Enclosure 2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. 336017

Site Name Wallkill Town Landfill

Site Address: Tarbell and Banke Roads Zip Code: 12589
City/Town: Wallkill
County: Orange
Site Acreage: 68.0

Reporting Period: July 30, 2012 to January 01, 2017

	YES	NO
1. Is the information above correct?	☑	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☑
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))? .*See Attached	☑	☐
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☑
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☑

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☑	☐
7. Are all ICs/ECs in place and functioning as designed?	☑	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

2/13/17
Date

SITE NO. 336017 Box 3

Description of Institutional Controls

Parcel	Owner	Institutional Control
1-1-27	TOWN OF WALLKILL	Ground Water Use Restriction

The Deed Restriction governng the land use restrictions on-site to prevent disturbance of the cap and prohibit the use of groundwater on the site was filed on February 4, 2014.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
1-1-27	Fencing/Access Control Cover System

The constructed cover was designed to accommodate future construction of groundwater capture and treatment. The site is completely fence to control access to the site.

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☑	☐

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

   (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☑	☐

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative — MH&E

Date — 7 Feb 17

IC CERTIFICATIONS
SITE NO. 336017

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Dan Depew (print name) at 99 Tower Drive Middletown, NY 10941 (print business address)

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Town Supervisor
Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

2/13/17
Date

IC/EC CERTIFICATIONS

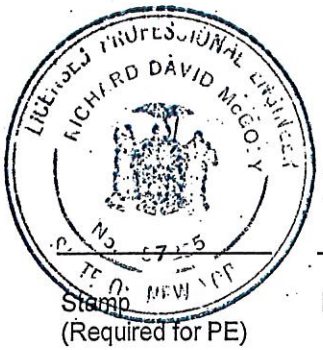
Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Richard McGoey (print name) at 33 Airport Center Dr. New Windsor NY 12553 (print business address)

am certifying as a Qualified Environmental Professional for the Town of Wallkill (Owner or Remedial Party)



Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification

Stamp (Required for PE)

Date 2/7/17

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS D.P.C.

MARK J. EDSALL, P.E., P.P. (NY, NJ & PA)
MICHAEL W. WEEKS, P.E. (NY, NJ & PA)
MICHAEL J. LAMOREAUX, P.E. (NY, NJ, PA, VT & VA)
MATTHEW J. SICKLER, P.E. (NY & PA)
PATRICK J. HINES

Main Office
33 Airport Center Drive
Suite 202
New Windsor, New York 12553

(845) 567-3100
fax: (845) 567-3232
e-mail: mheny@mhepc.com

Principal Emeritus:
RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY, NJ & PA)

TOWN OF WALLKILL LANDFILL

PERIODIC REVIEW REPORT
Site # 3-36-017

Orange County, New York

CLIENT:
Town of Wallkill
99 Tower Drive Bldg. A & B
Middletown, NY 10941

PREPARED BY:
McGoey, Hauser and Edsall
Consulting Engineers, D.P.C
33 Airport Center, Suite 202
New Windsor, NY 12553

Addition to this Document is a
Violation of Section 7209(2)
of the New York State Education Law.

DATE: 30 January 2017
JOB #: 97-147.3

TABLE OF CONTENTS

ATTACHMENTS

I EXECUTIVE SUMMARY

The former Town of Wallkill Landfill is located in the western portion of the Town of Wallkill , Orange County, New York. The site is generally located between NYS Route 17K and Goshen Turnpike. Access to the site is at the terminus of Banke Road. The site is a 68 +/- acre parcel of property bounded by vacant private parcels to the north, east, south. Scattered residential lots exist to the west of the parcel along Banke Road. The Town of Wallkill utilized the site as a sand and gravel mine prior to 1965. The Town of Wallkill Landfill was operated by the town from approximately 1965 until 1974. Early RI/FS studies identify that in addition to residential and commercial solid waste the site also accepted battery recycling byproducts, drummed waste of unknown origin and contents and sludge from the town's municipal waste water treatment facility during its years of operation.

Between 1993 and 1996 the project site was subject to a landfill closure project which consolidated the waste onsite and capped the landfill. In late 1996 an approved post closure operation and maintenance manual was prepared by William F. Cosulich, Associates and accepted by the NYSDEC as the operation and maintenance manual for the site. Operation and monitoring of the site have been undertaken since completion of the landfill cap. Ongoing operation and maintenance is undertaken by the Town of Wallkill and contract personnel.

Current engineering and institutional controls are functioning as designed with no proposed changes. No .on compliance activities and no significant issues have been identified during this monitoring period. Based on the ongoing activities on the site no additional monitoring of the landfill is required.

A significant change to the site has undertaken in that the Town of Wallkill has along with a green energy company installed a solar panel array on the landfill site. The solar array was installed with consent of the NYSDEC and has been operating on the site for several months.

II. SITE OVERVIEW

The landfill site consists of approximately 68 +/- acres of property of which approximately 23 acres were used for disposal of municipal and industrial waste. An unnamed tributary (Tributary 20) of the Shawangunk Kill traverses the site flowing in a northerly direction. The landfill cap is defined by two separate and distinct cells which are separated by tributary 20. The cap north and west of Tributary 20 is approximately 8 acres in size and the capped area south of the Tributary 20 is approximately 15 acres. **Attachment 1** to this report contains a location map of the site in relation to the Town of Wallkill. **Attachment 2** of this report to contains the site specific map identifying various features. Attachment 2 was prepared as a post closure monitoring map by William F. Cosulich, Associates. As identified in the Executive Summary the site was operated as a municipal landfill from approximately 1965 through 1974 accepting both municipal and commercial waste from the Town of Wallkill and surrounding areas. Initial investigations of the landfill identified a quantity of drummed waste from various industrial users in the

vicinity of the Town of Wallkill in addition to residential and commercial solid waste the Town of Wallkill disposed of sewage sludge from its municipally operated sewage treatment plant. Subsequent to closing the landfill in 1974 it was reported that a final cover comprising of a approximately two feet of soil was placed on the areas used for land filling in accordance with the regulations in effect at that time.

Initial site investigations were performed in early 1981 by the NYSDEC and Health Departments. Both of these agencies identified low levels of volatile organics and metals in leachate emanating from the landfill site. Results of the 1981 off site ground water survey did not detect any impacts associated with the landfill from private well supplies sampled in the vicinity of the landfill. In the early 1980's approximately 9 groundwater wells were installed and sampling and analysis of the leachate soil surface water and groundwater were undertaken. Initial findings concluded the landfill did not pose a significant threat to the environment. A review of background information pertaining to the waste generators indicated that a number of drums were buried on the site in the mid 1970's just prior to the landfill being closed. Based on a reported drum disposal NYSDEC performed a magnetometer survey to determine the location of potential buried drums. In 1986 approximately 2008 drums were removed from the site, 10 of which were determined to contain hazardous waste. Drums were removed from the site and disposed of at permitted locations. In 1989 the town entered into a consent order with NYS Department of Environmental Conservation with required a remedial investigation feasibility study (RIFS) to determine the existence of contamination on the site and develop a remedial action plan if required.

The results of the RI/FS identified subsurface soils containing volatile organic compounds. Groundwater contamination was detected in shallow over burdened monitoring wells screened within the boundary of the landfill mass. Several VOC's were detected as well as semi VOC's in the groundwater within the landfill. Lead was detected at concentrations exceeding clean up guidelines in the shallow overburdened wells screened within the landfill mass as well in a bedrock well which is up gradient of the site. The contaminants of concern were identified for surface waters were semi VOC, BIS (2-ethylheyl) phthalate and metals including aluminum, hex chromium, iron and zinc. Hex chromium was detected below action levels along Tributary 20 immediately downstream of the site.

Surface water sediment contaminants included arsenic, manganese, mercury, lead and zinc. Landfill leachate sample identified levels of manganese, mercury, silver, sodium, vanadium and zinc. Soil gas primarily methane was detected in areas where garbage and trash were formerly disposed in also at a former lagoon at the site.

A remediation plan was developed based on the RI/FS. The site was remediated by removing contaminated sediment within the stream traversing the site. Capping of the sediment and waste mass with a low permeability liner in compliance with environmental regulations. The foot print of the waste mass was reduced utilizing waste material to establish interim grades within the landfill cells. Landfill capping systems was installed along with landfill gas vents. Numerous groundwater wells were installed which replaced existing groundwater wells. Landfill gas monitoring system was installed. Engineering controls

have been implemented on the site including the landfill liner, gas venting system, groundwater monitoring wells, surface water sampling and gas vent monitoring.

In the summer and fall of 2016 the town of Wallkill in conjunction with a solar energy company installed a 2.5 megawatt solar energy system on the capped portions of the landfill. The solar energy system was identified as a viable green project to place on the existing landfill. No impacts to the integrity of the landfill cap occurred based on the design of the solar arrays. The solar arrays are currently in service operating on the site via a contract operator with the Town of Wallkill. Economic benefits are derived from the green project utilizing the capped landfill area.

III. EVALUATE REMEDY PERFORMANCE EFFECTIVENESS AND PROTECTIVENESS

The Town of Wallkill currently monitors groundwater and surface water at the landfill site. The Town of Wallkill utilizes the services of a contract laboratory for sample collection, analysis and reporting. These sample data packages are submitted to the Town's consulting engineer for evaluation and record keeping. The site management plan requires monitoring of 15 groundwater monitoring wells and 2 surface water samples. The monitoring wells are monitored on an annual basis based on approvals by the NYSDEC. Initial groundwater monitoring was performed on a quarterly basis during the first several years of monitoring. The town requested a reduction in monitoring which was accepted by the DEC authorizing a rolling 15 month monitoring plan. The rolling 15 month monitoring plan included a reduction in the parameters to be sampled. VOC sampling was eliminated from the monitoring as no VOC hits occurred on the site for numerous years of data collection evaluation and review. In 2008-2009 through conversations with the Town's Engineers office, the Town of Wallkill and the NYSDEC it was determined that the sampling would be accomplished on an annual basis rather than the 15 month rolling basis as record keeping and scheduling was difficult with the rolling reports. Annual sample events have been undertaken since 2010 on the project site. Gas vent monitoring on the site is performed via gas vent monitor wells on the site as well as head space for each of the monitoring wells during sampling. Gas vent monitoring is performed during sample events by the contract laboratory on an annual basis.

The Town of Wallkill Highway Department reviews the site periodically including periodic mowing of the capped landfill to prevent woody vegetation from growing on the site. Site security is evaluated by Town personnel. Currently the landfill cap is mowed twice annually to maintain the landfill in a grass condition. Security at the landfill is provided by a six foot perimeter fence completely surrounding the landfill cap. Site security is maintained by limiting key access to the site.

Attachment 3 to this report contains the Town of Wallkill Landfill Data Report. This report identifies compliance with the monitoring requirements of the groundwater and surface water monitoring consistent with the site management plan. **Attachment 3** identifies 5 years worth of data for the monitoring wells and surface water samples which are sampled annually. At times surface water samples are not available due to the small tributary area of the stream traversing the site.

Many of the monitoring wells on the site periodically exceed drinking water standards for iron and manganese. The iron and manganese exceedences can be attributed to local groundwater conditions which often exceed drinking water standards. Several of the samples exceed iron and manganese levels which can not be attributed to local groundwater conditions.

The following will provide a brief review of each of the monitoring wells and any issues associated with the groundwater quality in the monitoring wells.

Attachment 3 to this report contains the spreadsheets for 5 years worth of data on the monitoring wells. All parameters identified on the spreadsheets are sampled for. Levels which are non detect are left blank on the spread sheet.

MW-2D:This bedrock monitoring well has exhibited one exceedence for iron in 2015 and a slight exceedents for Ph in 2015. This monitoring well meets drinking water standards for all other parameters identified which have a drinking water standard.

MW-2S: This shallow monitoring well consistently exceeds iron and manganese levels. Exceedences for lead were identified in 2011, 2012 and 2013. In 2015 lead results were significantly lower and were non detect in the 2016 sample event. This monitoring well exhibits fluctuations in ph ranging from 8.96 to 6.32. Continued monitoring for lead long term will be undertaken at this well.

MW-8S: This shallow monitoring well is located along the property line down gradient of the southern capped area. MW-8 exhibits elevated levels of iron and manganese. These elevated levels have been on a downward trend over the 5 years of monitoring. MW-8S exhibits exceedences for lead for 3 of the 5 annual sample events. The 2016 sample event identifies lead below drinking water standards.

MW-9D: This is a deep monitoring well located at the northeasterly portion of the site just north of the small stream crossing the site. MW-9D meets drinking water standards for all parameters sampled with the exception of iron.

MW-9S: This shallow monitoring well located in the well cuplet with 9D is located in the immediate vicinity of that well. This monitoring well identifies elevated levels of iron for all monitoring events. One elevated hit for lead and one elevated reading for manganese were identified in this monitoring well. Ph levels of this monitoring well are identified at a low level below the drinking water standard. The low level is 6.5 while this well for the 2015 and 2016 monitoring events were 6.45 and 6.47 respectively.

MW-10D: This well is located off site down gradient monitoring well. This monitoring well typically meets drinking water standards with the exception of slightly elevated levels of iron detected in 2015 and 2016. Levels of iron were 1500 and 530 parts per billion respectively.

MW-10S: This shallow monitoring well located adjacent to MW-10D exhibits elevated levels of iron for three of the quarters identified and one slightly elevated level of manganese. It is noted that no samples were obtained from this monitoring well in 2011 and 2012 as the monitoring well was dry.

MW-11D: 11D & 11S are located on the northerly portion of the site up gradient of the north cell. MW-11D has slightly elevated levels of iron and slightly elevated ph levels for some of the monitoring events of the last 5 years. One hit for cadmium above drinking water standards was identified at 5.3 parts per billion while the drinking water standard is 5 parts per billion. It is noted that the 2015 and 2016 events cadmium was non detect.

