobenzene	1866850	8.59				
3114-55-4	Chlorobenzene-d5	1789630	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	773552	13.35				

MW 5128.8

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Report of Analysis

3

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10I-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047442.D	1		04/07/18 17:05	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	0.64 U	~~J~~	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1 UJ	~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10I-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-03	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047442.D	1		04/07/18 17:05	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	2.1		0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	54.7		61 - 141		109%	SPK: 50
1868-53-7	Dibromofluoromethane	52.4		69 - 133		105%	SPK: 50
2037-26-5	Toluene-d8	52.1		65 - 126		104%	SPK: 50
460-00-4	4-Bromofluorobenzene	52.5		58 - 135		105%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1160090	7.66				
540-36-3	1,4-Difluorobenzene	1922180	8.59				
3114-55-4	Chlorobenzene-d5	1824650	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	744266	13.35				

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Report of Analysis

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Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-6-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047500.D	1		04/10/18 18:03	VN041018

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ ~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	4.4	J	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

nw 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	SY-6-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-06	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047500.D	1		04/10/18 18:03	VN041018

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	35.5		61 - 141		71%	SPK: 50
1868-53-7	Dibromofluoromethane	38.9		69 - 133		78%	SPK: 50
2037-26-5	Toluene-d8	38.6		65 - 126		77%	SPK: 50
460-00-4	4-Bromofluorobenzene	30.3		58 - 135		61%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	495673	7.67				
540-36-3	1,4-Difluorobenzene	770230	8.59				
3114-55-4	Chlorobenzene-d5	628445	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	199351	13.35				

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Report of Analysis

7

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	TB-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047437.D	1		04/07/18 15:01	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ ~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

ms/281.8

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Report of Analysis

7

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	TB-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-07	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047437.D	1		04/07/18 15:01	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.4		61 - 141		107%	SPK: 50
1868-53-7	Dibromofluoromethane	51.8		69 - 133		104%	SPK: 50
2037-26-5	Toluene-d8	52.6		65 - 126		105%	SPK: 50
460-00-4	4-Bromofluorobenzene	53		58 - 135		106%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1174650	7.67				
540-36-3	1,4-Difluorobenzene	1911260	8.59				
3114-55-4	Chlorobenzene-d5	1821450	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	778053	13.35				

EPA SAMPLE NO.

PK-10D-20180328

1T

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-01

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	04/11/2018	1344
7440-36-0	Antimony	60.0	U	04/11/2018	1344
7440-38-2	Arsenic	3.0	J	04/11/2018	1344
7440-39-3	Barium	34.2	J	04/11/2018	1344
7440-41-7	Beryllium	5.0	U	04/11/2018	1344
7440-43-9	Cadmium	5.0	U	04/11/2018	1344
7440-70-2	Calcium	24000		04/11/2018	1344
7440-47-3	Chromium	1.2	J	04/11/2018	1344
7440-48-4	Cobalt	3.1	J	04/11/2018	1344
7440-50-8	Copper 25.0	~~3.0~~ U	~~J~~	04/11/2018	1344
7439-89-6	Iron	100	U	04/11/2018	1344
7439-92-1	Lead	10.0	U	04/11/2018	1344
7439-95-4	Magnesium	7990		04/11/2018	1344
7439-96-5	Manganese	24.9		04/11/2018	1344
7440-02-0	Nickel	12.3	J	04/11/2018	1344
7440-09-7	Potassium	5000	U	04/11/2018	1344
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1344
7440-22-4	Silver	10.0	U	04/11/2018	1344
7440-23-5	Sodium	55900		04/11/2018	1344
7440-28-0	Thallium	25.0	U	04/11/2018	1344
7440-62-2	Vanadium	50.0	U	04/11/2018	1344
7440-66-6	Zinc 60.0	~~12.5~~ U	~~J~~	04/11/2018	1344
Hardness	Hardness (total)	92.8		04/11/2018	1344

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

PK-10S-20180328

2T

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-02

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	10.7	J	04/11/2018	1348
7440-36-0	Antimony	60.0	U	04/11/2018	1348
7440-38-2	Arsenic	10.0	U	04/11/2018	1348
7440-39-3	Barium	14.9	J	04/11/2018	1348
7440-41-7	Beryllium	5.0	U	04/11/2018	1348
7440-43-9	Cadmium	5.0	U	04/11/2018	1348
7440-70-2	Calcium	12000		04/11/2018	1348
7440-47-3	Chromium	1.4	J	04/11/2018	1348
7440-48-4	Cobalt	50.0	U	04/11/2018	1348
7440-50-8	Copper	25.0	U	04/11/2018	1348
7439-89-6	Iron	17.9	J	04/11/2018	1348
7439-92-1	Lead	2.2	J	04/11/2018	1348
7439-95-4	Magnesium	2660	J	04/11/2018	1348
7439-96-5	Manganese	15.0	U	04/11/2018	1348
7440-02-0	Nickel	3.7	J	04/11/2018	1348
7440-09-7	Potassium	5000	U	04/11/2018	1348
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1348
7440-22-4	Silver	10.0	U	04/11/2018	1348
7440-23-5	Sodium	6250		04/11/2018	1348
7440-28-0	Thallium	25.0	U	04/11/2018	1348
7440-62-2	Vanadium	50.0	U	04/11/2018	1348
7440-66-6	Zinc 60.0	~~15.5~~ U	~~J~~	04/11/2018	1348
Hardness	Hardness (total)	40.9		04/11/2018	1348

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

PK-10I-20180328

3T

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-03

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	17.6	J	04/11/2018	1352
7440-36-0	Antimony	60.0	U	04/11/2018	1352
7440-38-2	Arsenic	10.0	U	04/11/2018	1352
7440-39-3	Barium	60.1	J	04/11/2018	1352
7440-41-7	Beryllium	5.0	U	04/11/2018	1352
7440-43-9	Cadmium	5.0	U	04/11/2018	1352
7440-70-2	Calcium	50000		04/11/2018	1352
7440-47-3	Chromium	10.0	U	04/11/2018	1352
7440-48-4	Cobalt	98.0		04/11/2018	1352
7440-50-8	Copper	~~2.5~~ 25.0 U	~~J~~	04/11/2018	1352
7439-89-6	Iron	100	U	04/11/2018	1352
7439-92-1	Lead	10.0	U	04/11/2018	1352
7439-95-4	Magnesium	14900		04/11/2018	1352
7439-96-5	Manganese	1530		04/11/2018	1352
7440-02-0	Nickel	3.6	J	04/11/2018	1352
7440-09-7	Potassium	16400		04/11/2018	1352
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1352
7440-22-4	Silver	10.0	U	04/11/2018	1352
7440-23-5	Sodium	316000		04/11/2018	1352
7440-28-0	Thallium	3.7	J	04/11/2018	1352
7440-62-2	Vanadium	50.0	U	04/11/2018	1352
7440-66-6	Zinc 60.0	~~9.6~~ U	~~J~~	04/11/2018	1352
Hardness	Hardness (total)	186		04/11/2018	1352

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

PK-10D-20180328

8D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-08

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	9.7	J	04/11/2018	1441
7440-36-0	Antimony	60.0	U	04/11/2018	1441
7440-38-2	Arsenic	10.0	U	04/11/2018	1441
7440-39-3	Barium	32.5	J	04/11/2018	1441
7440-41-7	Beryllium	5.0	U	04/11/2018	1441
7440-43-9	Cadmium	5.0	U	04/11/2018	1441
7440-70-2	Calcium	23200		04/11/2018	1441
7440-47-3	Chromium	10.0	U	04/11/2018	1441
7440-48-4	Cobalt	2.7	J	04/11/2018	1441
7440-50-8	Copper	2.8	J	04/11/2018	1441
7439-89-6	Iron	100	U	04/11/2018	1441
7439-92-1	Lead	1.9	J	04/11/2018	1441
7439-95-4	Magnesium	7750		04/11/2018	1441
7439-96-5	Manganese	24.6		04/11/2018	1441
7440-02-0	Nickel	10.9	J	04/11/2018	1441
7440-09-7	Potassium	5000	U	04/11/2018	1441
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1441
7440-22-4	Silver	10.0	U	04/11/2018	1441
7440-23-5	Sodium	53600		04/11/2018	1441
7440-28-0	Thallium	25.0	U	04/11/2018	1441
7440-62-2	Vanadium	50.0	U	04/11/2018	1441
7440-66-6	Zinc	13.5	J	04/11/2018	1441

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

PK-10S-20180328

9D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-09

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	04/11/2018	1542
7440-36-0	Antimony	60.0	U	04/11/2018	1542
7440-38-2	Arsenic	10.0	U	04/11/2018	1542
7440-39-3	Barium	13.7	J	04/11/2018	1542
7440-41-7	Beryllium	5.0	U	04/11/2018	1542
7440-43-9	Cadmium	5.0	U	04/11/2018	1542
7440-70-2	Calcium	11700		04/11/2018	1542
7440-47-3	Chromium	10.0	U	04/11/2018	1542
7440-48-4	Cobalt	50.0	U	04/11/2018	1542
7440-50-8	Copper	2.5	J	04/11/2018	1542
7439-89-6	Iron	100	U	04/11/2018	1542
7439-92-1	Lead	10.0	U	04/11/2018	1542
7439-95-4	Magnesium	2700	J	04/11/2018	1542
7439-96-5	Manganese	15.0	U	04/11/2018	1542
7440-02-0	Nickel	2.7	J	04/11/2018	1542
7440-09-7	Potassium	5000	U	04/11/2018	1542
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1542
7440-22-4	Silver	10.0	U	04/11/2018	1542
7440-23-5	Sodium	5920		04/11/2018	1542
7440-28-0	Thallium	25.0	U	04/11/2018	1542
7440-62-2	Vanadium	50.0	U	04/11/2018	1542
7440-66-6	Zinc	12.7	J	04/11/2018	1542

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

PK-10I-20180328

10D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-10

% Solids: Date Received: 03/28/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	20.4	J	04/11/2018	1445
7440-36-0	Antimony	60.0	U	04/11/2018	1445
7440-38-2	Arsenic	10.0	U	04/11/2018	1445
7440-39-3	Barium	59.7	J	04/11/2018	1445
7440-41-7	Beryllium	5.0	U	04/11/2018	1445
7440-43-9	Cadmium	5.0	U	04/11/2018	1445
7440-70-2	Calcium	50000		04/11/2018	1445
7440-47-3	Chromium	10.0	U	04/11/2018	1445
7440-48-4	Cobalt	92.1		04/11/2018	1445
7440-50-8	Copper	25.0	U	04/11/2018	1445
7439-89-6	Iron	100	U	04/11/2018	1445
7439-92-1	Lead	10.0	U	04/11/2018	1445
7439-95-4	Magnesium	15000		04/11/2018	1445
7439-96-5	Manganese	1550		04/11/2018	1445
7440-02-0	Nickel	2.8	J	04/11/2018	1445
7440-09-7	Potassium	16200		04/11/2018	1445
7782-49-2	Selenium	35.0 UJ	~~U~~	04/11/2018	1445
7440-22-4	Silver	10.0	U	04/11/2018	1445
7440-23-5	Sodium	313000		04/11/2018	1445
7440-28-0	Thallium	25.0	U	04/11/2018	1445
7440-62-2	Vanadium	50.0	U	04/11/2018	1445
7440-66-6	Zinc	13.5	J	04/11/2018	1445

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO. 1T

PK-10D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-01

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	~~0.047~~ 0.2	U	04/04/2018	1800

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO. 24

PK-10S-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-02

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	~~0.040~~ 0.2 U	U	04/04/2018	1803

NOTE: Hardness (total) is reported in mg/L

Comments:

5/28/18

EPA SAMPLE NO. 3T

PK-10I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-03

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.44 U		04/04/2018	1805

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 8D

PK-10D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-08

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/04/2018	1812

NOTE: Hardness (total) is reported in mg/L

Comments:

MS 5/28/18

EPA SAMPLE NO. 9D

PK-10S-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-09

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	~~0.034~~ 0.2 U	U	04/04/2018	1814

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 10D

PK-10I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-10

% Solids: Date Received: 03/28/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.37 u		04/04/2018	1816

NOTE: Hardness (total) is reported in mg/L

Comments:

JW 5/28/18

EPA SAMPLE NO.