MW-11S: A shallow well in the MW-11 cuplet identify elevated levels of iron for 4 of the 5 monitoring events. The most recent monitoring event does not identify an exceedence. One exceedence for manganese and two exceedences for ph were identified over the 5 year provided.

MW-12D: This monitoring well is located immediately east of the capped northern cell. This well is located in an area where fill material was excavated to consolidate waste in under the cap. This well identifies elevated levels of iron and manganese typical to the other monitoring wells on the site. Levels are relatively constant for each of these parameters.

MW-12S: This shallow monitoring well exhibits elevated levels of iron and manganese. One low ph reading was obtained during the 2016 sample event.

MW-13D: This monitoring well is located immediately down gradient and east of the capped southern landfill cell. This monitoring well exhibits elevated levels of iron and manganese. No other parameters have exceeded drinking water standards for the 5 year data collection.

MW-13F: This shallow monitoring well exhibits elevated of iron and manganese. During the 2011 sample event a slight exceedence for magnesium and lead were indicated. These levels have dropped below drinking water standards for the last 4 sample events.

MW-14D: This monitoring well is located on the south westerly most portion of the landfill site. This monitoring well is located where the small tributary stream enters the landfill site. MW-14D exhibits elevated levels of iron for 2 of the sample events. This monitoring well also has slightly elevated levels of sodium above drinking water standards. Levels of sodium remain fairly consistent on the site at approximately 30,000 parts per billion.

MW-14S: This monitoring well exhibits periodic exceedences for iron and manganese. Levels of sodium are slightly elevated in this monitoring well, similar to the levels found in the deep well cuplet. Three of the five samples identified slight exceedences for sodium.

Surface Water Sample SW1: SW1 is located on the southwest portion of the property where the Tributary 20 to the Shawangunk Kill enters the Landfill site. Surface water sample #1 is an upgradient surface water sample. Surface water sample #1 exhibits elevated level of iron above drinking water standards consistent with regional surface water conditions. A slightly low level of ph was identified in the 2015 monitoring event. It is noted that surface water sample #1 was not sampled during the 2016 monitoring event as no water was available for sampling due to drought conditions.

Surface Water Sample SW2: SW2 is a down gradient surface water sample located on the northeast portion of the property just prior to the stream leaving the Town of Wallkill site. SW sample #2 exhibits slightly elevated levels of iron. One elevated level of manganese in 2012 was detected. It is noted that the 2016 water sample could not be obtained due to drought conditions in the region.

IV. IC/EC PLAN COMPLIANCE

A. Institutional Controls: Institutional controls have been implemented by the Town of Wallkill to restrict utilization of ground water and land use on the project site. Institutional controls have remained in effect and no ground water users are located in the immediate vicinity of the project site. The Town of Wallkill has recently installed a 2.4 megawatt solar photo voltaic array system on approximately 15 acres of the capped landfill. The installation is consistent with the previous institutional controls and has been permitted by the NYSDEC.

B. Engineering Controls:

1) Fenced Security: The landfill site is fenced with a 6 foot high fence with access control via locked gates. Locks are restricted and only the following personnel are permitted to enter the site:
    - Town of Wallkill Highway Department
    - EnviroTest: Contract laboratory
    - MH&E: Town Engineers
    - Photo Voltaic Array Maintenance Personnel

    The security fencing remains in place and functioning as designed.

2) Gas Vent Monitoring System: The landfill site has been equipped with a gas vent monitoring system. These gas vents are periodically monitored by the contract laboratory and Town personnel to assure ongoing function of the gas venting system. No issues with the gas venting system have been identified during this monitoring period. The photo voltaic arrays which have been installed maintain a minimum of 10 feet separation from any gas vent system on the site.

3) Landfill Cap: The landfill cap system includes a 6 inch surface layer of topsoil, an 18 inch layer of clean general fill, a geo membrane liner consisting of 60 mil high density polyethylene geo synthetic liner. In areas greater than 25 % a geo composite drainage layer was installed above the geo membrane. A gas venting layer consisting of 12 inches of soil with a permeable soil. A layer of non woven geo textile placed beneath the soil to separate it from the sub grade. Passive gas vents were placed to vent this layer. Prepared subgrade of general fill and process C and D material to complete the final cap. Site was re-graded as appropriate to provide a minimum cover over the waste of 6 inches of general fill. This landfill cap serves to protect the waste mass from intrusion of surface water while allowing any gas to discharge via the gas vents installed at the site. The landfill cap is maintained in a grassed condition thru periodic mowing by Town forces.

All IC/EC requirements of the initial landfill closure continue to function as designed. Protective measures incorporated into the design including security, engineering controls and long term operation and maintenance continue at the project site to assure functioning of the landfill remediation. No changes to the institutional and engineering controls are required.

V. OPERATION AND MAINTENANCE

The landfill site is subject to periodic mowing in order to maintain the project in a grassed lawn condition. Town of Wallkill Highway Department personnel perform periodic mowing at least twice annually in order to maintain the site in the grassed lawn condition and prevent the growth of woody vegetation on the landfill cap. The town has completed this twice annual mowing since closure of the landfill in the late 1990's. No change to the maintenance schedule is anticipated.

The Town of Wallkill Highway personnel in conjunction with Town Engineer's office periodically field review the Landfill with regard to general operation and maintenance of the site. Field review of conditions of the landfill include an evaluation of drainage, gas vent monitoring, security fencing, locks and surface water conditions are undertaken in compliance with the site management plan. No deficiencies on the site have been noted during the monitoring period. Continued periodic inspections will be undertaken during the upcoming monitoring period.

Based on a review of the operation and maintenance of the landfill site no changes to the O & M plan have been identified. Continued mowing of the site must be undertaken including those areas where photo voltaic systems have been installed. Continued operation and maintenance of the landfill in its current state will assure that the site operates as designed. The site is in a relatively static condition for

several decades. Ongoing monitoring and maintenance of the site will continue based on the current plans as approved by NYSDEC.

VI. CONCLUSION AND RECOMMENDATIONS

Based on the long term operation and maintenance of the Town of Wallkill landfill site no changes in the site management plan have been recommended. No significant changes in groundwater or surface water chemistry have been identified. Continued operation and maintenance of the facility at the current level and intensity will maintain the function of all engineered controls.

The institutional and engineering controls established at the Town of Wallkill landfill site since the late 1990's are effectively mitigating the impacts associated with the former Class 2A landfill. No additional IC or EC controls are required.

We continue to recommend the submission of periodic reports on a 5 year basis as currently required. No changes to the 5 year period are recommended.

Respectfully submitted,

McGoey, Hauser and Edsall
Consulting Engineers, D.P.C.

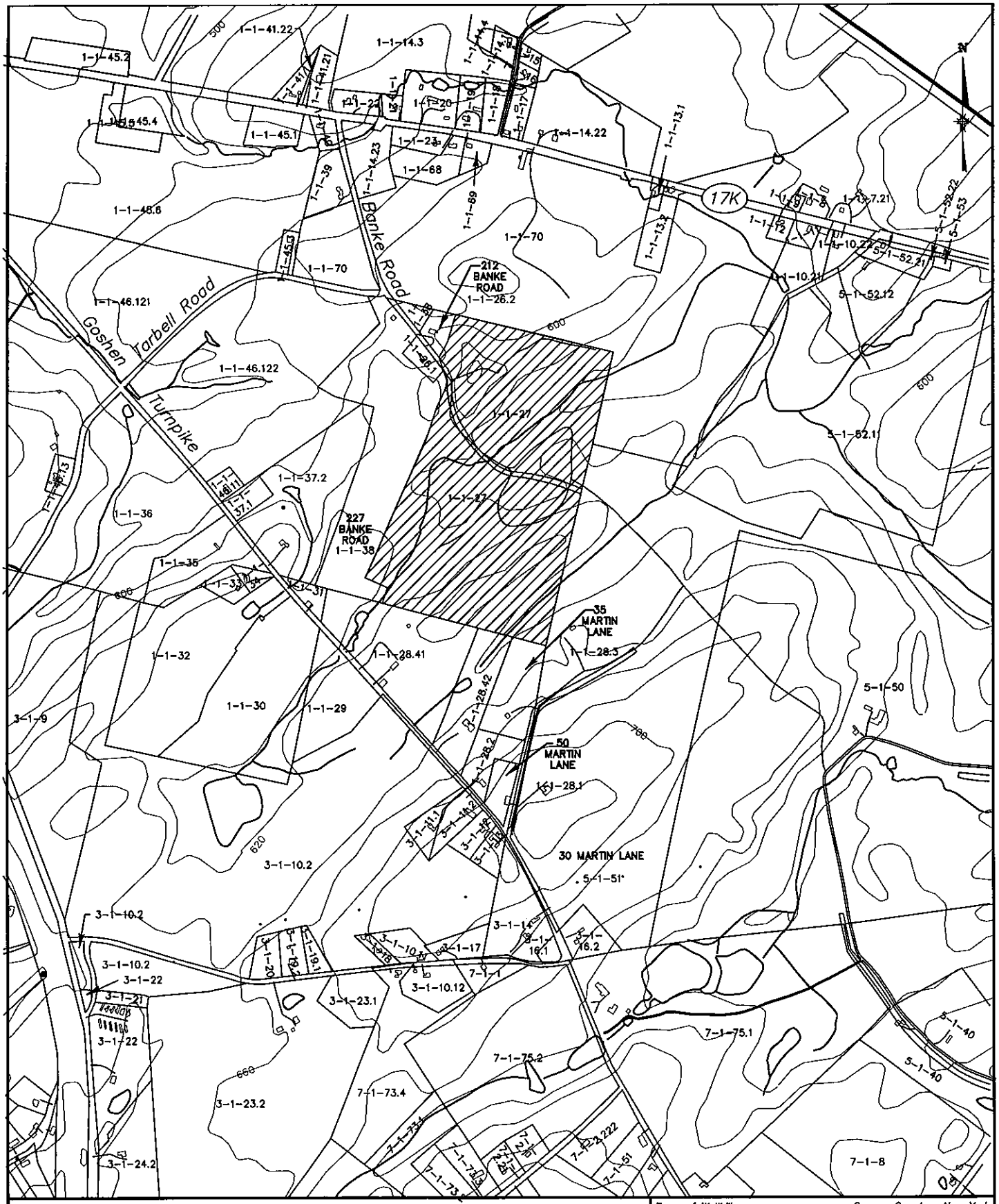
Patrick J. Hines
Principal

Richard D. McGoey, P.E.
Principal Emeritus

ATTACHMENTS

ATTACHMENT 1

SITE LOCATION MAP



McGOEY, HAUSER and EDSALL CONSULTING ENGINEERS, P.C.

33 Airport Center Drive, Suite 202, New Windsor, New York 12553, (845) 567-3100
507 Broad Street, Milford, Pennsylvania 18337, (570) 296-2765
540 Broadway, Monticello, New York 12701, (845) 794-3391

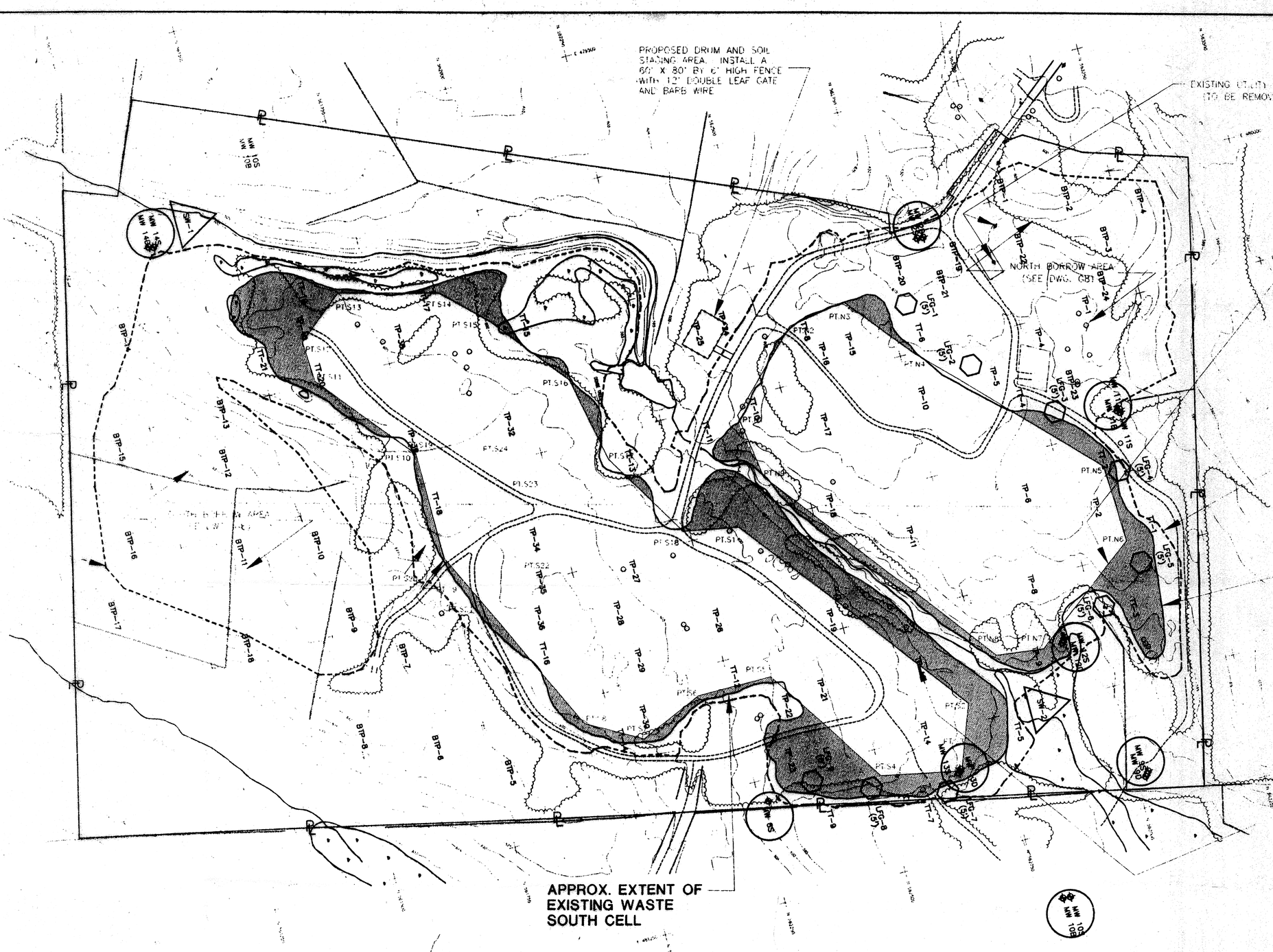
Town of Wallkill, Orange County, New York

Town of Wallkill Landfill

DATE: 3 March 2003 Scale: 1" = 1000' Job No.: 97-147

ATTACHMET 2

SITE SPECIFIC MAP



PROPOSED EXTENT OF WASTE NORTH CELL
(AFTER WASTE EXCAVATION)

POINT OF TANGENCY NUMBER	NORTHING	EASTING	EXISTING ELV.	PROPOSED ELV.
PT.N1	562402.22	480280.57	601.0	600.5
PT.N2	562549.62	480134.89	606.5	608.0
PT.N3	562666.64	480115.17	610.2	609.5
PT.N4	562780.70	480253.60	609.2	611.2
PT.N5	563090.63	480567.26	605.4	605.5
PT.N6	563099.26	480723.10	607.8	599.0
PT.N7	562982.34	480892.57	584.0	589.0
PT.N8	562786.53	480880.81	584.5	590.5
PT.N9	562421.21	480413.86	591.0	595.0

PROPOSED EXTENT OF WASTE SOUTH CELL
(AFTER WASTE EXCAVATION)

POINT OF TANGENCY NUMBER	NORTHING	EASTING	EXISTING ELV	PROPOSED ELV
PT.S1	562348.22	480498.47	598.0	596.5
PT.S2	562707.56	480958.40	587.9	586.5
PT.S3	562660.54	481086.07	589.0	588.5
PT.S4	562499.93	481052.79	595.5	595.0
PT.S5	562334.37	480805.48	600.0	603.5
PT.S6	562183.37	480804.89	604.5	608.4
PT.S7	562055.86	480860.29	609.5	613.2
PT.S8	561947.55	480799.30	616.5	617.1
PT.S9	561758.11	480406.75	612.5	614.2
PT.S10	561755.87	480187.88	609.1	613.0
PT.S11	561596.44	479996.79	608.3	607.8
PT.S12	561592.20	479912.84	604.1	606.5
PT.S13	561686.00	479836.07	606.0	605.5
PT.S14	561883.88	479888.28	603.9	605.5
PT.S15	561970.51	479971.45	602.0	601.5
PT.S16	562092.49	480124.52	601.4	600.5
PT.S17	562128.41	480298.66	601.6	600.5
PT.S18	562236.99	480477.15	600.2	601.2
PT.S19	561750.32	480175.35		
PT.S20	561730.81	480368.23		
PT.S21	561790.46	480519.84		
PT.S22	561908.27	480454.92		
PT.S23	561943.91	480345.34		
PT.S24	561892.89	480224.13		

NO.	DATE	REVISION	BY

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.

PROJECT ENGINEER	DRAWN BY
P.M.F.	T.S.H.
DESIGNED BY	CHECKED BY
P.M.F.	E.J.R.

WILLIAM F. COSULICH ASSOCIATES, P.C.
ENVIRONMENTAL ENGINEERS SCIENTISTS PLANNERS

NYSDEC SITE NUMBER 336017
WALLKILL LANDFILL SITE REMEDIATION
TOWN OF WALLKILL
ORANGE COUNTY, NEW YORK

POST-CLOSURE MONITORING/ SAMPLING LOCATIONS

PROJECT NO.	DRAWING NO
1256	2
DATE: JULY 1996	
SCALE: 1" = 100'	

ATTACHMENT 3

WALLKILL LANDFILL REPORT
DATA SHEETS & GRAPHS

WALLKILL LANDFILL

2016

ANNUAL

Wallkill Landfill

Summary Results – Exceedences

2016 Annual

MW-2D – None

MW-2S – Iron, Manganese

MW-8S - Iron, Manganese

MW-9D - Iron

MW-9S – Iron, pH

MW-10D - Iron

MW-10S – Iron

MW-11D – None

MW-11S – None

MW-12D – Iron, Manganese

MW-12S - Iron, Manganese, pH

MW-13D - Iron, Manganese

MW-13S - Iron, Manganese

MW-14D –Sodium

MW-14S – Iron, Manganese, Sodium

MW-SW1 – No sample taken: No water

MW-SW2 – No sample taken: No water

MW-2D

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	63.5	59.4	28.7	45.4	82.1
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.92		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	2.2	5	5		
Calcium	UG/L	N.S.	33500	36300	15800	34600	34400
Chemical Oxygen Demand	MG/L		10	10	10		13.4
Chloride	MG/L	250	5	5	5	7.7	5
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	180	113			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			83.7	90.7	39.4	86.4	77.3
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	100	160	100	1300	280
Lead	UG/L	15	6.1	5	5		
Magnesium	UG/L	35000	5500	5500	5000		6200
Manganese	UG/L	300	76	78	15	110	88
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.12	1.4	0.39	0.33	
pH (Std.)		6.5-8.5	8.48	6.31	8.56	7.66	7.15
Potassium	UG/L	N.S.	1100	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	7100	8200	9000	9400	7800
Specific Conductivity		N.S.	217	626	123	133	164
Static Water Level (Ft.)							
Sulfate	MG/L	250	32.8	18.2	30.5	33.9	42.5
Temperature (C)	MG/L	N.S.	10.3	13.8	11.7	14.5	22.1
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		120	192	118	156	188

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		1	1	1	2.3	
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	0.96	596.2	9.35	22.94	13.9
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

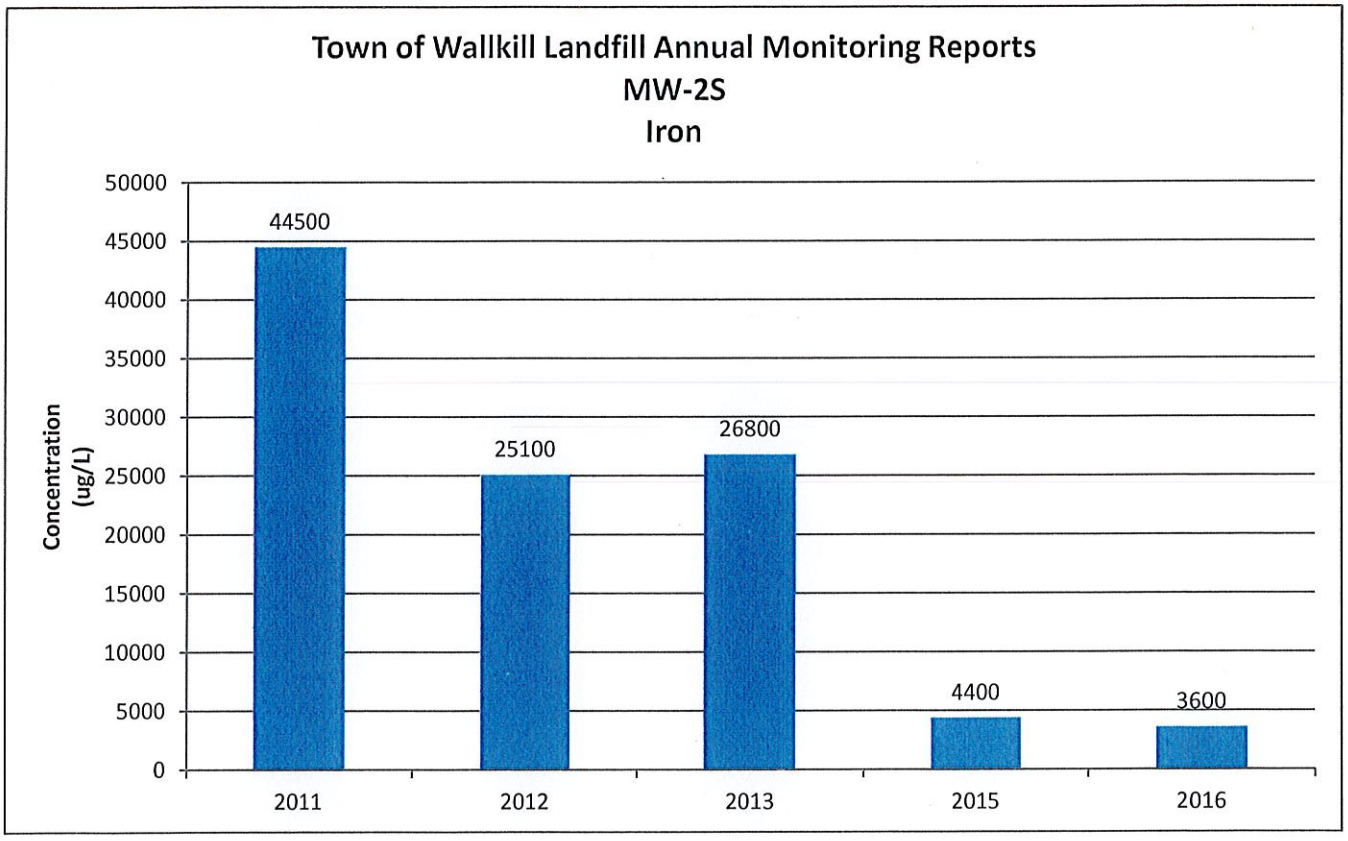
MW-2S

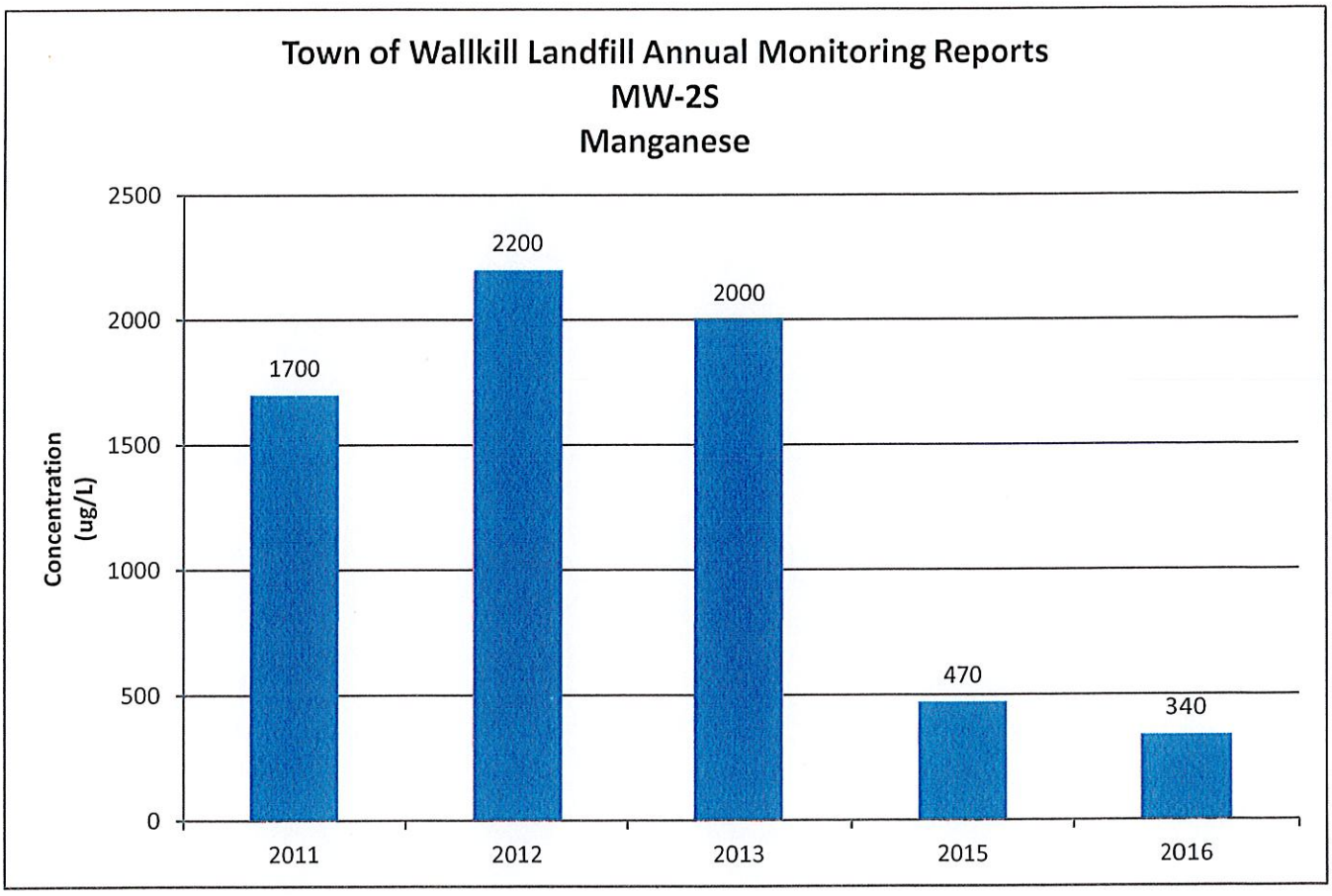
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	27.6	55.3	68	37.1	56.2
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	5	5	5		
Calcium	UG/L	N.S.	8700	17000	21300	12500	14900
Chemical Oxygen Demand	MG/L		25.8	10	62.6		
Chloride	MG/L	250	5	5	5	6.2	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	413	93			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)	MG/L		21.8	42.5	53.3	31.1	33.5
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	44500	25100	26800	4400	3600
Lead	UG/L	15	44	39	24	7.9	
Magnesium	UG/L	35000	9200	6900	7800		3200
Manganese	UG/L	300	1700	2200	2000	470	340
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	1	0.4	0.64	0.64	0.53
pH (Std.)		6.5-8.5	7.03	8.96	8.04	6.32	6.78
Potassium	UG/L	N.S.	7900	6600	5200		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	11100	12700	9600	11200	11000
Specific Conductivity		N.S.	114	266	142	95	109
Static Water Level (Ft.)							
Sulfate	MG/L	250	10.9	15.3	14.3	14	14.2
Temperature (C)	MG/L	N.S.	6.9	12.6	11.8	13.6	17.2
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		56	148	130	100	108