PK-10D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-01

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO. 2

PK-10S-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-02

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

rev 5/28/18

EPA SAMPLE NO. 3

PK-10I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2136

Matrix: WATER Lab Sample ID: J2136-03

% Solids: Date Received: 03/28/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/02/2018	1556

NOTE: Hardness (total) is reported in mg/L

Comments:

NWS/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 10:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10D-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	24.8		1	0.4	1	2	mg/L		04/04/18 15:05	SM2320 B
Ammonia as N	0.067	J	1	0.034	0.05	0.1	mg/L	04/02/18 14:42	04/03/18 10:50	SM 4500-NH3 B plus G
Bromide	0.7		1	0.066	0.25	0.5	mg/L		03/29/18 13:03	300.0
Chloride	155	OR	1	0.075	0.075	0.15	mg/L		03/29/18 13:03	300.0
Nitrate	4.2		1	0.027	0.065	0.13	mg/L		03/29/18 13:03	300.0
Sulfate	22.4		1	0.13	0.375	0.75	mg/L		03/29/18 13:03	300.0
BOD5	2	U	1	2	2	2	mg/L		03/30/18 09:45	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/04/18 14:02	SM5220 D
Color	5	U	1	5	5	5	cu		03/30/18 08:56	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	261		1	0.031	5	10	mg/L		04/02/18 16:00	SM2540C
TKN	0.26	J	1	0.096	0.25	0.5	mg/L	04/02/18 10:33	04/03/18 08:52	SM4500-N Org B or C plus NH3 G
TOC	1.3		1	0.08	0.25	0.5	mg/L		04/05/18 11:51	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

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Report of Analysis

IDL

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 10:00
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10D-20180328DL	SDG No.:	J2136
Lab Sample ID:	J2136-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	112	D	20	1.5	1.5	3	mg/L		03/29/18 15:38	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

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Report of Analysis

2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 10:30
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10S-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	7.8		1	0.4	1	2	mg/L		04/04/18 15:58	SM2320 B
Ammonia as N	0.059	J	1	0.034	0.05	0.1	mg/L	04/02/18 14:42	04/03/18 10:50	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		03/29/18 13:34	300.0
Chloride	~~12.1~~ use 20L	~~OR~~	1	~~0.075~~	~~0.075~~	~~0.15~~	mg/L		~~03/29/18 13:34~~	~~300.0~~
Nitrate	3.2		1	0.027	0.065	0.13	mg/L		03/29/18 13:34	300.0
Sulfate	17.6 J		1	0.13	0.375	0.75	mg/L		03/29/18 13:34	300.0
BOD5	2	U	1	2	2	2	mg/L		03/30/18 09:45	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/04/18 14:04	SM5220 D
Color	5	U	1	5	5	5	cu		03/30/18 09:05	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	87		1	0.031	5	10	mg/L		04/02/18 16:00	SM2540C
TKN	0.17	J	1	0.096	0.25	0.5	mg/L	04/02/18 10:33	04/03/18 08:52	SM4500-N Org B or C plus NH3 G
TOC	0.62		1	0.08	0.25	0.5	mg/L		04/05/18 11:15	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

nw 5/28/18

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Report of Analysis

2DL

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 10:30
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10S-20180328DL	SDG No.:	J2136
Lab Sample ID:	J2136-02DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	12.3	D	2	0.15	0.15	0.3	mg/L		03/29/18 18:12	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW 5/28/18

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Report of Analysis

3

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 12:40
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10I-20180328	SDG No.:	J2136
Lab Sample ID:	J2136-03	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	130		1	0.4	1	2	mg/L		04/04/18 15:11	SM2320 B
Ammonia as N use DL1	~~3.6~~	~~OR~~	~~1~~	~~0.034~~	~~0.05~~	~~0.1~~	~~mg/L~~	~~04/02/18 14:42~~	~~04/03/18 10:50~~	~~SM 4500-NH3 B plus G~~
Bromide	0.85		1	0.066	0.25	0.5	mg/L		03/29/18 14:05	300.0
Chloride use DL2	~~862~~	~~OR~~	~~1~~	~~0.075~~	~~0.075~~	~~0.15~~	~~mg/L~~		~~03/29/18 14:05~~	~~300.0~~
Nitrate	0.13	U	1	0.027	0.065	0.13	mg/L		03/29/18 14:05	300.0
Sulfate use DL4	~~39.1~~	~~OR~~	~~1~~	~~0.13~~	~~0.375~~	~~0.75~~	~~mg/L~~		~~03/29/18 14:05~~	~~300.0~~
BOD5	2	U	1	2	2	2	mg/L		03/30/18 09:45	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/04/18 14:04	SM5220 D
Color	5	U	1	5	5	5	cu		03/30/18 09:12	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	03/30/18 15:05	04/02/18 13:23	9065
TDS	1147		1	0.031	5	10	mg/L		04/02/18 16:00	SM2540C
TKN	5.6		1	0.096	0.25	0.5	mg/L	04/02/18 10:33	04/03/18 08:52	SM4500-N Org B or C plus NH3 G
TOC	2.6		1	0.08	0.25	0.5	mg/L		04/05/18 11:34	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

mw 5/2/18

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Report of Analysis

30L1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 12:40
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10I-20180328DL	SDG No.:	J2136
Lab Sample ID:	J2136-03DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	3.6	~~D~~	2	0.068	0.1	0.2	mg/L	04/02/18 14:42	04/03/18 11:11	SM 4500-NH3 B plus G
Chloride	use 30L2 ~~855~~	~~OR~~	~~2~~	~~0.15~~	~~0.15~~	~~0.3~~	~~mg/L~~		~~03/29/18 16:39~~	300.0
Sulfate	36 J	~~D~~	2	0.26	0.75	1.5	mg/L		03/29/18 16:39	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

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3042

Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 12:40
Project:	Syosset Landfill	Date Received:	03/28/18
Client Sample ID:	PK-10I-20180328DL2	SDG No.:	J2136
Lab Sample ID:	J2136-03DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	583	D	100	7.5	7.5	15	mg/L		03/29/18 18:43	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW 5/28/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SYOSSET LANDFILL POST CLOSURE, SYOSSET, NEW YORK

Client: Lockwood, Kessler, & Bartlett, Syosset, New York
SDG: J2215
Laboratory: ChemTech, Mountainside, New Jersey
Site: Syosset Landfill, Syosset, New York
Date: May 28, 2018

VOCs/SVOCs/Wet Chemistry			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	RW-12D-20180328	J2215-01	Water
1DL1^	RW-12D-20180328DL1	J2215-01DL1	Water
1DL2α	RW-12D-20180328DL2	J2215-01DL2	Water
1MS*	RW-12D-20180328MS	J2215-01MS	Water
1MSD*	RW-12D-20180328MSD	J2215-01MSD	Water
2	RW-12I-20180328	J2215-02	Water
2DL1^	RW-12I-20180328DL1	J2215-02DL1	Water
2DL2α	RW-12I-20180328DL2	J2215-02DL2	Water
2MSβ	RW-12I-20180328MS	J2215-02MS	Water
2MSDβ	RW-12I-20180328MSD	J2215-02MSD	Water

* - Ammonia and Phenolics only β - Anions and Sulfate only † - Anions and Nitrate only
^ - SVOC and Wet Chemistry only α - Wet Chemistry only

Total & Dissolved Metals/Mercury/Cyanide			
EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	RW-12D-20180328	J2215-01	Water
1TMS	RW-12D-20180328MS	J2215-01MS	Water
1TMSD	RW-12D-20180328MSD	J2215-01MSD	Water
2T	RW-12I-20180328	J2215-02	Water
3D	RW12D-20180328	J2215-03	Water
3DMS*	RW12D-20180328MS	J2215-03MS	Water
3DMSD*	RW12D-20180328MSD	J2215-03MSD	Water
4D	RW-12I-20180328	J2215-04	Water

T - Total Metals, Mercury & Cyanide D - Dissolved Metals & Mercury only * - Metals only

A Data Usability Summary Review was performed on the analytical data for four water samples collected on March 28, 2018 by Lockwood, Kessler & Bartlett at the Syosset Landfill in Syosset, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3", "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" the "Methods for Chemical Analysis of Water and Wastes" and the "Standard Methods for the Examination of Water and Wastewater".

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW846 8260C
SVOCs	USEPA SW846 8270D SIM
Metals/Mercury/Cn	USEPA CLP Method ISM02.3
Alkalinity	Standard Method SM2320 B
Ammonia (as N)	Standard Method SM4500-NH3
Bromide	USEPA Method 300.0
Chloride	USEPA Method 300.0
Nitrate	USEPA Method 300.0
Sulfate	USEPA Method 300.0
BOD5	Standard Method SM5210 B
COD	Standard Method SM5220D
Color	Standard Method SM2120 B
Phenolics	USEPA SW-846 Method 9065
Total Dissolved Solids	Standard Method SM2540C
Total Kjeldahl Nitrogen	Standard Method SM4500-N Org B or C
Total Organic Carbon	Standard Method SM5310B

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review, and the site QAPP as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation

- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The following table presents compounds that exceeded various percent difference (%D) and/or RRF values <0.05 (0.01 for poor performers) in the continuing calibration (CCAL). A low RRF indicates poor instrument sensitivity for these compounds. Positive results for

these compounds in the affected samples are considered estimated and qualified (J). Non-detect results for these compounds in the affected samples are rejected (R) and are unusable for project objectives. A high %D may indicate a potential high or low bias. All results for these compounds in affected samples are considered estimated and qualified (J/UJ).

CCAL Date	Compound	%D	Qualifier	Affected Samples
4/7/18	Bromomethane	30.84%	J/UJ	All Samples

Method Blank

- The method blanks were free of contamination.

Field Blank

- The following table lists field QC samples with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL of acetone, 2-butanone and methylene chloride (common laboratory contaminants) less than ten times (10x) the highest associated blank (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U). For all other compounds >RL, an action level of five times (5x) the highest associated blank concentration is used.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Chloromethane	0.71	U	1-2

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days except for the following.

EDS Sample	Date Sampled	Date Extracted	# of Days	Qualifier
1/1DL	03/28/18	04/06/18	9	J
2/2DL	03/28/18	04/06/18	9	J

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

Surrogate Spike Recoveries

- The following table presents surrogate percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects

are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). For severely low surrogate recoveries (<10%), non-detected results in the affected samples are rejected (R) and are unusable for project objectives.