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1.5		
Total Organic Carbon	MG/L		1	1	1		1.3
Total Phenols	UG/L			0.01	0.01	0.012	
Turbidity (NUT)	NTU	N.S.	654.6	2.64	397.8	9.98	27.88
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-2S
Iron
Concentration (ug/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
44500
25100
26800
4400
3600
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-2S
Manganese
Concentration (ug/L)
2500
2000
1500
1000
500
0
1700
2200
2000
470
340
2011
2012
2013
2015
2016

MW-8S

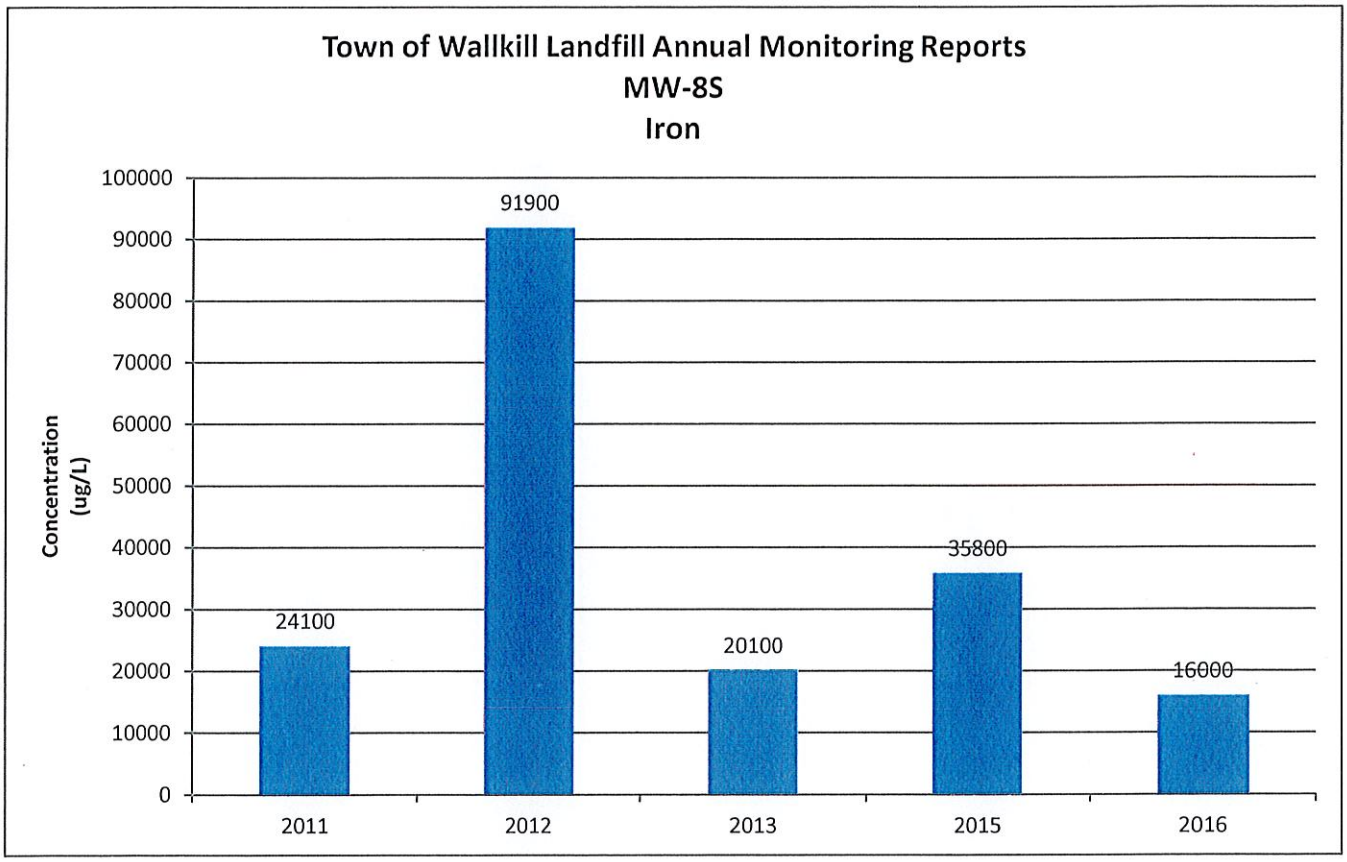
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	123	149	151	152	154
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1.1	0.15		2.1
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	8	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	0.47	5	5		
Calcium	UG/L	N.S.	45600	47600	51000	55300	49900
Chemical Oxygen Demand	MG/L		10.1	64.6	33.5	26.8	16.2
Chloride	MG/L	250	5	5	5	2.9	8
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	145	119			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			114	119	127	138	112
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	24100	91900	20100	35800	16000
Lead	UG/L	15	16	53	8.7	20	5.1
Magnesium	UG/L	35000	12000	23300	11400	13600	10600
Manganese	UG/L	300	700	3400	2200	2300	670
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.22	0.25	0.16		0.93
pH (Std.)		6.5-8.5	7.62	7.15	7.69	7.62	6.74
Potassium	UG/L	N.S.	6700	14300	5500	6200	7500
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	4100	5000	5300	5500	5500
Specific Conductivity		N.S.	265	351	245	221	180
Static Water Level (Ft.)							
Sulfate	MG/L	250	19.7	19.9	19.9	20.3	19.2
Temperature (C)	MG/L	N.S.	6.4	13.4	10.9	16.5	15.7
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		196	258	206	282	786

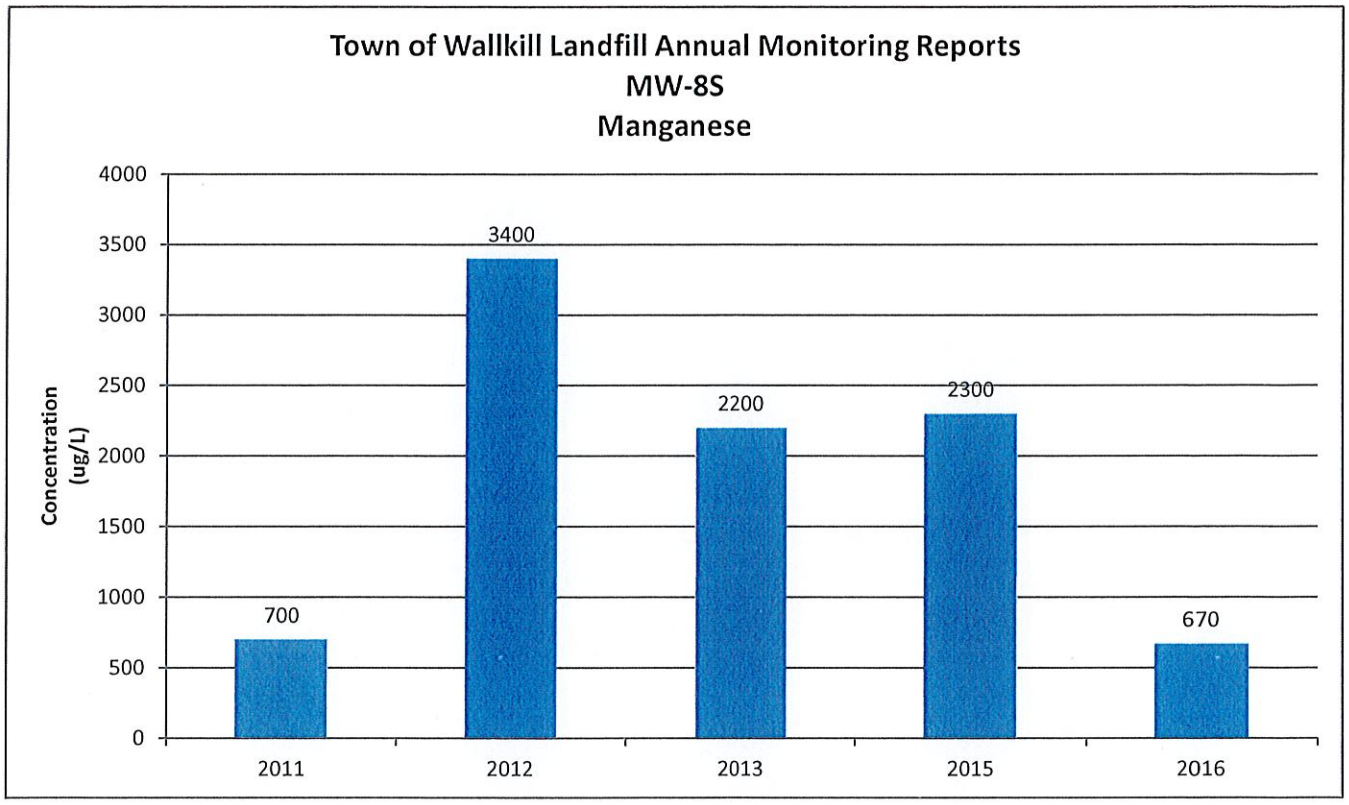
Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	2.6	1		2.2
Total Organic Carbon	MG/L		1.1	2.2	1	1.2	4.3
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	409.9	502.7	721.9	280.7	313
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

***No Sample 2004-2009. Bent/shifted casing**


Town of Wallkill Landfill Annual Monitoring Reports
MW-8S
Iron
Concentration (ug/L)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
24100
91900
20100
35800
16000
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-8S
Manganese
Concentration (ug/L)
4000
3500
3000
2500
2000
1500
1000
500
0
700
3400
2200
2300
670
2011
2012
2013
2015
2016

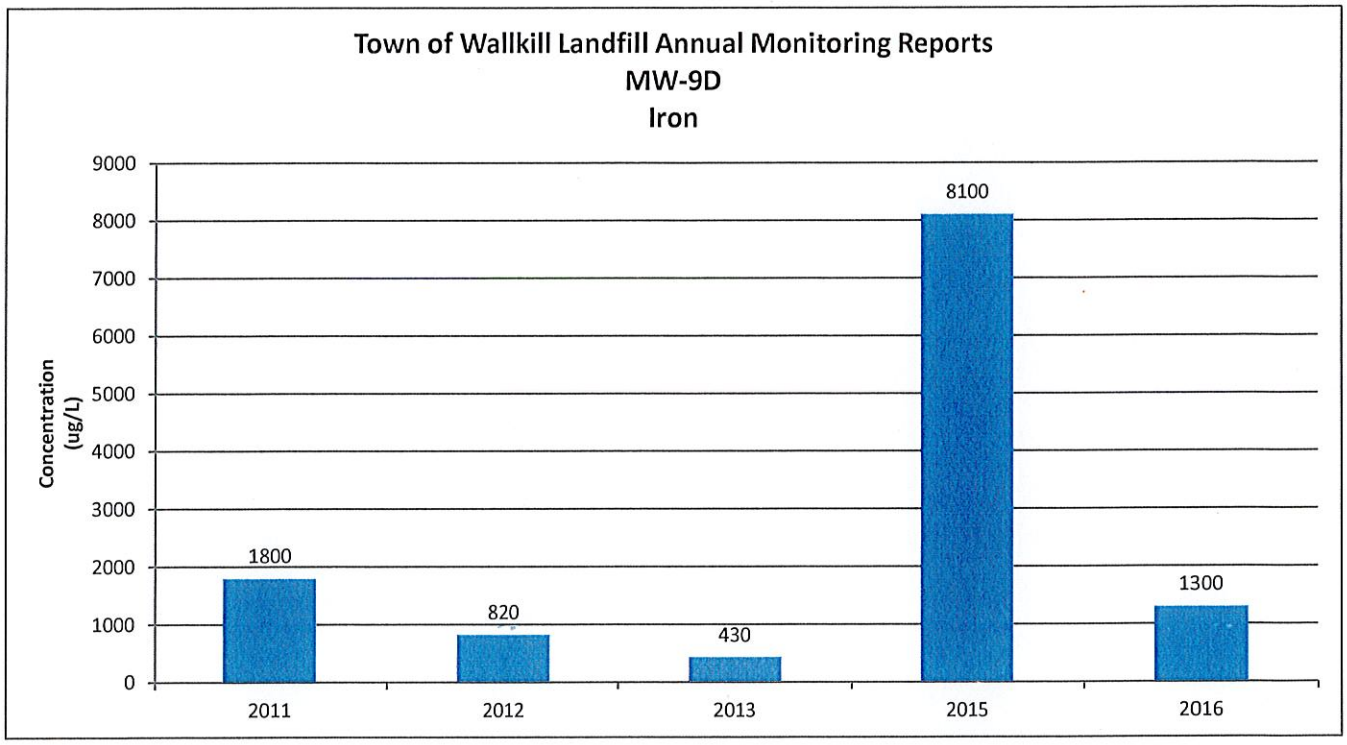
MW-9D

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	83.2	154	159	181	197
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.085		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	2.3	5	5		
Calcium	UG/L	N.S.	51700	53100	54000	71100	61000
Chemical Oxygen Demand	MG/L		10	10	10	18.5	
Chloride	MG/L	250	22	5	8	10	6
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	-65	0			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			129	133	135	177	137
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	1800	820	430	8100	1300
Lead	UG/L	15	5.1	5	5	8.4	
Magnesium	UG/L	35000	12200	11700	12500	15600	13500
Manganese	UG/L	300	130	88	79	230	110
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.25	0.11		
pH (Std.)		6.5-8.5	7.36	7.89	7.49	7.07	7.16
Potassium	UG/L	N.S.	2400	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	7300	6900	7100	7400	7200
Specific Conductivity		N.S.	326	402	268	267	208
Static Water Level (Ft.)							
Sulfate	MG/L	250	26	26.3	25.6	26.5	27.3
Temperature (C)	MG/L	N.S.	8.2	14.2	11.7	16.3	17.7
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		210	228	232	256	268