EDS Sample	Surrogate	%R	Qualifier
1DL	Nitrobenzene-d5	145%	None - See HT
	2-Fluorobiphenyl	198%	
2	2-Fluorobiphenyl	193%	None for 1 out per fraction
2DL	Nitrobenzene-d5	140%	None - See HT
	2-Fluorobiphenyl	217%	

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not analyzed.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- EDS Sample IDs 1 and 2 exhibited a high concentration of 1,4-dioxane which exceeded the calibration range and was flagged (E) by the laboratory. The samples were diluted and reanalyzed and the dilution results should be used for reporting purposes.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Total & Dissolved Metals & Hardness & Cyanide

Holding Times

- All samples were prepared and analyzed within 14 days for cyanide, 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- ICP/MS tuning not required.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The following table lists method blanks with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL and less than ten times (10x) the highest associated blank concentration (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
PBW001 (Total)	Copper	2.0	U	1T-2T
	Potassium	80.4	None	All >10X
	Zinc	3.3	U	1T-2T
PBW001 (Dissolved)	Potassium	186	None	All ND or >10X

Field Blank

- The field blanks are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

ICP Interference Check Sample

- The ICP ICS exhibited acceptable recoveries.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike (MS) Recoveries

- The following table presents MS samples that exhibited percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS/DUP Sample ID	Compound	MS %R	Qualifier	Affected Samples
3D	Selenium	24%	J/UJ	All Dissolved Samples

ICP Serial Dilution

- An ICP serial dilution was not performed.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Wet Chemistry Parameters: Alkalinity, Ammonia, Bromide, Chloride, Nitrate, Sulfate, BOD5, COD, Color, Phenolics, TDS, TKN, TOC

Holding Times

- Several samples exceeded holding time criteria and were flagged (H) by the laboratory. The reviewer further qualified these results as estimated (J/UJ).

Initial and Continuing Calibration

- All %R criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. mg/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Ammonia as N	0.085	None	None for Wet Chemistry parameters
	TKN	0.24	None	
	TOC	0.40	None	

Matrix Spike/Matrix Spike Duplicate (MS/DUP) Recoveries

- The following table presents MS/DUP samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

MS Sample ID	Compound	MS %R/RPD	Qualifier	Affected Samples
1	Ammonia as N	0%/NC	None	4X Rule Applies
2	Chloride	-600%/NC	None	4X Rule Applies
	Sulfate	75%/OK		

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Compound Quantitation

- All samples exhibited high concentrations of ammonia as N, chloride, nitrate, sulfate, and/or TKN and were flagged (OR) for over the calibration range by the laboratory. The samples were diluted and reanalyzed and the dilution results for these compounds should be used for reporting purposes.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/29/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12D-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047444.D	1		04/07/18 17:55	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	0.53	U	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1.9		0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	UJ	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	5.4		0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	5.2		0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	0.99	J	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.62	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

NW 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12D-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047444.D	1		04/07/18 17:55	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	0.67	J	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	18.3		0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1.7		0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	6.6		0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	4.8		0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	54.1		61 - 141		108%	SPK: 50
1868-53-7	Dibromofluoromethane	52.3		69 - 133		105%	SPK: 50
2037-26-5	Toluene-d8	53.2		65 - 126		106%	SPK: 50
460-00-4	4-Bromofluorobenzene	53		58 - 135		106%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1142700	7.66				
540-36-3	1,4-Difluorobenzene	1881050	8.59				
3114-55-4	Chlorobenzene-d5	1815830	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	753409	13.35				

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12I-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047445.D	1		04/07/18 18:19	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	1 ~~0.46~~ UJ	~~U~~	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	0.96	J	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1 UJ	~~U~~	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	0.8	J	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	3		0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	2.7		0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	0.51	J	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	0.84	J	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12I-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-02	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047445.D	1		04/07/18 18:19	VN040718

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1.8		0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	9.7		0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1.2		0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	4.9		0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	3.1		0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	53.7		61 - 141		107%	SPK: 50
1868-53-7	Dibromofluoromethane	52.1		69 - 133		104%	SPK: 50
2037-26-5	Toluene-d8	53		65 - 126		106%	SPK: 50
460-00-4	4-Bromofluorobenzene	53.7		58 - 135		107%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	1105460	7.67				
540-36-3	1,4-Difluorobenzene	1823640	8.59				
3114-55-4	Chlorobenzene-d5	1759230	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	770917	13.35				

EPA SAMPLE NO.

RW-12D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

1T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-01

% Solids: Date Received: 04/04/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	22.0	J	04/11/2018	1356
7440-36-0	Antimony	60.0	U	04/11/2018	1356
7440-38-2	Arsenic	10.0	U	04/11/2018	1356
7440-39-3	Barium	60.0	J	04/11/2018	1356
7440-41-7	Beryllium	5.0	U	04/11/2018	1356
7440-43-9	Cadmium	5.0	U	04/11/2018	1356
7440-70-2	Calcium	70900		04/11/2018	1356
7440-47-3	Chromium	1.4	J	04/11/2018	1356
7440-48-4	Cobalt	50.0	U	04/11/2018	1356
7440-50-8	Copper 25.0	~~4.6~~ U	~~J~~	04/11/2018	1356
7439-89-6	Iron	137		04/11/2018	1356
7439-92-1	Lead	10.0	U	04/11/2018	1356
7439-95-4	Magnesium	39100		04/11/2018	1356
7439-96-5	Manganese	52.0		04/11/2018	1356
7440-02-0	Nickel	7.4	J	04/11/2018	1356
7440-09-7	Potassium	68900		04/11/2018	1356
7782-49-2	Selenium	35.0	U	04/11/2018	1356
7440-22-4	Silver	10.0	U	04/11/2018	1356
7440-23-5	Sodium	140000		04/11/2018	1356
7440-28-0	Thallium	25.0	U	04/11/2018	1356
7440-62-2	Vanadium	50.0	U	04/11/2018	1356
7440-66-6	Zinc 60.0	~~25.0~~ U	~~J~~	04/11/2018	1356
Hardness	Hardness (total)	338		04/11/2018	1356

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-02

% Solids: Date Received: 04/04/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	13.0	J	04/11/2018	1429
7440-36-0	Antimony	60.0	U	04/11/2018	1429
7440-38-2	Arsenic	3.4	J	04/11/2018	1429
7440-39-3	Barium	77.1	J	04/11/2018	1429
7440-41-7	Beryllium	5.0	U	04/11/2018	1429
7440-43-9	Cadmium	5.0	U	04/11/2018	1429
7440-70-2	Calcium	71700		04/11/2018	1429
7440-47-3	Chromium	10.0	U	04/11/2018	1429
7440-48-4	Cobalt	50.0	U	04/11/2018	1429
7440-50-8	Copper 25.0	~~2.4~~ U	J	04/11/2018	1429
7439-89-6	Iron	100	U	04/11/2018	1429
7439-92-1	Lead	10.0	U	04/11/2018	1429
7439-95-4	Magnesium	23800		04/11/2018	1429
7439-96-5	Manganese	12.8	J	04/11/2018	1429
7440-02-0	Nickel	3.6	J	04/11/2018	1429
7440-09-7	Potassium	2920	J	04/11/2018	1429
7782-49-2	Selenium	35.0	U	04/11/2018	1429
7440-22-4	Silver	10.0	U	04/11/2018	1429
7440-23-5	Sodium	137000		04/11/2018	1429
7440-28-0	Thallium	25.0	U	04/11/2018	1429
7440-62-2	Vanadium	50.0	U	04/11/2018	1429
7440-66-6	Zinc 60.0	~~18.6~~ U	J	04/11/2018	1429
Hardness	Hardness (total)	277		04/11/2018	1429

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12D-20180328

3D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-03

% Solids: Date Received: 04/04/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	24.7	J	04/11/2018	1449
7440-36-0	Antimony	60.0	U	04/11/2018	1449
7440-38-2	Arsenic	3.7	J	04/11/2018	1449
7440-39-3	Barium	74.3	J	04/11/2018	1449
7440-41-7	Beryllium	5.0	U	04/11/2018	1449
7440-43-9	Cadmium	5.0	U	04/11/2018	1449
7440-70-2	Calcium	70200		04/11/2018	1449
7440-47-3	Chromium	10.0	U	04/11/2018	1449
7440-48-4	Cobalt	50.0	U	04/11/2018	1449
7440-50-8	Copper	25.0	U	04/11/2018	1449
7439-89-6	Iron	100	U	04/11/2018	1449
7439-92-1	Lead	10.0	U	04/11/2018	1449
7439-95-4	Magnesium	23200		04/11/2018	1449
7439-96-5	Manganese	12.4	J	04/11/2018	1449
7440-02-0	Nickel	3.3	J	04/11/2018	1449
7440-09-7	Potassium	2660	J	04/11/2018	1449
7782-49-2	Selenium	6.4 J	~~J~~	04/11/2018	1449
7440-22-4	Silver	10.0	U	04/11/2018	1449
7440-23-5	Sodium	134000		04/11/2018	1449
7440-28-0	Thallium	25.0	U	04/11/2018	1449
7440-62-2	Vanadium	50.0	U	04/11/2018	1449
7440-66-6	Zinc	9.4	J	04/11/2018	1449

NOTE: Hardness (total) is reported in mg/L

Comments:

New 5/28/18

EPA SAMPLE NO.

RW-12I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-04

% Solids: Date Received: 04/04/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	26.7	J	04/11/2018	1505
7440-36-0	Antimony	60.0	U	04/11/2018	1505
7440-38-2	Arsenic	10.8		04/11/2018	1505
7440-39-3	Barium	60.3	J	04/11/2018	1505
7440-41-7	Beryllium	5.0	U	04/11/2018	1505
7440-43-9	Cadmium	5.0	U	04/11/2018	1505
7440-70-2	Calcium	70400		04/11/2018	1505
7440-47-3	Chromium	10.0	U	04/11/2018	1505
7440-48-4	Cobalt	50.0	U	04/11/2018	1505
7440-50-8	Copper	2.6	J	04/11/2018	1505
7439-89-6	Iron	106		04/11/2018	1505
7439-92-1	Lead	10.0	U	04/11/2018	1505
7439-95-4	Magnesium	38500		04/11/2018	1505
7439-96-5	Manganese	50.1		04/11/2018	1505
7440-02-0	Nickel	6.8	J	04/11/2018	1505
7440-09-7	Potassium	67000		04/11/2018	1505
7782-49-2	Selenium	12.9 J	~~J~~	04/11/2018	1505
7440-22-4	Silver	10.0	U	04/11/2018	1505
7440-23-5	Sodium	137000		04/11/2018	1505
7440-28-0	Thallium	25.0	U	04/11/2018	1505
7440-62-2	Vanadium	50.0	U	04/11/2018	1505
7440-66-6	Zinc	10.0	J	04/11/2018	1505

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

1T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-01

% Solids: Date Received: 04/04/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/06/2018	1559

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12D20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2T

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-02

% Solids: Date Received: 04/04/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/06/2018	1607

NOTE: Hardness (total) is reported in mg/L

Comments:

MW 5/28/18

EPA SAMPLE NO.

RW-12D-20180328

3D

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-03

% Solids: Date Received: 04/04/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/06/2018	1609

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

4D

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-04

% Solids: Date Received: 04/04/2018

Analytical Method: CVAA

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7439-97-6	Mercury	0.20	U	04/06/2018	1611

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12D-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-01

% Solids: Date Received: 04/04/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/06/2018	1151

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO.