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		5	1	1.3	1.1	1.2
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	38.18	9.8	2.01	140.3	27.74
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-9D
Iron
Concentration (ug/L)
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1800
820
430
8100
1300
2011
2012
2013
2015
2016

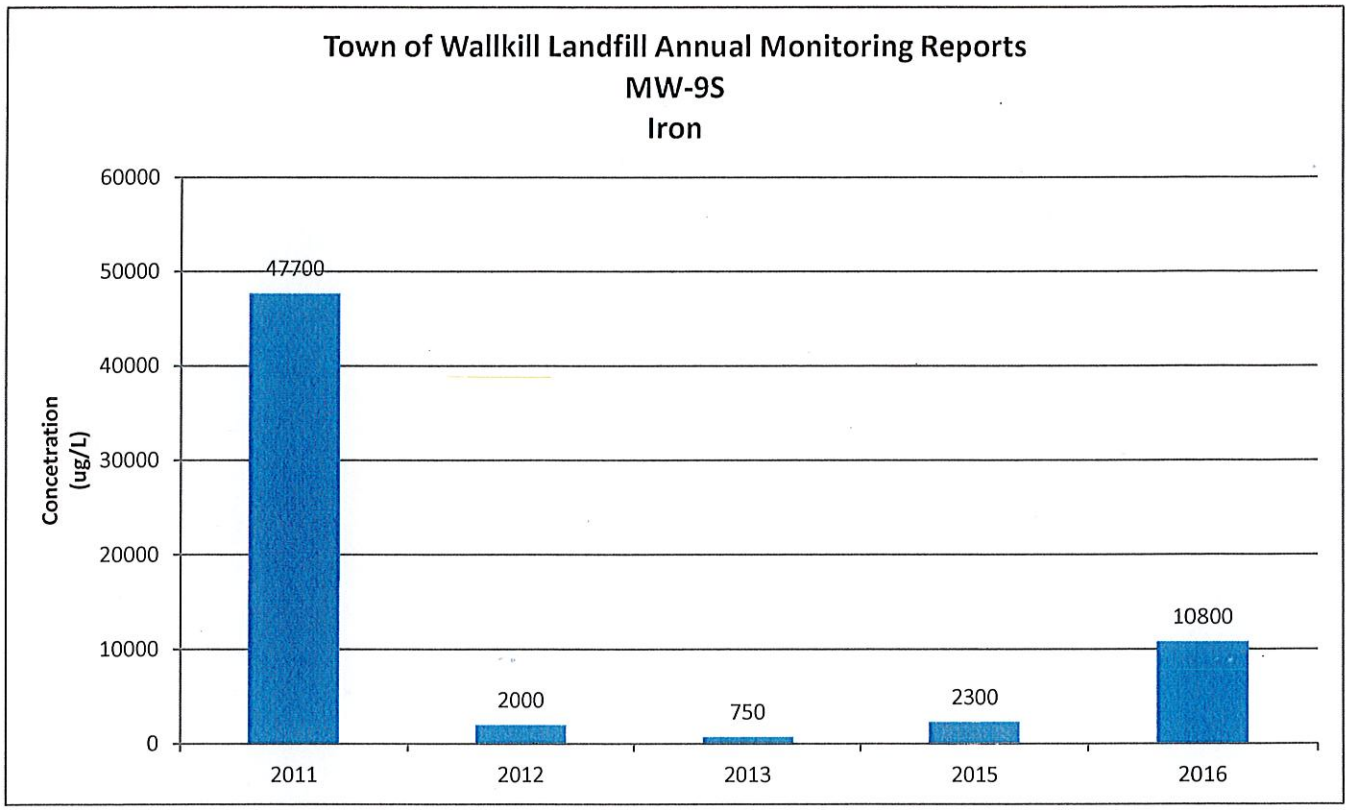
MW-9S

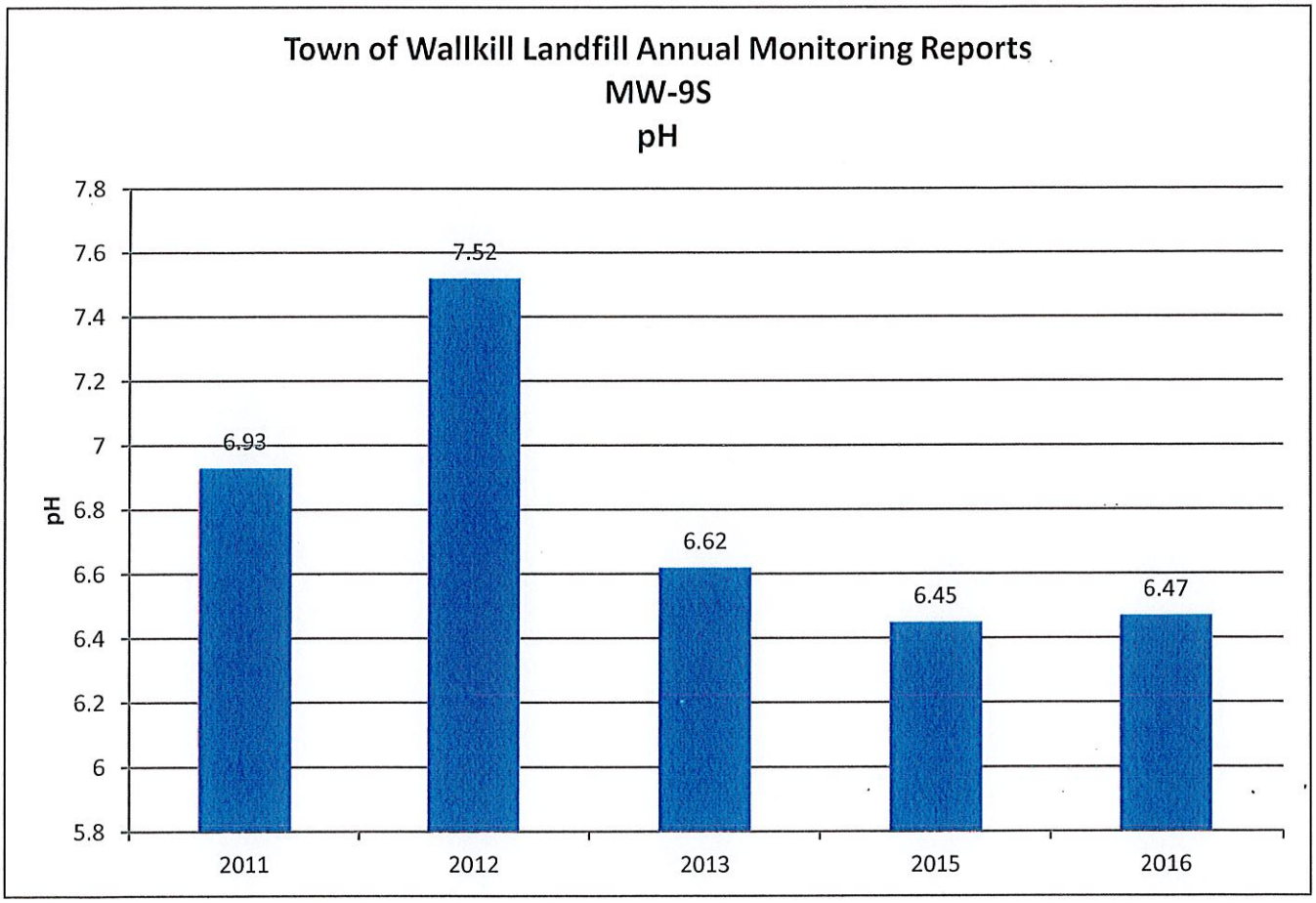
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	40.5	29.9	17.8	24.6	77.9
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	5	5	5		
Calcium	UG/L	N.S.	20300	9900	9200	10200	58100
Chemical Oxygen Demand	MG/L		75.3	10	28.3		
Chloride	MG/L	250	5	5	5	2.7	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.		-14			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			50.7	24.7	22.8	25.5	131
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	47700	2000	750	2300	10800
Lead	UG/L	15	26	5	5	6.6	4
Magnesium	UG/L	35000	11400	5000	5000		8000
Manganese	UG/L	300	450	41	23	37	240
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.22	0.25	0.17		
pH (Std.)		6.5-8.5	6.93	7.52	6.62	6.45	6.47
Potassium	UG/L	N.S.	8600	5000	5000		5000
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	2600	5000	5000		3100
Specific Conductivity		N.S.		98	65	70	95
Static Water Level (Ft.)							
Sulfate	MG/L	250	12.9	10.9	11.5	12.4	12.8
Temperature (C)	MG/L	N.S.	7	16.3	10.2	16.2	18.2
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		92	66	62	74	108

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		3.1	1	1		
Total Organic Carbon	MG/L		2.1	1	1.2	1.5	1.4
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.		548.8	10.95	39.3	56.36
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-9S
Iron
Concetration (ug/L)
60000
50000
40000
30000
20000
10000
0
47700
2000
750
2300
10800
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-9S
pH
pH
7.8
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
6.93
7.52
6.62
6.45
6.47
2011
2012
2013
2015
2016

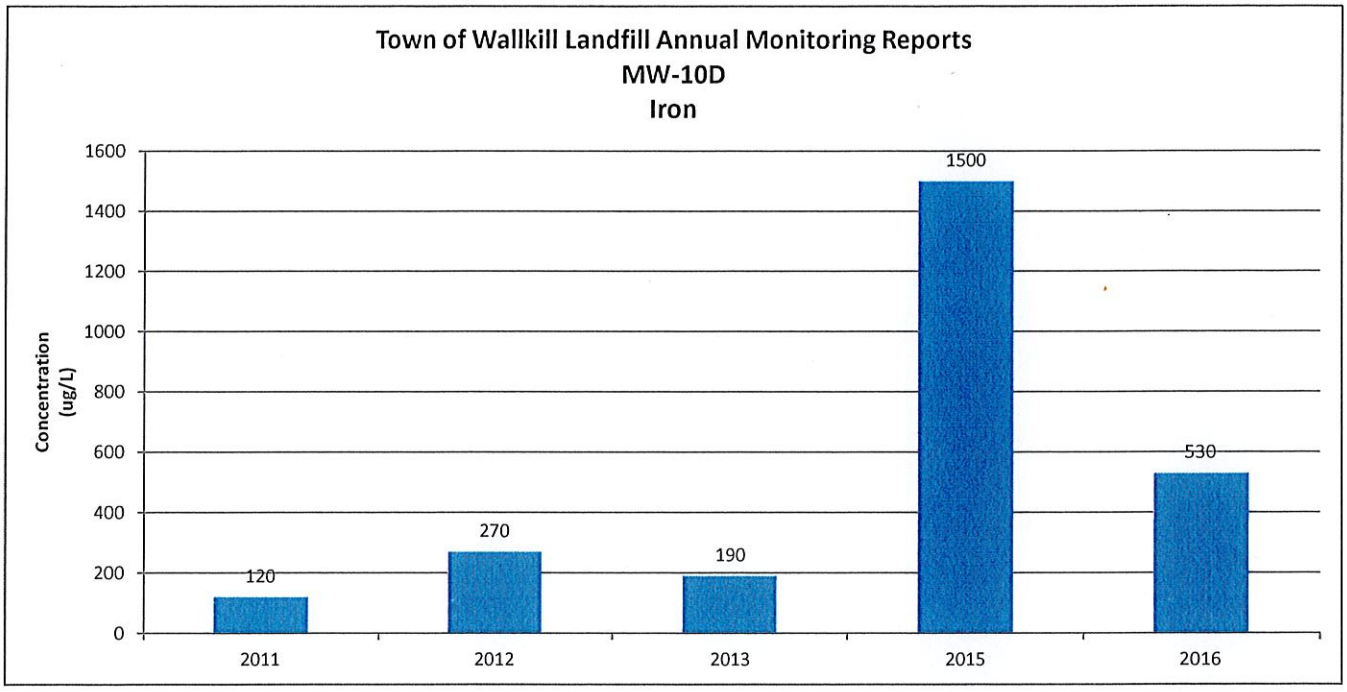
MW-10D

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	5	155	156	119	160
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	1.3	5	5		
Calcium	UG/L	N.S.	44200	45300	45400	42800	44000
Chemical Oxygen Demand	MG/L		10	10	12.4		
Chloride	MG/L	250	5	5	5	2.6	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	150	68			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			110	113	113	107	98.8
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	120	270	190	1500	530
Lead	UG/L	15	3.3	5	5		
Magnesium	UG/L	35000	13100	12800	13300	6900	12300
Manganese	UG/L	300	17	90	15	79	53
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.15	0.25	0.17		
pH (Std.)		6.5-8.5	8.05	8.32	7.64	7.48	7.54
Potassium	UG/L	N.S.	1100	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	5100	6100	6400		5600
Specific Conductivity		N.S.	325	365	234	183	182
Static Water Level (Ft.)							
Sulfate	MG/L	250	21.4	20.2	19.5	16.4	20.5
Temperature (C)	MG/L	N.S.	9.4	15	9.7	15.8	17.3

Thallium	UG/L	2					
Total Dissolved Solids	MG/L		194	198	198	166	206
Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		1	1	1		
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	4.8	7.83	31.47	21.71	72.67
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-10D
Iron
Concentration (ug/L)
1600
1400
1200
1000
800
600
400
200
0
120
270
190
1500
530
2011
2012
2013
2015
2016

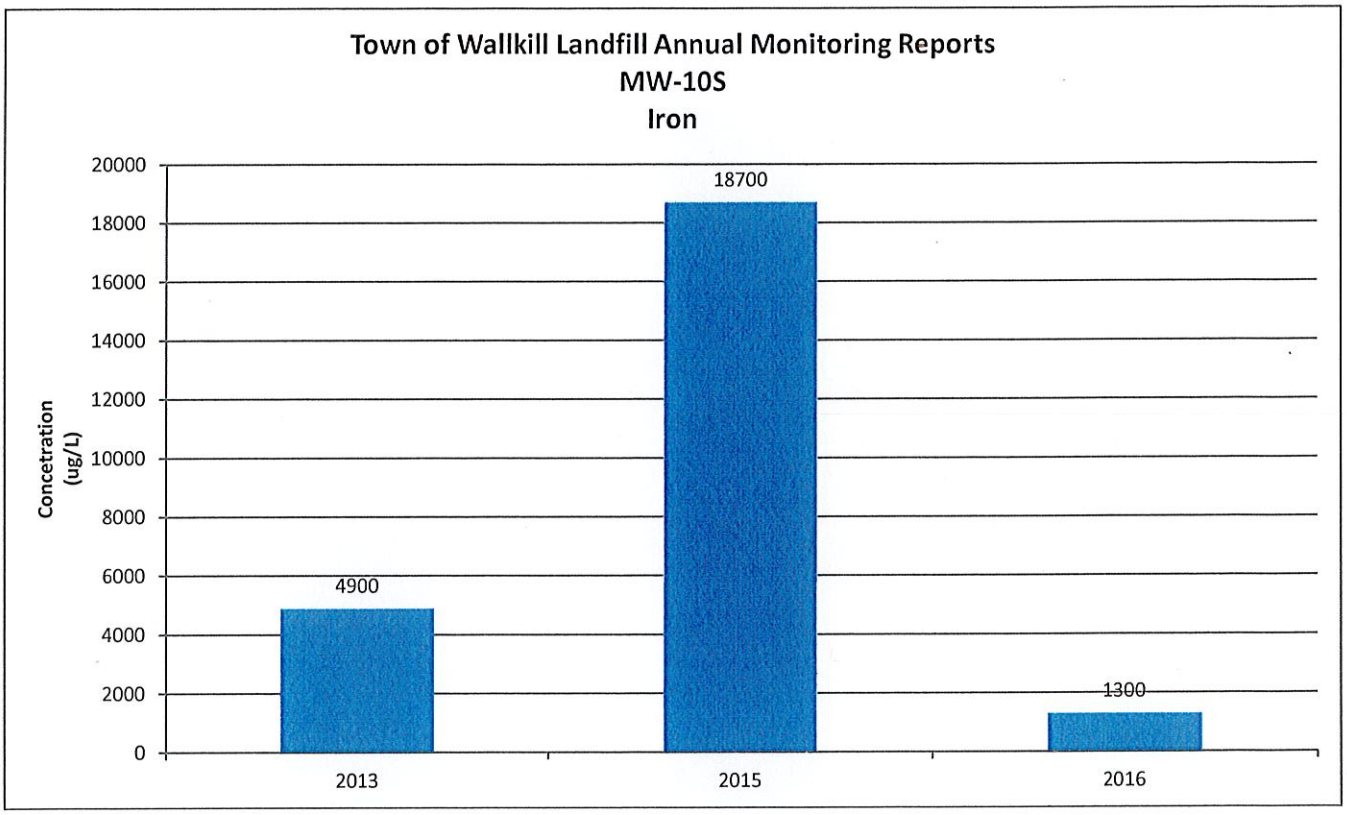
MW-10S

PARAMETER	UNIT	STANDARD	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	140	128	136
Aluminum	UG/L	N.S.			
Ammonia	MG/L	FEN OF T	1.6		
Antimony	UG/L	3			
Arsenic	UG/L	25			
BOD (5)	MG/L	N.S.	29.9	7.4	
BOD Time of Analysis)					
Barium	UG/L	1000			
Beryllium	UG/L	4			
Boron	UG/L	10			
Bromide	UG/L	10	1		
Cadmium	UG/L	5	5		
Calcium	UG/L	N.S.	50600	51700	46600
Chemical Oxygen Demand	MG/L		245	29.6	
Chloride	MG/L	250	5	2.3	
Chromium	UG/L	50			
Cobalt	UG/L				
Color (Pt/Co. Units)	PT/CO	15			
Copper	UG/L	200			
Cyanide, Total	UG/L	200			
Dissolved Oxygen					
eH (millivolts)		N.S.			
Field Observation					
Floaters and sinkers (P/NP)					
Hardness (as CacO (3)			126	129	105
Hexavalent Chromium	UG/L	50			
Iron	UG/L	300	4900	18700	1300
Lead	UG/L	15	5	14	
Magnesium	UG/L	35000	7200	10300	5700
Manganese	UG/L	300	180	350	120
Mercury	UG/L	0.7			
Nickel	UG/L	100			
Nitrate	MG/L	10	0.099		
pH (Std.)		6.5-8.5	7.34	7.46	7.8
Potassium	UG/L	N.S.			
Selenium	UG/L	10			
Silver	UG/L	50			
Sodium	UG/L	20000	5000	5700	4500
Specific Conductivity		N.S.	128	191	166
Static Water Level (Ft.)					
Sulfate	MG/L	250	15.9	15.8	16.3
Temperature (C)	MG/L	N.S.	10.6	15.9	16.1

Thallium	UG/L	2			
Total Dissolved Solids	MG/L		170	184	194
Total Hardness	MG/L				
Total Kjeldahl Nitrogen	MG/L		9.3	1.2	
Total Organic Carbon	MG/L		2.7	1.4	
Total Phenols	UG/L		0.01		
Turbidity (NUT)	NTU	N.S.	120.9	164.1	42.9
Vanadium	UG/L				
Zinc	UG/L	5000			

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-10S
Iron
Concetration (ug/L)
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
4900
18700
1300
2013
2015
2016

MW-11D

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	105	50.2	124	112	116
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	7.2		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	1	5	5.3		
Calcium	UG/L	N.S.	33200	23700	39800	42000	38700
Chemical Oxygen Demand	MG/L		10	11.4	23		
Chloride	MG/L	250	5	5	5	4.2	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	78	-20			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			83	59.1	99.4	105	87
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	150	330	620	220	65
Lead	UG/L	15	3.7	5	5		
Magnesium	UG/L	35000	7600	5000	10500	8400	8700
Manganese	UG/L	300	120	16	190	150	180
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.12	0.25	0.099		
pH (Std.)		6.5-8.5	8.62	10.27	8.99	7.62	6.97
Potassium	UG/L	N.S.	1300	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	9600	13400	12700	9700	10800
Specific Conductivity		N.S.	240	187	226	200	154
Static Water Level (Ft.)							
Sulfate	MG/L	250	31.3	17.3	28.2	35	34.7
Temperature (C)	MG/L	N.S.	9.4	15.8	11.4	14.4	22.3
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		174	100	186	182	194

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	2.4	1		
Total Organic Carbon	MG/L		1	1.9	2.8		
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	10.28	12.98	30.54	5.79	3.42
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

MW-11S

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	120	122	125	122	131
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	1.2	5	5		
Calcium	UG/L	N.S.	39200	39900	41100	40900	38700
Chemical Oxygen Demand	MG/L		10	10	36.2		
Chloride	MG/L	250	5	5	5		
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	90	8			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			97.9	99.7	103	102	86.9
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	2900	1100	10000	620	150
Lead	UG/L	15	4.6	5	5		
Magnesium	UG/L	35000	10000	9400	11200	8800	8300
Manganese	UG/L	300	99	71	570	47	33
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.15	0.25	0.12		1.1
pH (Std.)		6.5-8.5	8.52	9.15	9.52	7.56	7.38
Potassium	UG/L	N.S.	2300	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	5100	6000	6100	5500	4900
Specific Conductivity		N.S.	257	308	217	189	154
Static Water Level (Ft.)							
Sulfate	MG/L	250	28	23.7	22.2	23.2	29
Temperature (C)	MG/L	N.S.	8.3	15.2	11.9	16.8	21.5
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		184	176	186	164	168

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		1	1	1	1	1.2
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	61.57	49.3	179.7	4.06	2.51
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