RW-12I-20180328

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

2

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2215

Matrix: WATER Lab Sample ID: J2215-02

% Solids: Date Received: 04/04/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/06/2018	1151

NOTE: Hardness (total) is reported in mg/L

Comments:

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 15:00
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12D-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	892		1	0.4	1	2	mg/L		04/04/18 17:05	SM2320 B
Ammonia as N Use DL1	47.1	OR	1	0.034	0.05	0.1	mg/L	04/04/18 12:50	04/05/18 09:03	SM 4500-NH3 B plus G
Bromide	1.1		1	0.066	0.25	0.5	mg/L		04/04/18 13:57	300.0
Chloride Use DL2	299	OR	1	0.075	0.075	0.15	mg/L		04/04/18 13:57	300.0
Nitrate Use DL1	10.2	HOR	1	0.027	0.065	0.13	mg/L		04/04/18 13:57	300.0
Sulfate Use DL1	243	OR	1	0.13	0.375	0.75	mg/L		04/04/18 13:57	300.0
BOD5	2	UJ HU	1	2	2	2	mg/L		04/04/18 15:30	SM5210 B
COD	31.4		1	2.43	5	10	mg/L		04/04/18 14:07	SM5220 D
Color	5	J H	1	5	5	5	cu		04/04/18 12:38	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	04/04/18 12:50	04/05/18 12:10	9065
TDS	842	J H	1	0.031	5	10	mg/L		04/04/18 16:00	SM2540C
TKN Use DL1	42	OR	1	0.096	0.25	0.5	mg/L	04/06/18 08:30	04/09/18 10:34	SM4500-N Org B or C plus NH3 G
TOC	17.2		1	0.08	0.25	0.5	mg/L		04/05/18 12:11	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

New 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

IDL1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 15:00
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12D-20180328DL	SDG No.:	J2215
Lab Sample ID:	J2215-01DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	69.6	D	50	1.7	2.5	5	mg/L	04/04/18 12:50	04/05/18 10:13	SM 4500-NH3 B plus G
Chloride	231	OR	10	0.75	0.75	1.5	mg/L		04/04/18 16:01	300.0
Nitrate	9.6	J HD	10	0.27	0.65	1.3	mg/L		04/04/18 16:01	300.0
Sulfate	183	D	10	1.3	3.75	7.5	mg/L		04/04/18 16:01	300.0
TKN	67	D	10	0.96	2.5	5	mg/L	04/06/18 08:30	04/09/18 10:59	SM4500-N Org B or C plus NH3 G

Use DL2

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

1DL2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 15:00
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12D-20180328DL2	SDG No.:	J2215
Lab Sample ID:	J2215-01DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	206	D	50	3.8	3.75	7.5	mg/L		04/04/18 16:32	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 16:15
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12I-20180328	SDG No.:	J2215
Lab Sample ID:	J2215-02	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	90.8		1	0.4	1	2	mg/L		04/04/18 17:14	SM2320 B
Ammonia as N Use DL1	5.3	OR	1	0.034	0.05	0.1	mg/L	04/04/18 12:50	04/05/18 09:09	SM 4500-NH3 B plus G
Bromide	1.9		1	0.066	0.25	0.5	mg/L		04/04/18 14:28	300.0
Chloride Use DL2	192	OR	1	0.075	0.075	0.15	mg/L		04/04/18 14:28	300.0
Nitrate	0.41	J	1	0.027	0.065	0.13	mg/L		04/04/18 14:28	300.0
Sulfate Use DL1	74.6	OR	1	0.13	0.375	0.75	mg/L		04/04/18 14:28	300.0
BOD5	2	UJ	1	2	2	2	mg/L		04/04/18 15:30	SM5210 B
COD	10	U	1	2.43	5	10	mg/L		04/04/18 14:08	SM5220 D
Color	5	UJ	1	5	5	5	cu		04/04/18 12:45	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	04/04/18 12:50	04/05/18 12:10	9065
TDS	733		1	0.031	5	10	mg/L		04/04/18 16:00	SM2540C
TKN	5.3		1	0.096	0.25	0.5	mg/L	04/06/18 08:30	04/09/18 10:34	SM4500-N Org B or C plus NH3 G
TOC	5.2		1	0.08	0.25	0.5	mg/L		04/05/18 12:30	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

Acc 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

2DL1

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 16:15
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12I-20180328DL	SDG No.:	J2215
Lab Sample ID:	J2215-02DL	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Ammonia as N	5	D	10	0.34	0.5	1	mg/L	04/04/18 12:50	04/05/18 10:13	SM 4500-NH3 B plus G
Chloride	Use DL2 167	OR	5	0.38	0.375	0.75	mg/L		04/04/18 17:03	300.0
Sulfate	64.4	D	5	0.66	1.9	3.8	mg/L		04/04/18 17:03	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

MW 5/28/18

CHEMTECH 284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Report of Analysis

2DL2

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	03/28/18 16:15
Project:	Syosset Landfill	Date Received:	04/04/18
Client Sample ID:	RW-12I-20180328DL2	SDG No.:	J2215
Lab Sample ID:	J2215-02DL2	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Chloride	144	D	50	3.8	3.75	7.5	mg/L		04/04/18 17:34	300.0

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

nw 5/28/18

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
SYOSSET LANDFILL POST CLOSURE, SYOSSET, NEW YORK

Client: Lockwood, Kessler, & Bartlett, Syosset, New York
SDG: J2252
Laboratory: ChemTech, Mountainside, New Jersey
Site: Syosset Landfill, Syosset, New York
Date: May 28, 2018

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	FIELD-BLANK-20180404	J2252-01	Water
1MS*	FIELD-BLANK-20180404MS	J2252-01MS	Water
1DUP*	FIELD-BLANK-20180404DUP	J2252-01DUP	Water

* - Ammonia and Phenolics only

A Data Usability Summary Review was performed on the analytical data for aqueous field blank sample collected on April 4, 2018 by Lockwood, Kessler & Bartlett at the Syosset Landfill in Syosset, New York. The samples were analyzed under Environmental Protection Agency (USEPA) "Contract Laboratory Program (CLP) Multi-Media Multi-Concentration Inorganic Analysis ISM02.3", "Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions" the "Methods for Chemical Analysis of Water and Wastes" and the "Standard Methods for the Examination of Water and Wastewater".

Specific method references are as follows:

Analysis	*Method References*
VOCs	USEPA SW846 8260C
SVOCs	USEPA SW846 8270D SIM
Metals/Mercury/Cn	USEPA CLP Method ISM02.3
Alkalinity	Standard Method SM2320 B
Ammonia (as N)	Standard Method SM4500-NH3
Bromide	USEPA Method 300.0
Chloride	USEPA Method 300.0
Nitrate	USEPA Method 300.0
Sulfate	USEPA Method 300.0
BOD5	Standard Method SM5210 B
COD	Standard Method SM5220D
Color	Standard Method SM2120 B
Phenolics	USEPA SW-846 Method 9065
Total Dissolved Solids	Standard Method SM2540C
Total Kjeldahl Nitrogen	Standard Method SM4500-N Org B or C
Total Organic Carbon	Standard Method SM5310B

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods, the USEPA National Functional Guidelines for Organic and Inorganic Data Review, and the site QAPP as follows:

- The USEPA "Contract Laboratories Program National Functional Guidelines for Organic Superfund Methods Data Review," January 2017;
- The USEPA "Contract Laboratories Program National Functional Guidelines for Inorganic Superfund Methods Data Review," January 2017;
- and the reviewer's professional judgment.

The following data quality indicators were reviewed for this report:

Organics

- Holding times and sample preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tuning
- Initial and continuing calibration summaries
- Method blank and field QC blank contamination
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD) recoveries
- Internal standard area and retention time summary forms
- Target Compound Identification
- Compound Quantitation
- Field Duplicate sample precision

Inorganics

- Holding times and sample preservation
- Inductively Coupled Plasma/Mass Spectrometry (ICP/MS) Tuning
- Initial and continuing calibration verifications
- Method blank and field QC blank contamination
- ICP Interference Check Sample
- Laboratory Control Sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Duplicate Sample Analysis
- ICP Serial Dilution
- Compound Quantitation
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the deficiencies detailed in this report.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedances of QC criteria.

Volatile Organic Compounds (VOCs)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Chloromethane	0.71	None	Applies to Other Packages

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not collected.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Semivolatile Organic Compounds (1,4-Dioxane)

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

GC/MS Tuning

- All criteria were met.

Initial Calibration

- The initial calibrations exhibited acceptable %RSD and/or correlation coefficients and mean RRF values.

Continuing Calibration

- The continuing calibrations exhibited acceptable %D and RRF values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The field QC samples are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate recoveries.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- MS/MSD samples were not collected.

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Compound Quantitation

- All criteria were met.

Tentatively Identified Compounds (TICs)

- TICs were not detected.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Total & Dissolved Metals & Hardness & Cyanide

Holding Times

- All samples were prepared and analyzed within 14 days for cyanide, 28 days for mercury and 180 days for all other metals.

ICP/MS Tuning

- ICP/MS tuning not required.

Initial Calibration Verification

- All initial calibration criteria were met.

Continuing Calibration Verification

- All continuing calibration criteria were met.

Method Blank

- The following table lists method blanks with contamination and the samples associated with the blanks that had results qualified as a consequence of the blank contamination. For detected compound concentrations <RL, the results are negated and qualified (U). For detected sample concentrations >RL and less than ten times (10x) the highest associated blank concentration (after taking sample dilution levels, percent moisture and sample volume into account) are negated and qualified with a (U).

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
ICB	Copper	2.2	U	1
CCB2	Sodium	314	U	1
PBW001	Zinc	4.9	U	1

Field Blank

- The field blanks are summarized below.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	None - ND	-	-	-

ICP Interference Check Sample

- The ICP ICS exhibited acceptable recoveries.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Matrix Spike/Duplicate (MS/DUP) Recoveries

- MS/MSD samples were not analyzed.

ICP Serial Dilution

- An ICP serial dilution was not performed.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Wet Chemistry Parameters: Alkalinity, Ammonia, Bromide, Chloride, Nitrate, Sulfate, BOD5, COD, Color, Phenolics, TDS, TKN, TOC

Holding Times

- All samples were prepared and analyzed within the recommended time for each analysis.

Initial and Continuing Calibration

- All %R criteria were met.

Method Blank

- The method blanks were free of contamination.

Field Blank

- Field QC results are summarized below.

Blank ID	Compound	Conc. mg/L	Qualifier	Affected Samples
FIELD-BLANK-20180404	Ammonia as N	0.085	None	None for Wet Chemistry parameters
	TKN	0.24	None	
	TOC	0.4	None	

Matrix Spike/Duplicate (MS/DUP) Recoveries

- The MS/DUP samples exhibited acceptable percent recoveries (%R) and RPD values for ammonia and phenolics.

Laboratory Control Samples

- The LCS sample exhibited acceptable recoveries.

Compound Quantitation

- All criteria were met.

Field Duplicate Sample Precision

- Field duplicate samples were not collected.

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 5/29/18

Nancy Weaver
Senior Chemist

Data Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
J	The analyte is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
NJ	The analysis has been "tentatively identified" or "presumptively" as present and the associated numerical value is the estimated concentration in the samples.
UJ	The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the samples.