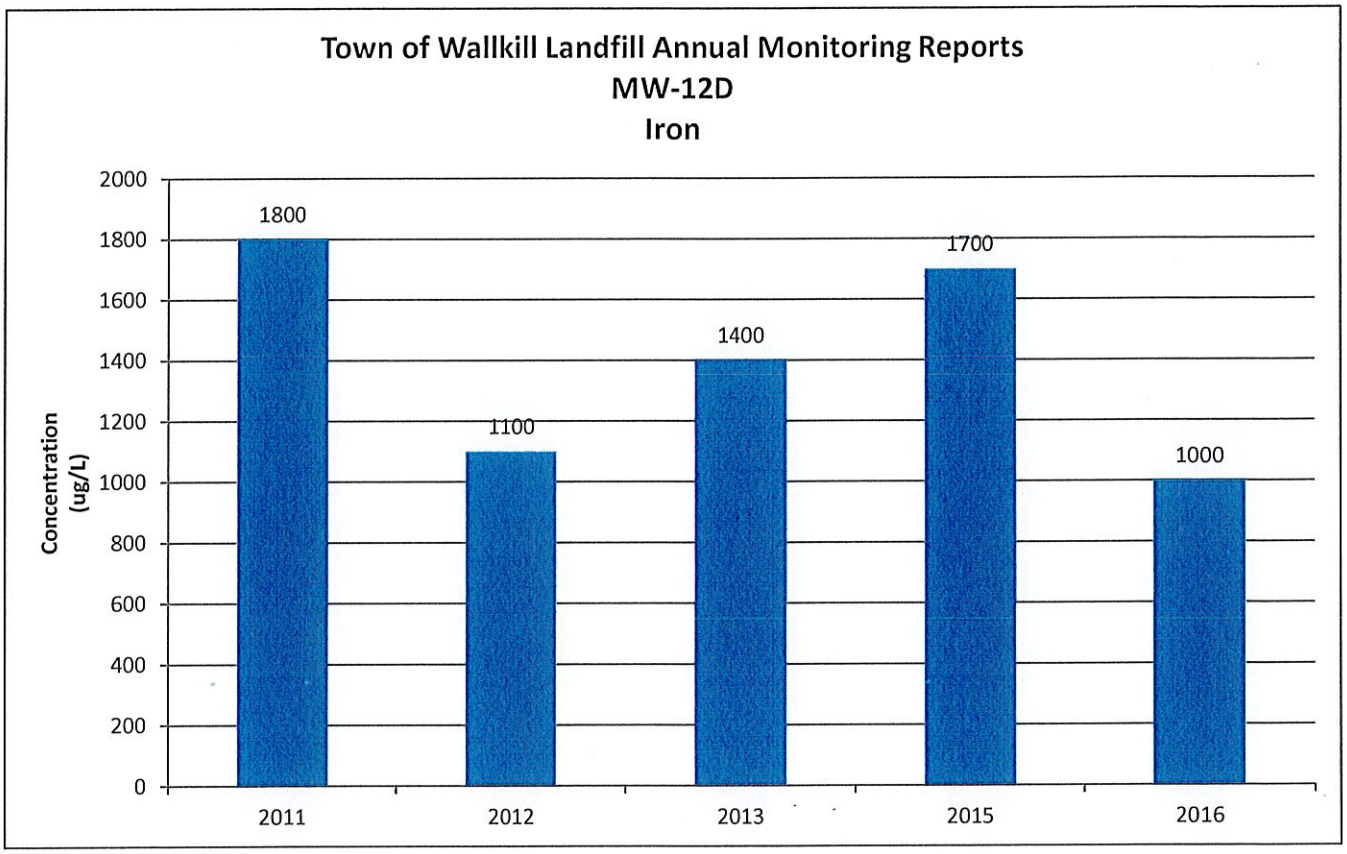
MW-12D

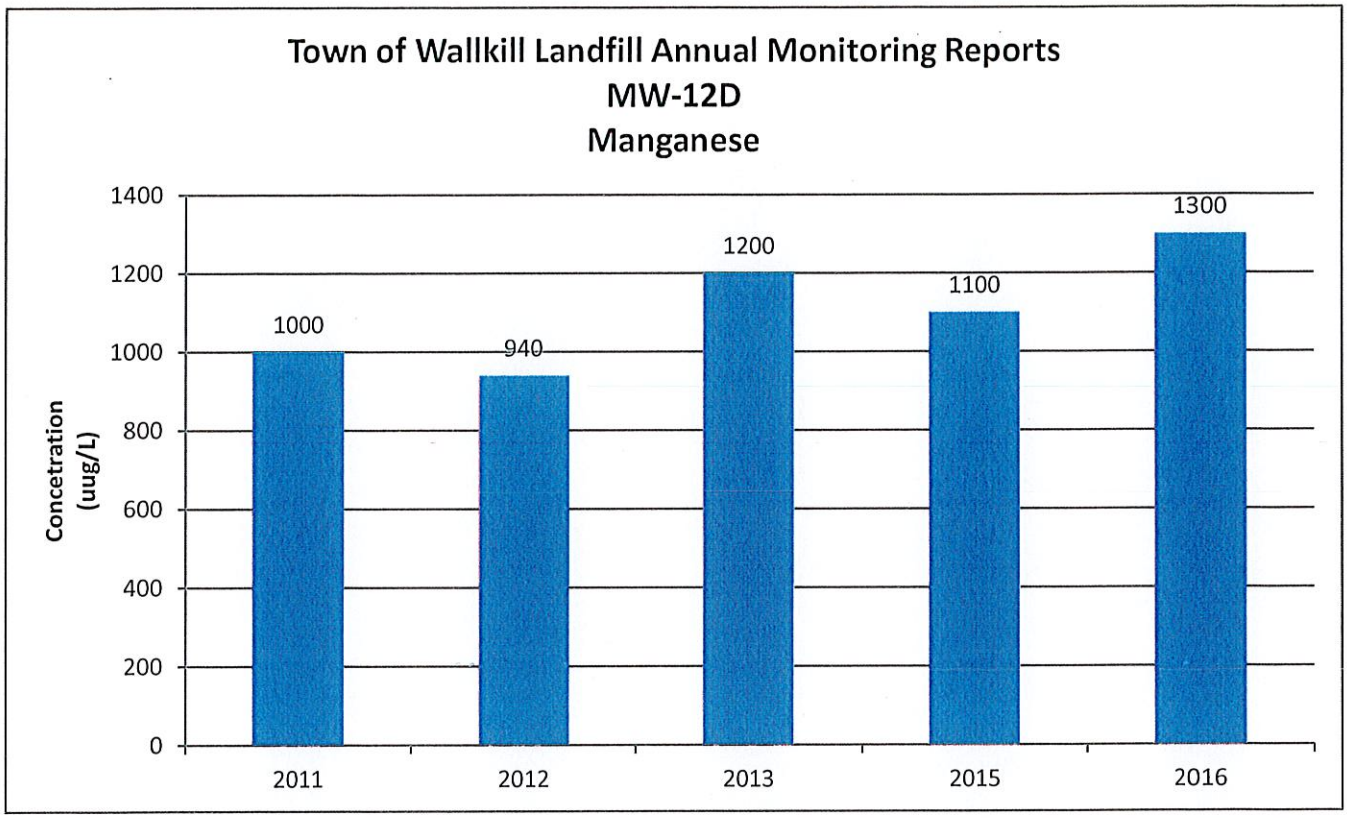
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	517	512	526	515	529
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	2.3	5	5		
Calcium	UG/L	N.S.	157000	153000	158000	159000	151000
Chemical Oxygen Demand	MG/L		10	10	10		
Chloride	MG/L	250	5	5	5	7.8	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	16	-69			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			392	383	394	398	339
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	1800	1100	1400	1700	1000
Lead	UG/L	15	6.4	5	5		
Magnesium	UG/L	35000	31200	31000	31100	29600	26900
Manganese	UG/L	300	1000	940	1200	1100	1300
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.25	0.15		
pH (Std.)		6.5-8.5	7.19	7.45	7.2	6.69	6.8
Potassium	UG/L	N.S.	3400	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	17200	19800	16800	20000	13600
Specific Conductivity		N.S.	838	993	597	482	346
Static Water Level (Ft.)							
Sulfate	MG/L	250	21	15.3	19.3	15	16.8
Temperature (C)	MG/L	N.S.	11	16.8	12	17	19.7
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		566	606	578	576	578

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		3.6	2.6	3.5	3.5	3.8
Total Phenols	UG/L		0.01	0.01	0.01	0.012	
Turbidity (NUT)	NTU	N.S.	16.12	4.06	16.56	20.24	8.07
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-12D
Iron
Concentration (ug/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1800
1100
1400
1700
1000
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-12D
Manganese
Concetration (uug/L)
1400
1200
1000
800
600
400
200
0
1000
940
1200
1100
1300
2011
2012
2013
2015
2016

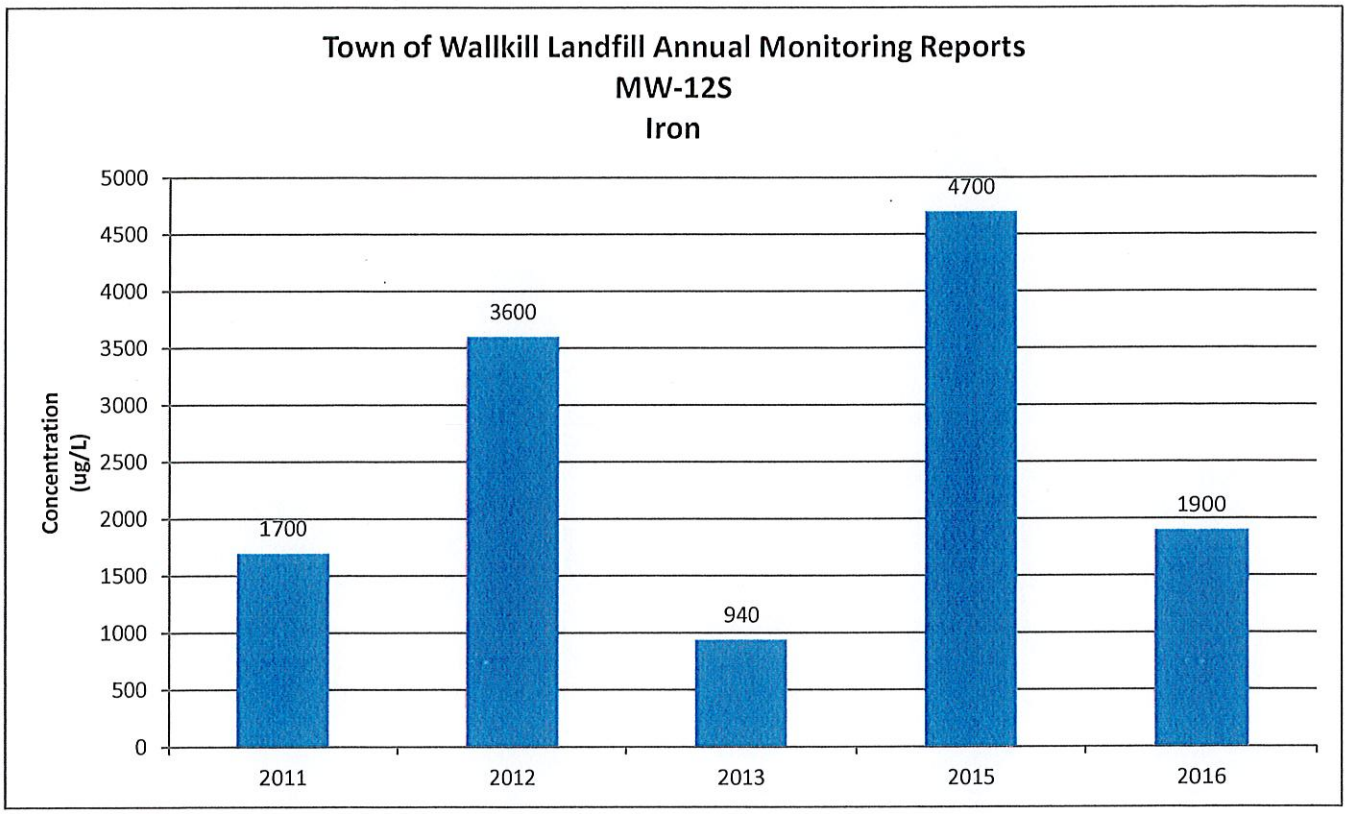
MW-12S

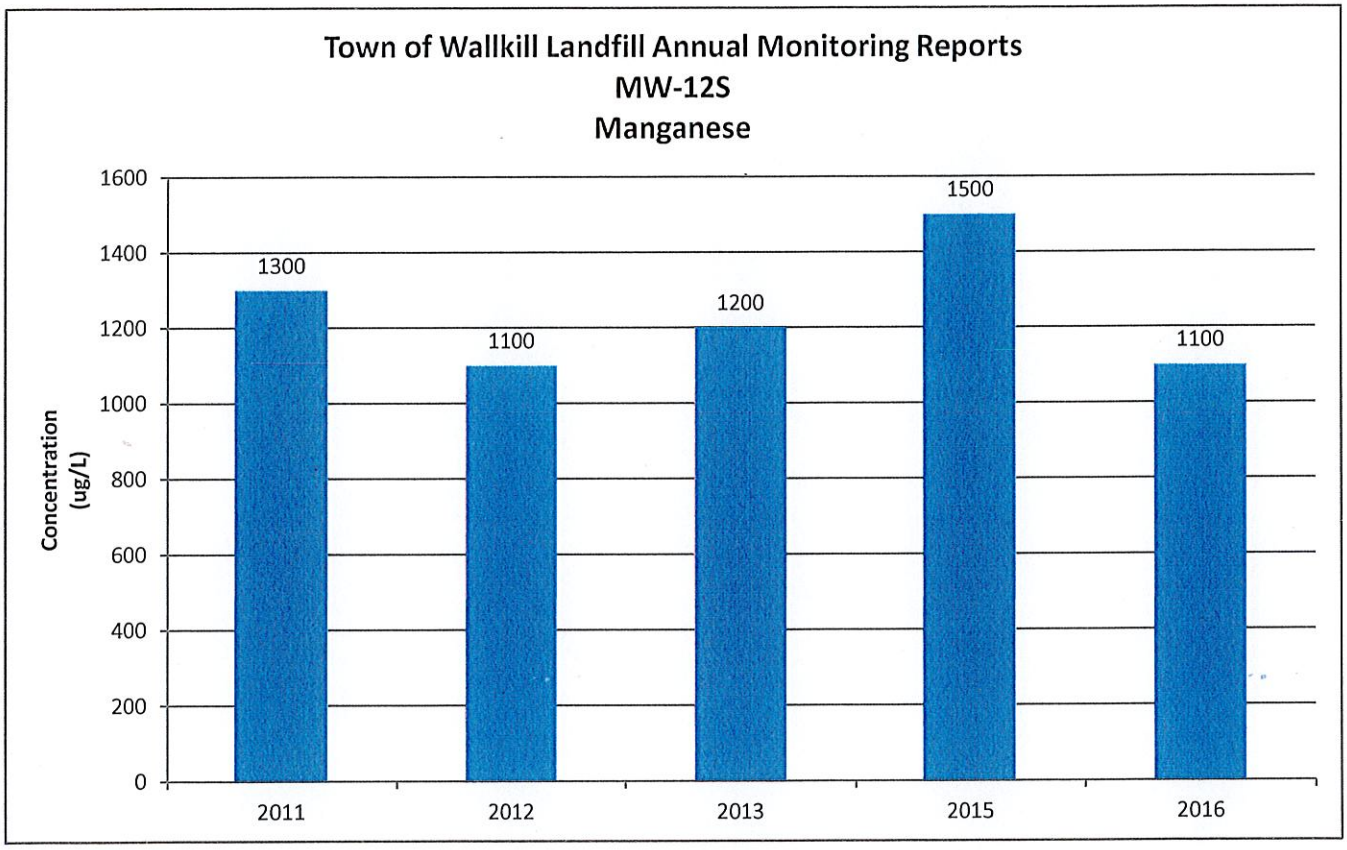
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	477	491	475	511	541
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T		1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	8	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	2.2	5	5		
Calcium	UG/L	N.S.	154000	160000	152000	171000	154000
Chemical Oxygen Demand	MG/L		10	10	20.3		
Chloride	MG/L	250	5	5	5	6.5	5
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	7	29			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			385	400	379	428	346
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	1700	3600	940	4700	1900
Lead	UG/L	15	3.6	5.1	5		
Magnesium	UG/L	35000	27900	25800	24600	28400	29100
Manganese	UG/L	300	1300	1100	1200	1500	1100
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.25	0.42		
pH (Std.)		6.5-8.5	7.2	7.2	7.46	6.67	6.38
Potassium	UG/L	N.S.	2200	5000	5000		2800
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	13700	13600	11800	15400	16100
Specific Conductivity		N.S.	853	981	551	487	313
Static Water Level (Ft.)							
Sulfate	MG/L	250	21.1	16.9	30.8	17.4	18
Temperature (C)	MG/L	N.S.	11.4	14.7	12.1	18.5	18.2
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		558	528	538	570	616

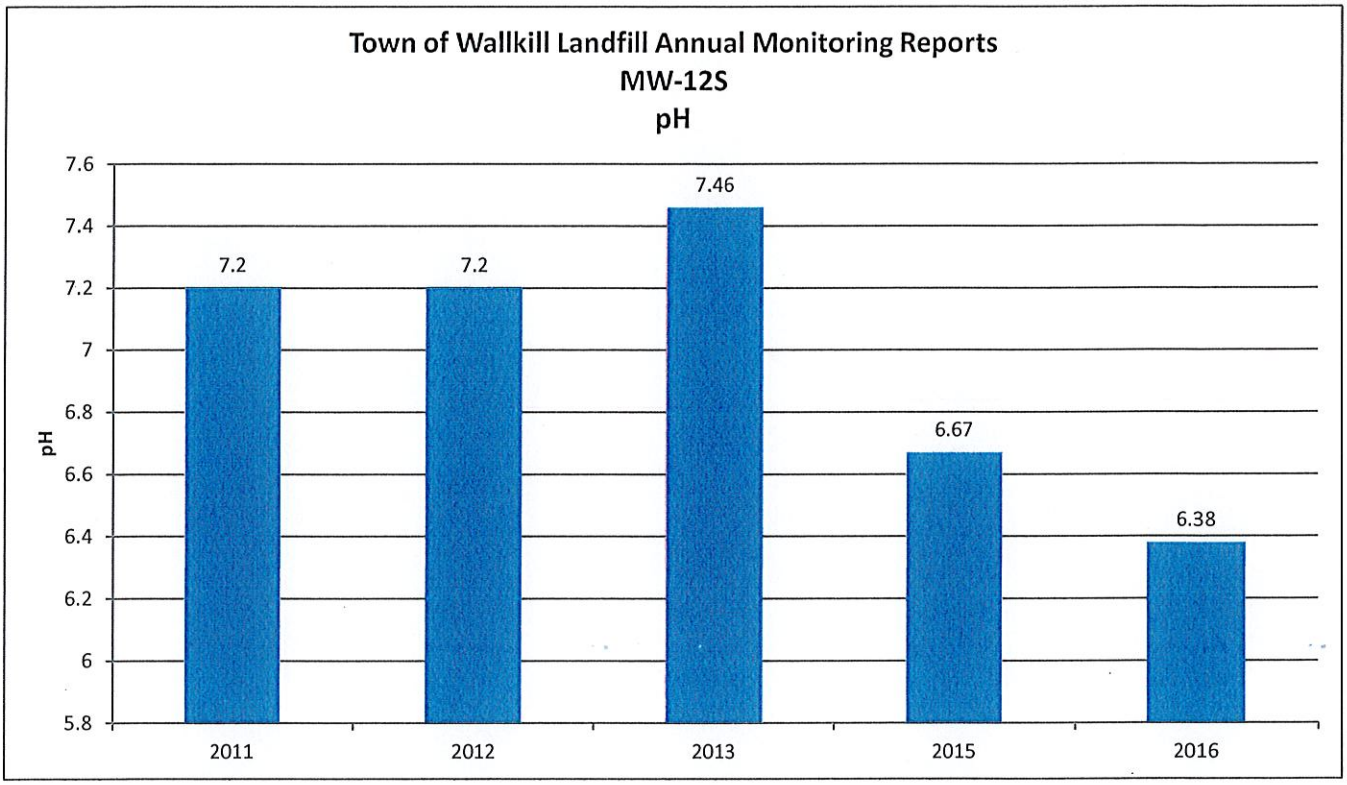
Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		3.5	2.4	4.3	3.1	3.9
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	7.08	25.46	0.04	27.78	12.64
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-12S
Iron
Concentration (ug/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
1700
3600
940
4700
1900
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-12S
Manganese
Concentration (ug/L)
1600
1400
1200
1000
800
600
400
200
0
1300
1100
1200
1500
1100
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-12S
pH
pH
7.6
7.4
7.2
7
6.8
6.6
6.4
6.2
6
5.8
7.2
7.2
7.46
6.67
6.38
2011
2012
2013
2015
2016