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	04/04/18
Project:	Syosset Landfill	Date Received:	04/05/18
Client Sample ID:	FIELD-BLANK-20180404	SDG No.:	J2252
Lab Sample ID:	J2252-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047517.D	1		04/11/18 16:14	VN041118

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
TARGETS							
75-71-8	Dichlorodifluoromethane	1	U	0.2	0.2	1	ug/L
74-87-3	Chloromethane	0.71	J	0.2	0.2	1	ug/L
75-01-4	Vinyl Chloride	1	U	0.2	0.2	1	ug/L
74-83-9	Bromomethane	1	U	0.2	0.2	1	ug/L
75-00-3	Chloroethane	1	U	0.2	0.5	1	ug/L
75-69-4	Trichlorofluoromethane	1	U	0.2	0.2	1	ug/L
76-13-1	1,1,2-Trichlorotrifluoroethane	1	U	0.2	0.2	1	ug/L
75-35-4	1,1-Dichloroethene	1	U	0.2	0.2	1	ug/L
67-64-1	Acetone	5	U	0.5	1	5	ug/L
75-15-0	Carbon Disulfide	1	U	0.2	0.2	1	ug/L
1634-04-4	Methyl tert-butyl Ether	1	U	0.35	0.5	1	ug/L
79-20-9	Methyl Acetate	1	U	0.2	0.5	1	ug/L
75-09-2	Methylene Chloride	1	U	0.2	0.2	1	ug/L
156-60-5	trans-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
75-34-3	1,1-Dichloroethane	1	U	0.2	0.2	1	ug/L
110-82-7	Cyclohexane	1	U	0.2	0.2	1	ug/L
78-93-3	2-Butanone	5	U	1.3	2.5	5	ug/L
56-23-5	Carbon Tetrachloride	1	U	0.2	0.2	1	ug/L
156-59-2	cis-1,2-Dichloroethene	1	U	0.2	0.2	1	ug/L
74-97-5	Bromochloromethane	1	U	0.2	0.5	1	ug/L
67-66-3	Chloroform	1	U	0.2	0.2	1	ug/L
71-55-6	1,1,1-Trichloroethane	1	U	0.2	0.2	1	ug/L
108-87-2	Methylcyclohexane	1	U	0.2	0.2	1	ug/L
71-43-2	Benzene	1	U	0.2	0.2	1	ug/L
107-06-2	1,2-Dichloroethane	1	U	0.2	0.2	1	ug/L
79-01-6	Trichloroethene	1	U	0.2	0.2	1	ug/L
78-87-5	1,2-Dichloropropane	1	U	0.2	0.2	1	ug/L
75-27-4	Bromodichloromethane	1	U	0.2	0.2	1	ug/L
108-10-1	4-Methyl-2-Pentanone	5	U	1	1	5	ug/L
108-88-3	Toluene	1	U	0.2	0.2	1	ug/L
10061-02-6	t-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L
10061-01-5	cis-1,3-Dichloropropene	1	U	0.2	0.2	1	ug/L

NW 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	04/04/18
Project:	Syosset Landfill	Date Received:	04/05/18
Client Sample ID:	FIELD-BLANK-20180404	SDG No.:	J2252
Lab Sample ID:	J2252-01	Matrix:	Water
Analytical Method:	SW8260	% Moisture:	100
Sample Wt/Vol:	5 Units: mL	Final Vol:	5000 uL
Soil Aliquot Vol:	uL	Test:	VOCMS Group1
GC Column:	RXI-624 ID : 0.25	Level :	LOW

File ID/Qc Batch:	Dilution:	Prep Date	Date Analyzed	Prep Batch ID
VN047517.D	1		04/11/18 16:14	VN041118

CAS Number	Parameter	Conc.	Qualifier	MDL	LOD	LOQ / CRQL	Units
79-00-5	1,1,2-Trichloroethane	1	U	0.2	0.2	1	ug/L
591-78-6	2-Hexanone	5	U	1.9	2.5	5	ug/L
124-48-1	Dibromochloromethane	1	U	0.2	0.2	1	ug/L
106-93-4	1,2-Dibromoethane	1	U	0.2	0.2	1	ug/L
127-18-4	Tetrachloroethene	1	U	0.2	0.2	1	ug/L
108-90-7	Chlorobenzene	1	U	0.2	0.2	1	ug/L
100-41-4	Ethyl Benzene	1	U	0.2	0.2	1	ug/L
179601-23-1	m/p-Xylenes	2	U	0.4	0.4	2	ug/L
95-47-6	o-Xylene	1	U	0.2	0.2	1	ug/L
100-42-5	Styrene	1	U	0.2	0.2	1	ug/L
75-25-2	Bromoform	1	U	0.2	0.2	1	ug/L
98-82-8	Isopropylbenzene	1	U	0.2	0.2	1	ug/L
79-34-5	1,1,2,2-Tetrachloroethane	1	U	0.2	0.2	1	ug/L
541-73-1	1,3-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
106-46-7	1,4-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
95-50-1	1,2-Dichlorobenzene	1	U	0.2	0.2	1	ug/L
96-12-8	1,2-Dibromo-3-Chloropropane	1	U	0.2	0.2	1	ug/L
120-82-1	1,2,4-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
87-61-6	1,2,3-Trichlorobenzene	1	U	0.2	0.2	1	ug/L
SURROGATES							
17060-07-0	1,2-Dichloroethane-d4	37.9		61 - 141		76%	SPK: 50
1868-53-7	Dibromofluoromethane	39.1		69 - 133		78%	SPK: 50
2037-26-5	Toluene-d8	39.2		65 - 126		78%	SPK: 50
460-00-4	4-Bromofluorobenzene	34.3		58 - 135		69%	SPK: 50
INTERNAL STANDARDS							
363-72-4	Pentafluorobenzene	369597	7.66				
540-36-3	1,4-Difluorobenzene	592014	8.59				
3114-55-4	Chlorobenzene-d5	509462	11.41				
3855-82-1	1,4-Dichlorobenzene-d4	180535	13.35				

NW 5/28/18

EPA SAMPLE NO.

FIELD-BLANK-2018

FORM 1 - IN

INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2252

Matrix: WATER Lab Sample ID: J2252-01

% Solids: Date Received: 04/05/2018

Analytical Method: ICP-AES

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
7429-90-5	Aluminum	200	U	04/06/2018	1426
7440-36-0	Antimony	60.0	U	04/06/2018	1426
7440-38-2	Arsenic	10.0	U	04/06/2018	1426
7440-39-3	Barium	200	U	04/06/2018	1426
7440-41-7	Beryllium	5.0	U	04/06/2018	1426
7440-43-9	Cadmium	5.0	U	04/06/2018	1426
7440-70-2	Calcium	5000	U	04/06/2018	1426
7440-47-3	Chromium	10.0	U	04/06/2018	1426
7440-48-4	Cobalt	50.0	U	04/06/2018	1426
7440-50-8	Copper	~~1.7~~ 25.0	U	04/06/2018	1426
7439-89-6	Iron	100	U	04/06/2018	1426
7439-92-1	Lead	10.0	U	04/06/2018	1426
7439-95-4	Magnesium	5000	U	04/06/2018	1426
7439-96-5	Manganese	15.0	U	04/06/2018	1426
7440-02-0	Nickel	40.0	U	04/06/2018	1426
7440-09-7	Potassium	5000	U	04/06/2018	1426
7782-49-2	Selenium	35.0	U	04/06/2018	1426
7440-22-4	Silver	10.0	U	04/06/2018	1426
7440-23-5	Sodium	323 5000	U	04/06/2018	1426
7440-28-0	Thallium	25.0	U	04/06/2018	1426
7440-62-2	Vanadium	50.0	U	04/06/2018	1426
7440-66-6	Zinc	~~11.4~~ 60.0	U	04/06/2018	1426
Hardness	Hardness (total)	33.1	U	04/06/2018	1426

NOTE: Hardness (total) is reported in mg/L

Comments:

EPA SAMPLE NO. 1

FIELD-BLANK-2018

FORM 1 - IN
INORGANIC ANALYSIS DATA SHEET

Lab Name: Chemtech Consulting Group Contract: EPW14030

Lab Code: CHM Case No.: Syosset Landfi MA No. : SDG No.: J2252

Matrix: WATER Lab Sample ID: J2252-01

% Solids: Date Received: 04/05/2018

Analytical Method: Spectrophotometry

Concentration Units (µg/L, mg/L, mg/kg dry weight or µg) : ug/L

CAS No.	Analyte	Concentration	Q	Date Analyzed	Time Analyzed
57-12-5	Cyanide	10.0	U	04/06/2018	1211

NOTE: Hardness (total) is reported in mg/L

Comments:

NW 5/28/18

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Report of Analysis

Client:	Lockwood, Kessler, & Bartlett	Date Collected:	04/04/18 14:00
Project:	Syosset Landfill	Date Received:	04/05/18
Client Sample ID:	FIELD-BLANK-20180404	SDG No.:	J2252
Lab Sample ID:	J2252-01	Matrix:	WATER
		% Solid:	0

Parameter	Conc.	Qua.	DF	MDL	LOD	LOQ / CRQL	Units	Prep Date	Date Ana.	Ana Met.
Alkalinity	2	U	1	0.4	1	2	mg/L		04/09/18 16:32	SM2320 B
Ammonia as N	0.085	J	1	0.034	0.05	0.1	mg/L	04/06/18 12:45	04/09/18 09:09	SM 4500-NH3 B plus G
Bromide	0.5	U	1	0.066	0.25	0.5	mg/L		04/05/18 13:18	300.0
Chloride	0.15	U	1	0.075	0.075	0.15	mg/L		04/05/18 13:18	300.0
Nitrate	0.13	U	1	0.027	0.065	0.13	mg/L		04/05/18 13:18	300.0
Sulfate	0.75	U	1	0.13	0.375	0.75	mg/L		04/05/18 13:18	300.0
BOD5	2	U	1	2	2	2	mg/L		04/05/18 16:50	SM5210 B
Color	5	U	1	5	5	5	cu		04/05/18 13:08	SM2120 B
Phenolics	0.05	U	1	0.01	0.025	0.05	mg/L	04/06/18 12:45	04/09/18 12:04	9065
TDS	10	U	1	0.031	5	10	mg/L		04/09/18 16:30	SM2540C
TKN	0.24	J	1	0.096	0.25	0.5	mg/L	04/06/18 08:30	04/09/18 10:34	SM4500-N Org B or C plus NH3 G
TOC	0.4	J	1	0.08	0.25	0.5	mg/L		04/12/18 15:10	SM5310B

Comments:

U = Not Detected
LOQ = Limit of Quantitation
MDL = Method Detection Limit
LOD = Limit of Detection
D = Dilution
Q = indicates LCS control criteria did not meet requirements
H = Sample Analysis Out Of Hold Time

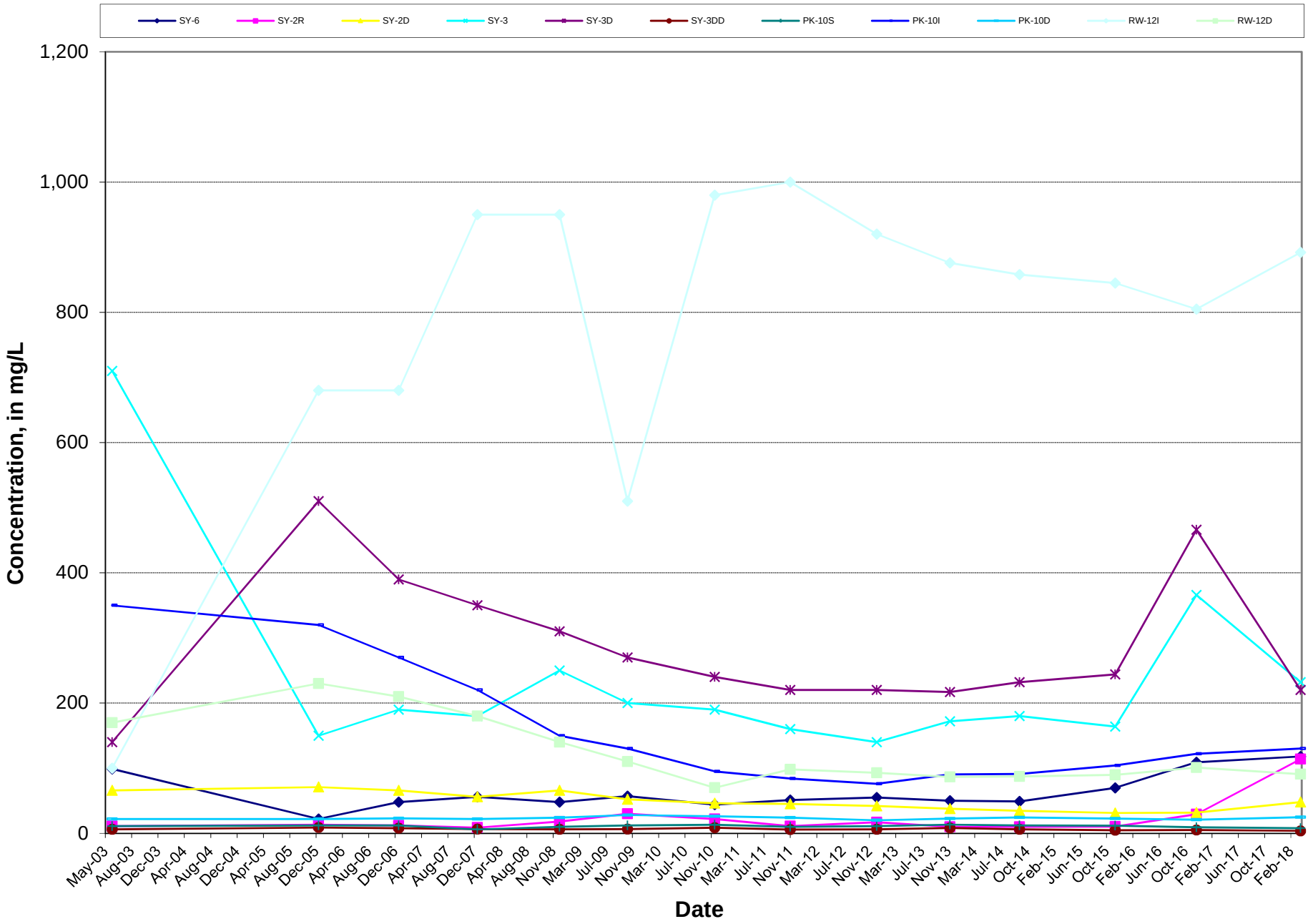
J = Estimated Value
B = Analyte Found in Associated Method Blank
* = indicates the duplicate analysis is not within control limits.
E = Indicates the reported value is estimated because of the presence of interference.
OR = Over Range
N =Spiked sample recovery not within control limits

NW Sheet

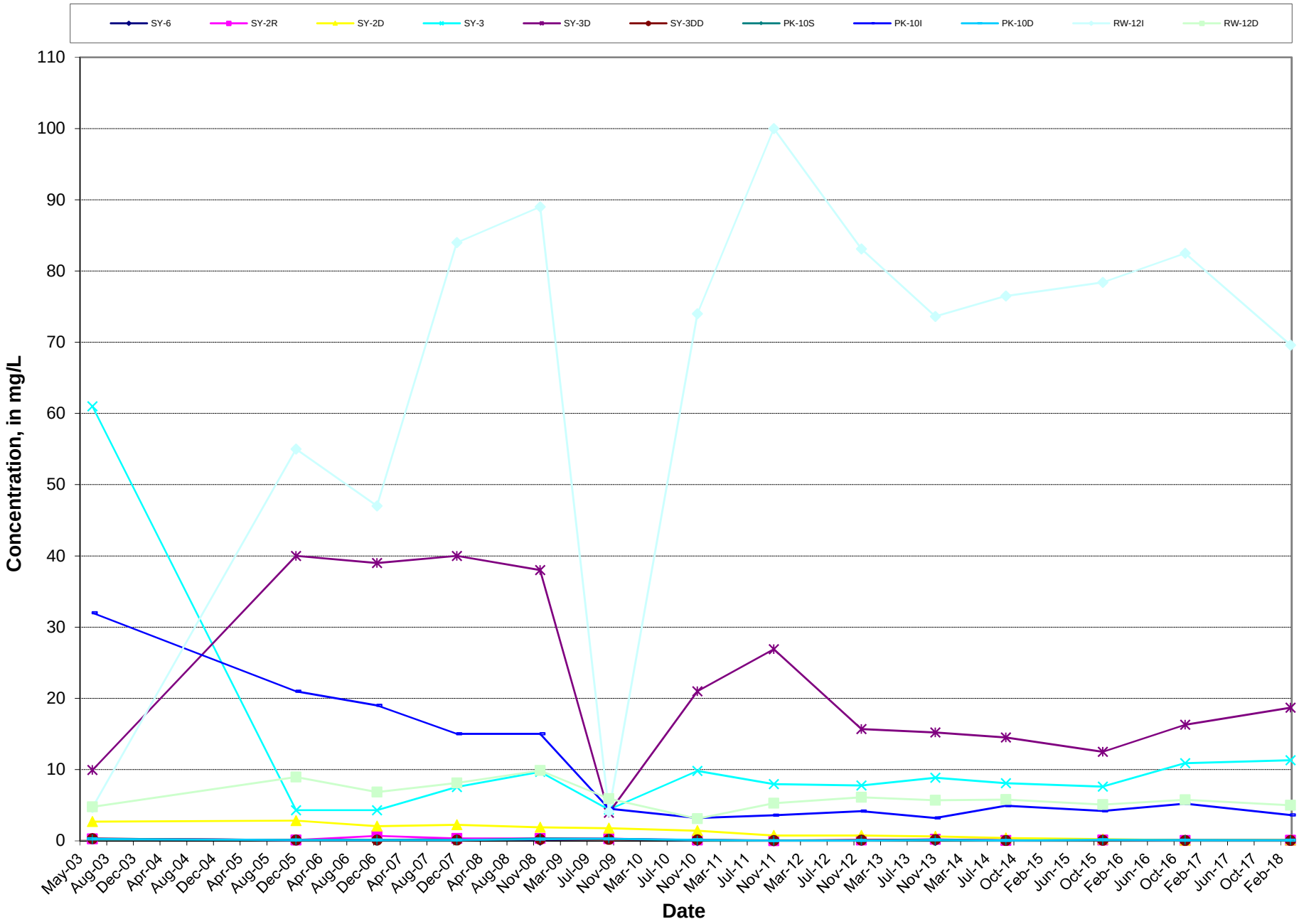
APPENDIX C

Trend Analysis Charts

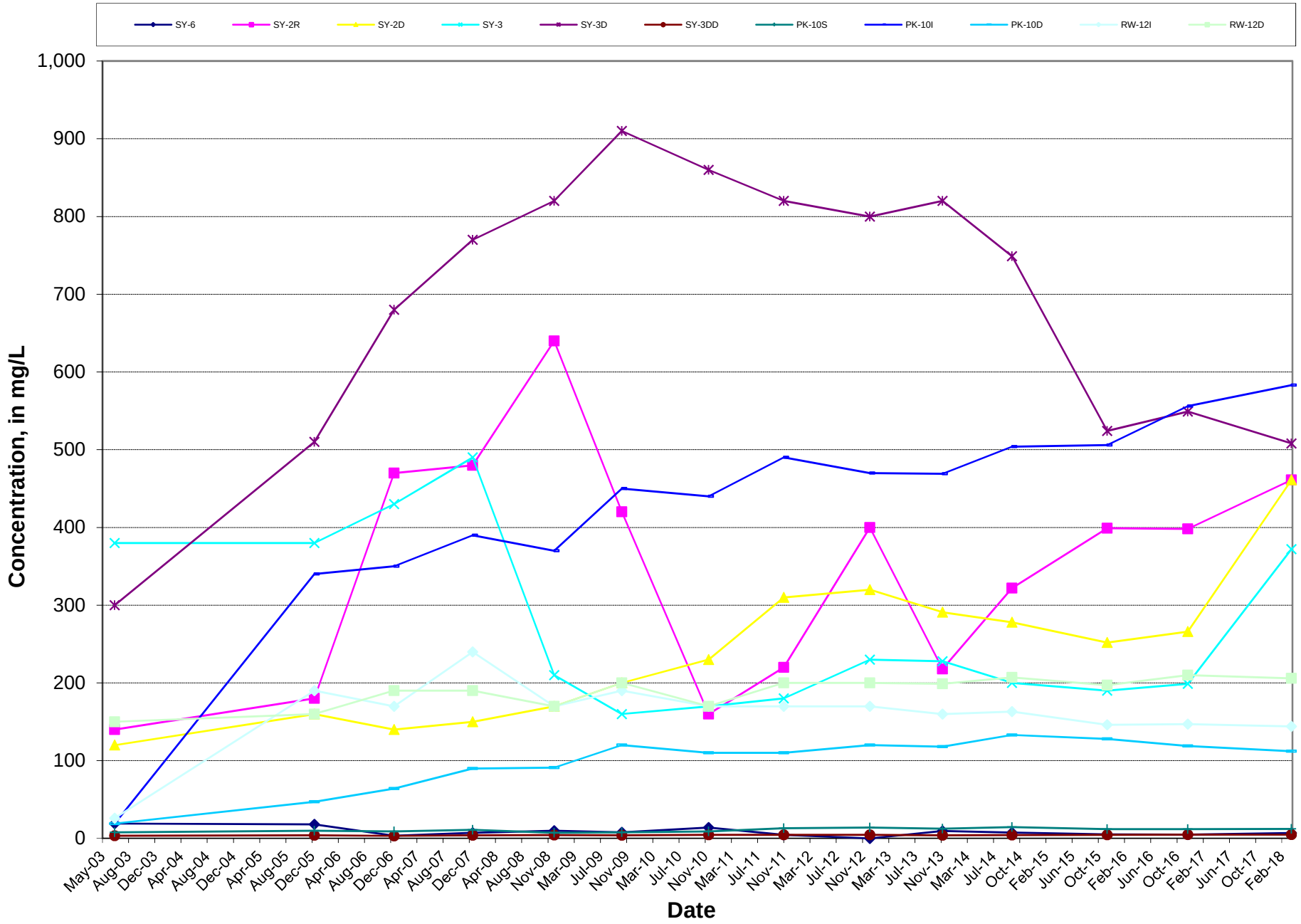
Post-Closure Alkalinity Concentrations in Syosset Landfill Ground Water-Monitoring Wells



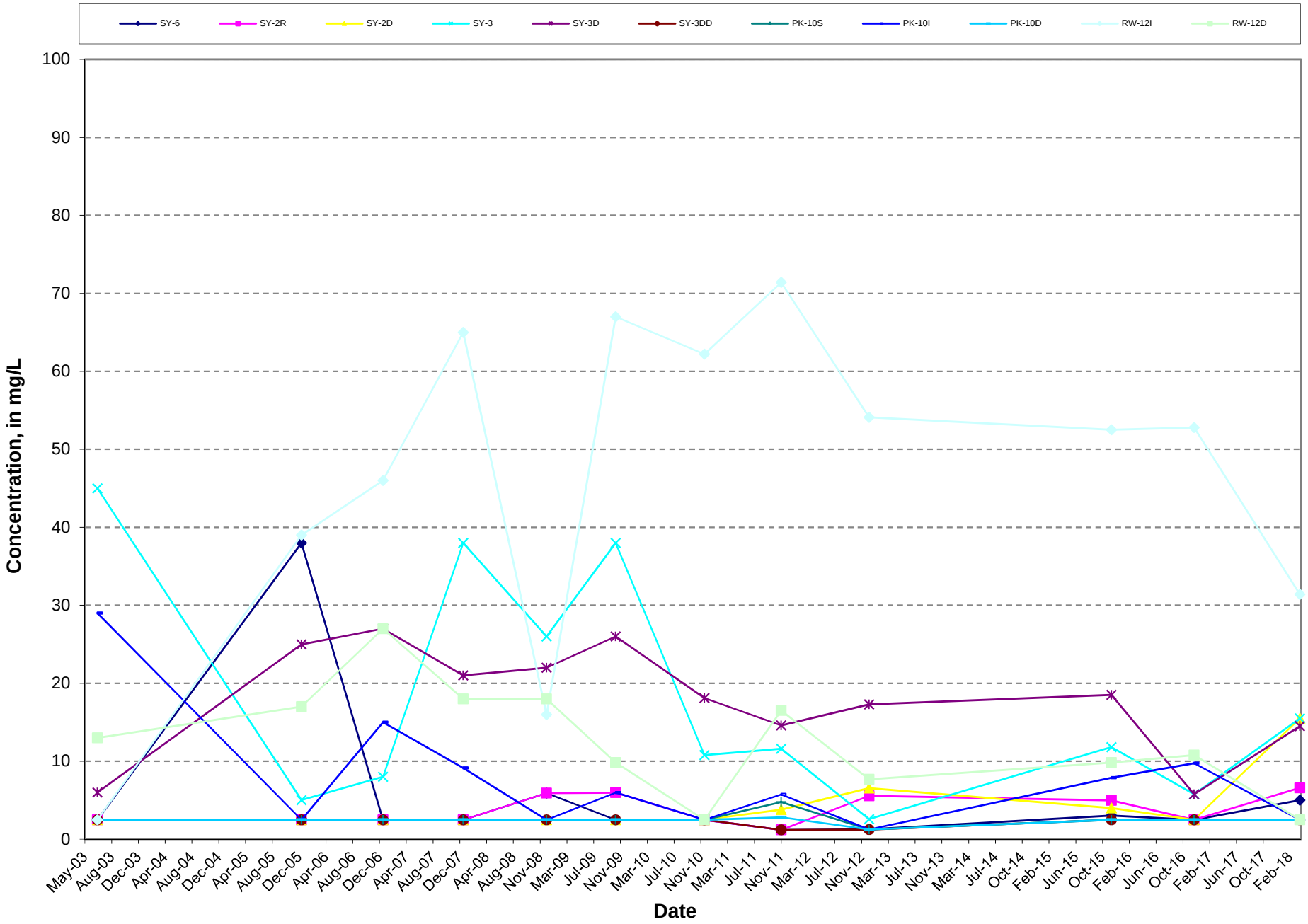
Post-Closure Ammonia Concentrations in Syosset Landfill Ground Water-Monitoring Wells



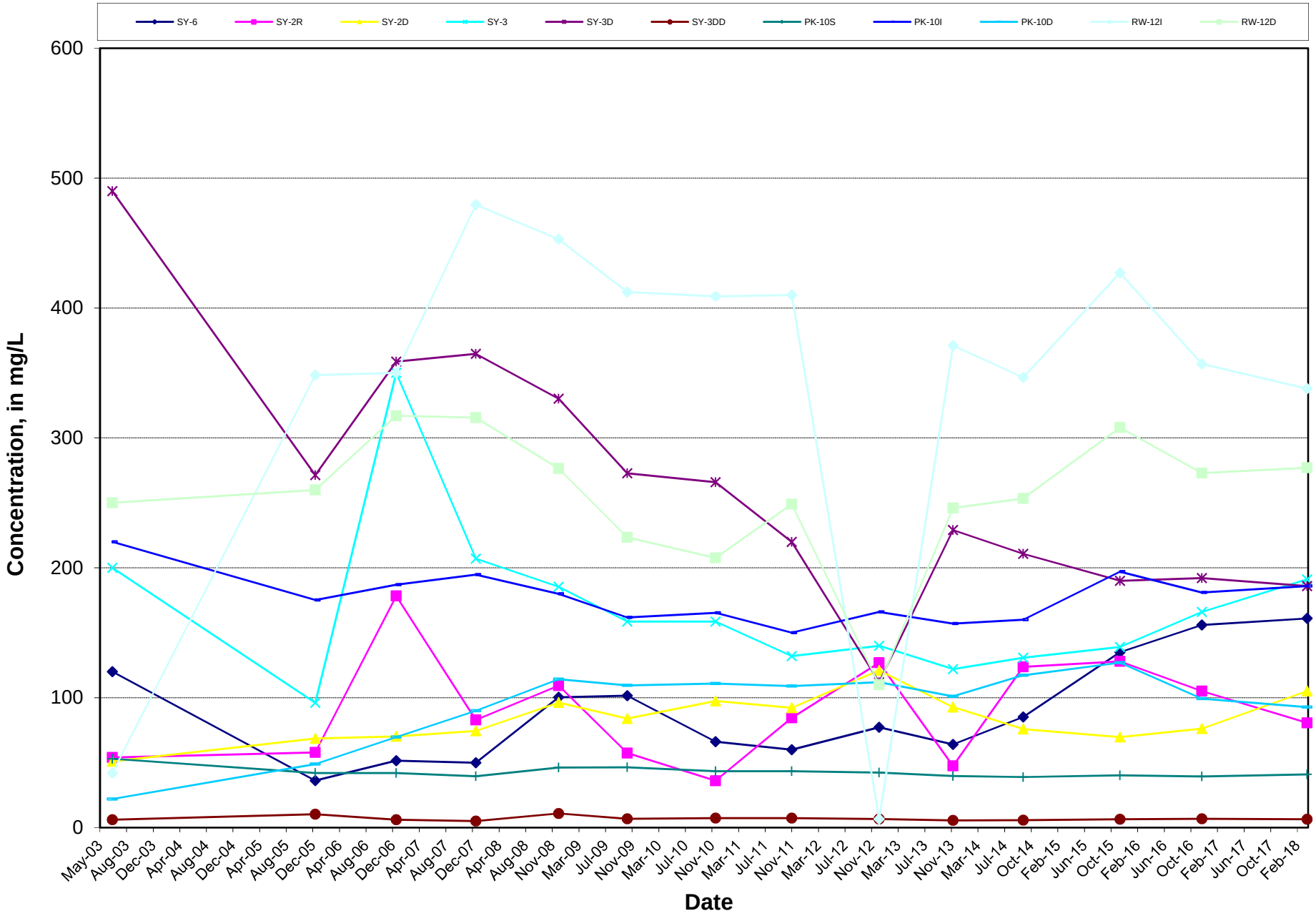
Post-Closure Chloride Concentrations in Syosset Landfill Ground Water-Monitoring Wells



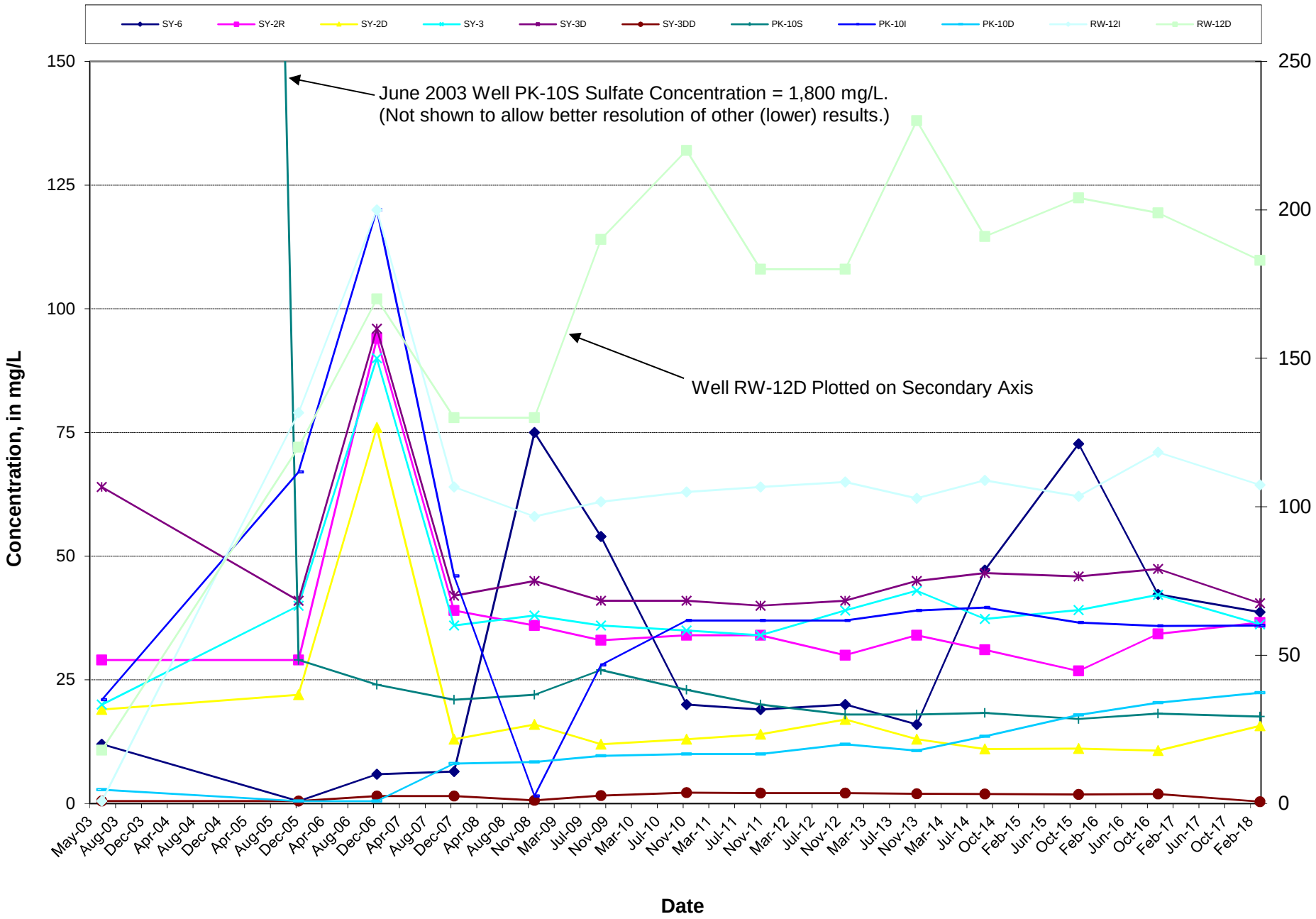
Post-Closure COD Concentrations in Syosset Landfill Ground Water-Monitoring Wells



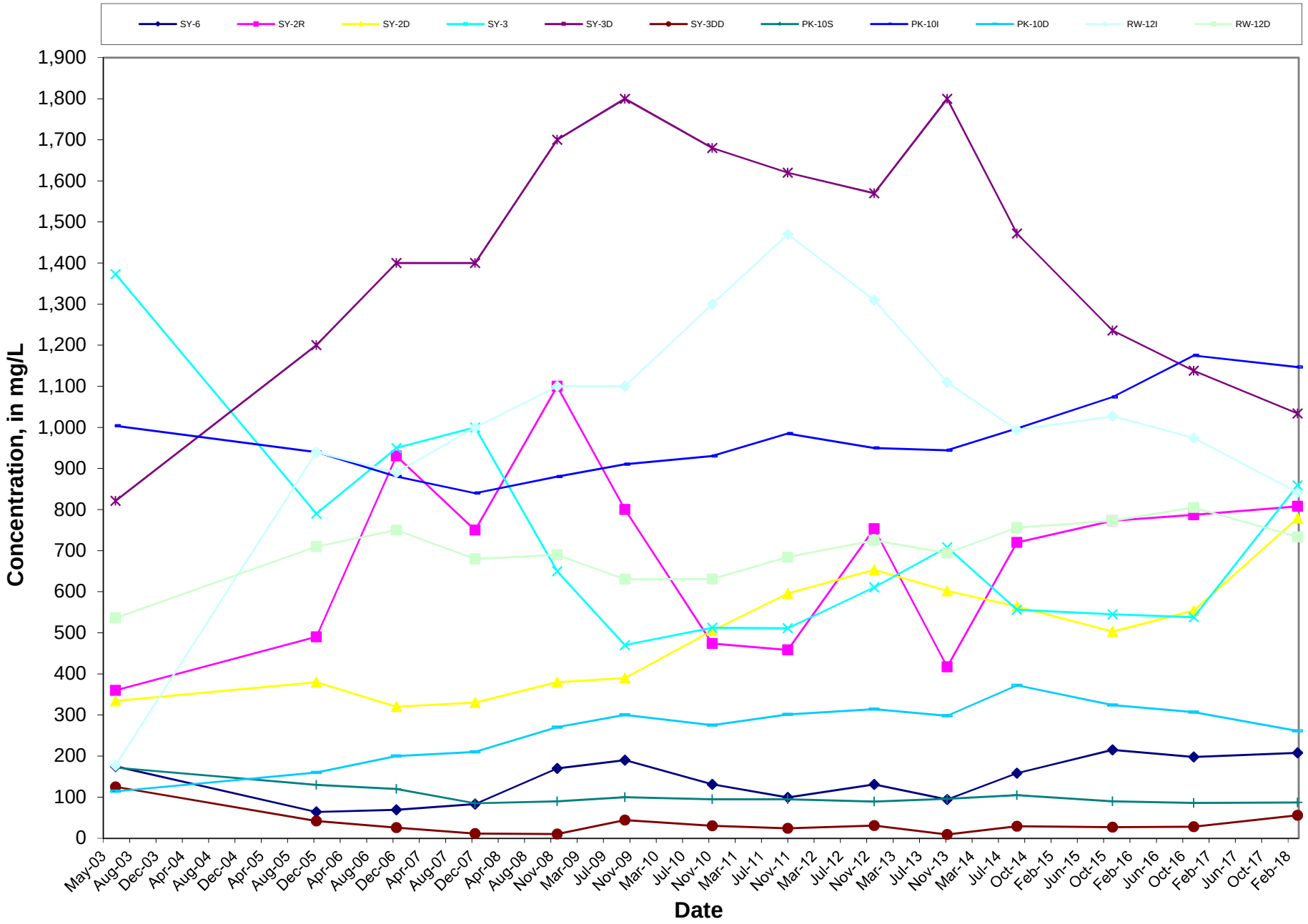
Post-Closure Hardness Concentrations in Syosset Landfill Ground Water-Monitoring Wells



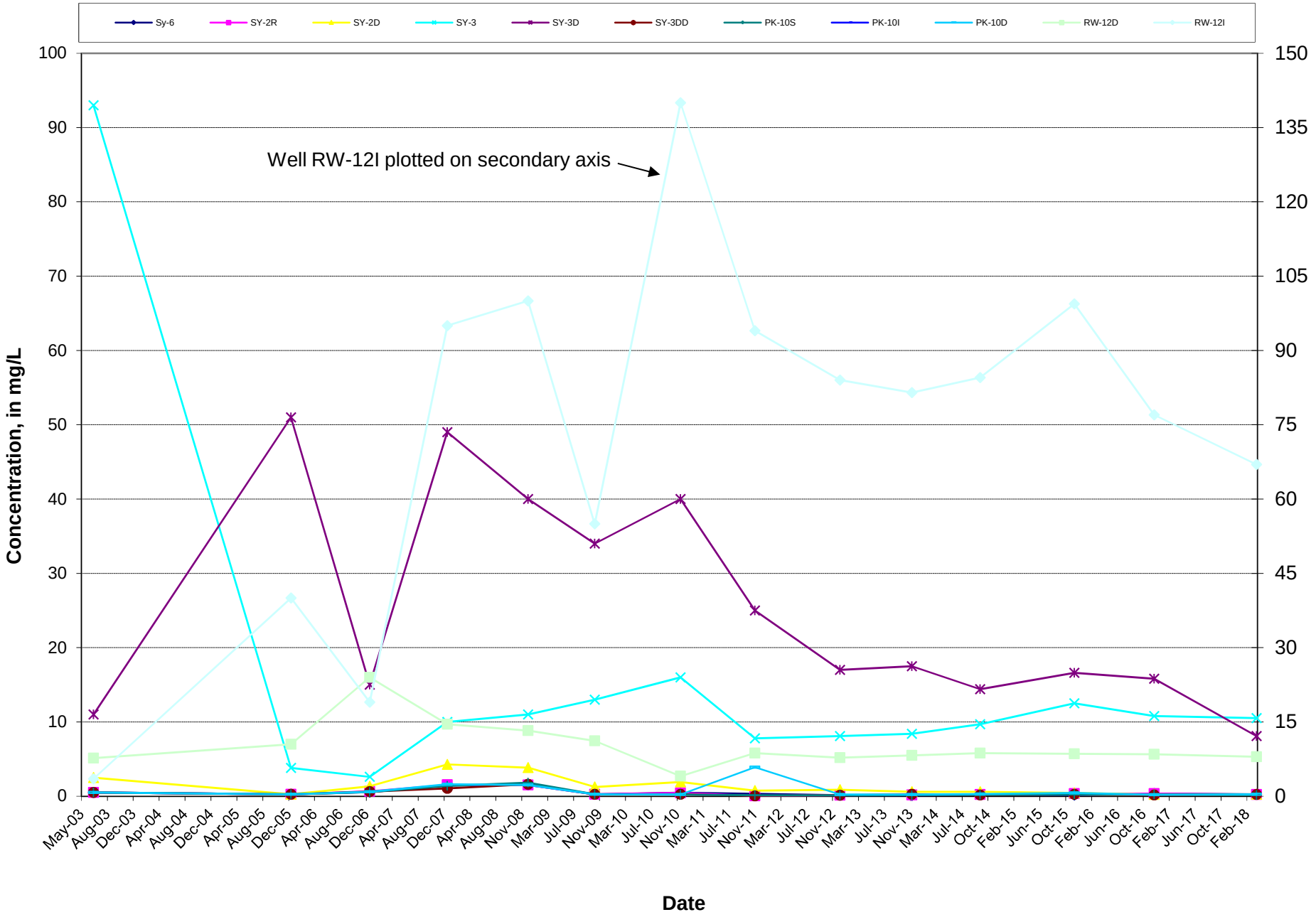
Post-Closure Sulfate Concentrations in Syosset Landfill Ground Water-Monitoring Wells



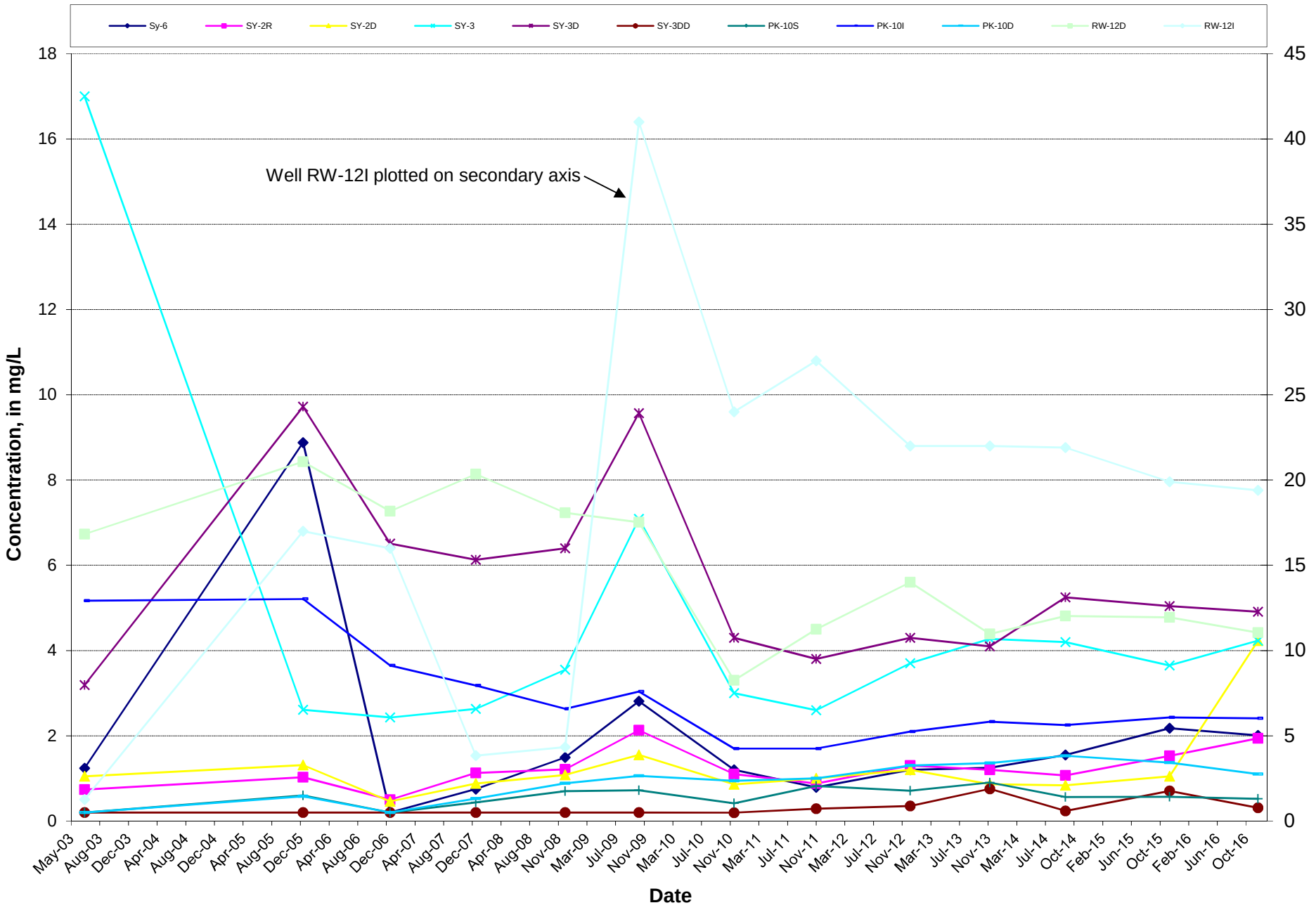
Post-Closure TDS Concentrations in Syosset Landfill Ground Water-Monitoring Wells



Post-Closure TKN Concentrations in Syosset Landfill Ground Water-Monitoring Wells



Post-Closure TOC Concentrations in Syosset Landfill Ground Water-Monitoring Wells



Lockwood, Kessler & Bartlett, Inc.

1 Aerial Way
Syosset, NY 11791-5592

p: (516) 938-0600
f: (516) 931-6344

www.lkbinc.com