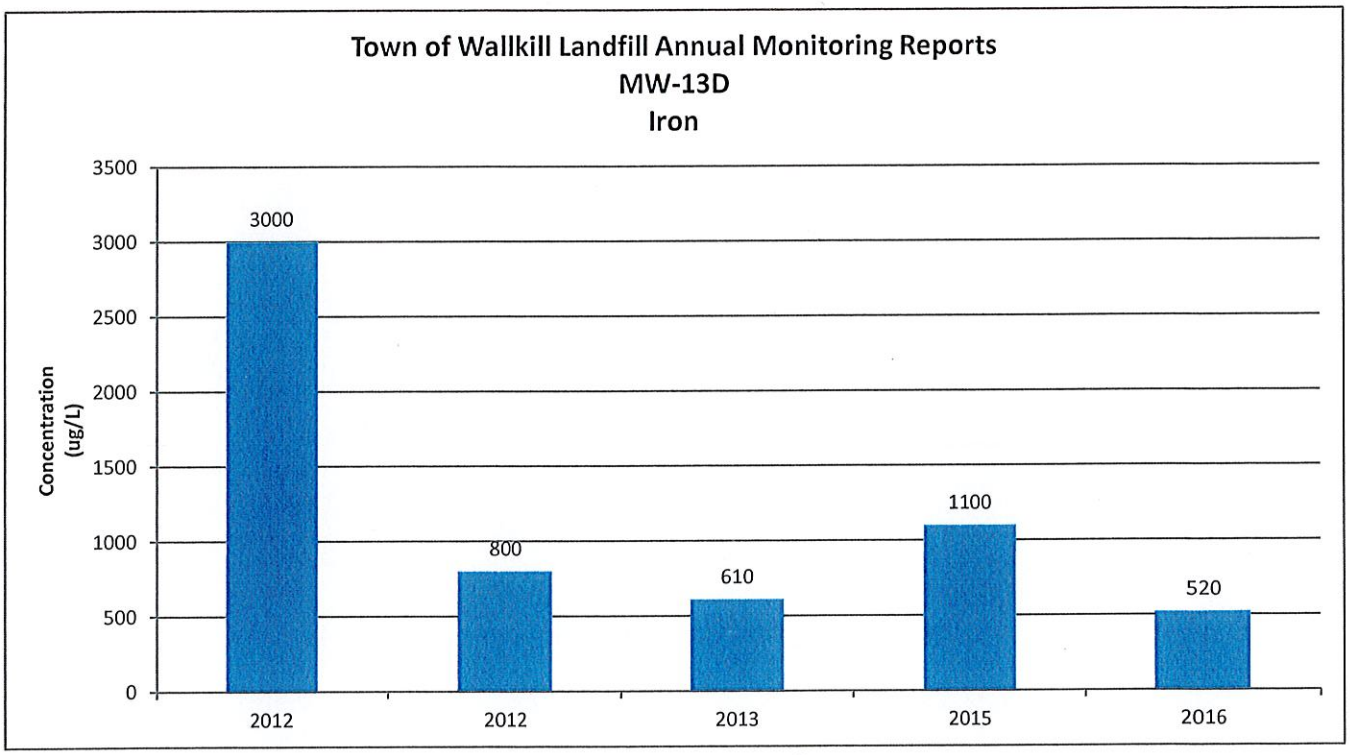
MW-13D

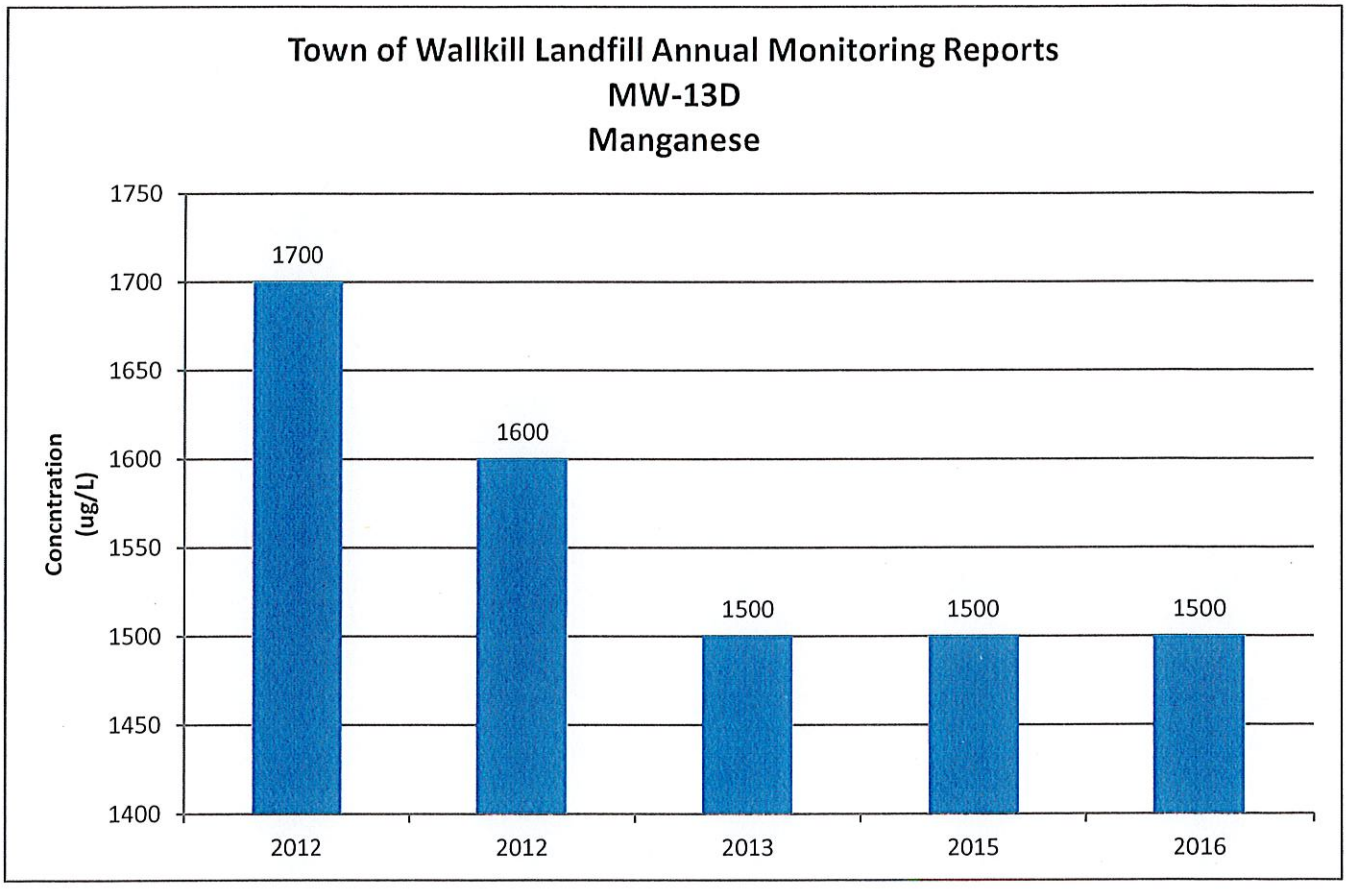
PARAMETER	UNIT	STANDARD	2012	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	410	412	408	404	444
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.34		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	1.8	5	5		
Calcium	UG/L	N.S.	133000	131000	125000	125000	124000
Chemical Oxygen Demand	MG/L		10	10	10		
Chloride	MG/L	250	7	6	6	10.7	8
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	-4	6			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			332	326	312	312	278
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	3000	800	610	1100	520
Lead	UG/L	15	5.1	5	5		
Magnesium	UG/L	35000	22900	21800	21500	20000	20800
Manganese	UG/L	300	1700	1600	1500	1500	1500
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.25	0.075		
pH (Std.)		6.5-8.5	7.31	7.07	7.4	6.91	6.53
Potassium	UG/L	N.S.	3500	5000	5000		20800
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	15700	16700	16100	14900	14500
Specific Conductivity		N.S.	731	822	507	433	321
Static Water Level (Ft.)							
Sulfate	MG/L	250	10.9	10.1	9.8	9.6	8.7
Temperature (C)	MG/L	N.S.	8.1	12.7	11.6	20.6	17.1
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		458	486	472	458	486

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		3	3.3	3.7	3.6	5.2
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	11.11	8.6	0.01	8.01	0
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-13D
Iron
Concentration (ug/L)
3500
3000
2500
2000
1500
1000
500
0
3000
800
610
1100
520
2012
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-13D
Manganese
Concntration (ug/L)
1750
1700
1650
1600
1550
1500
1450
1400
1700
1600
1500
1500
1500
2012
2012
2013
2015
2016

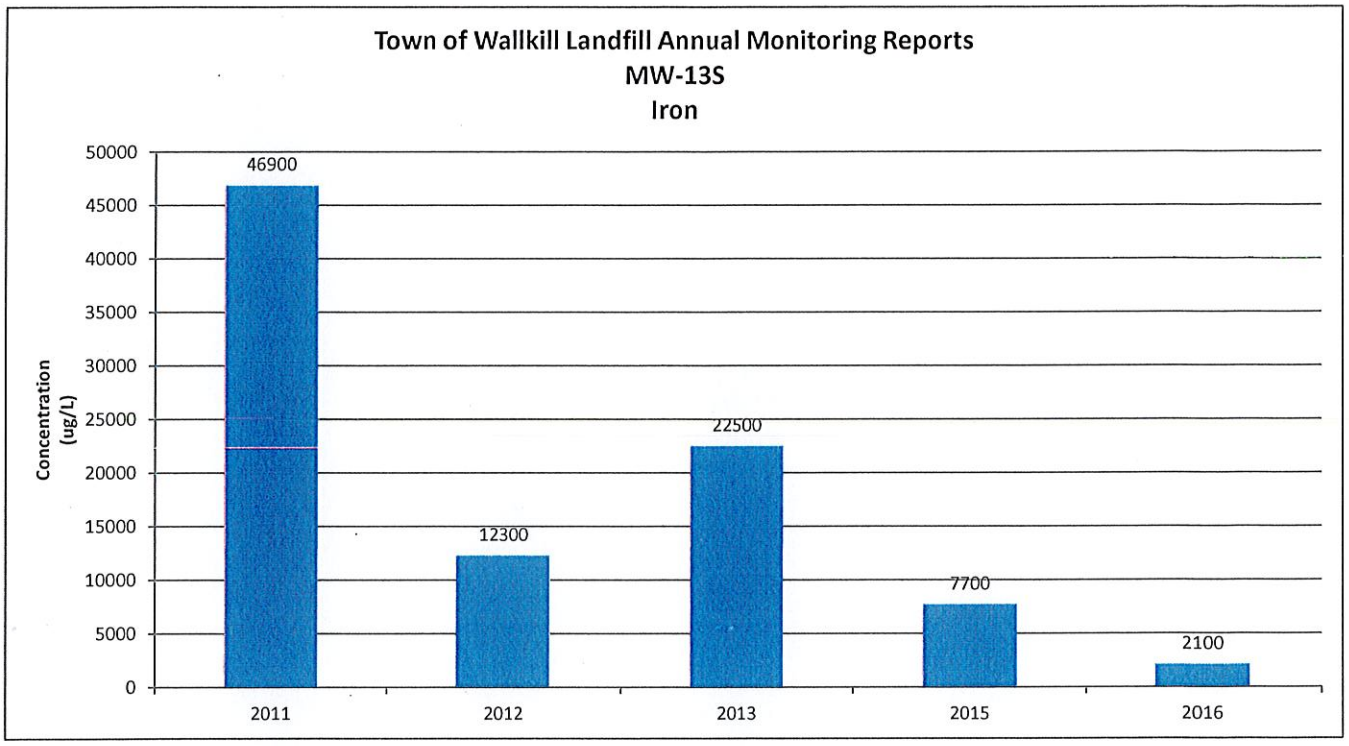
MW-13S

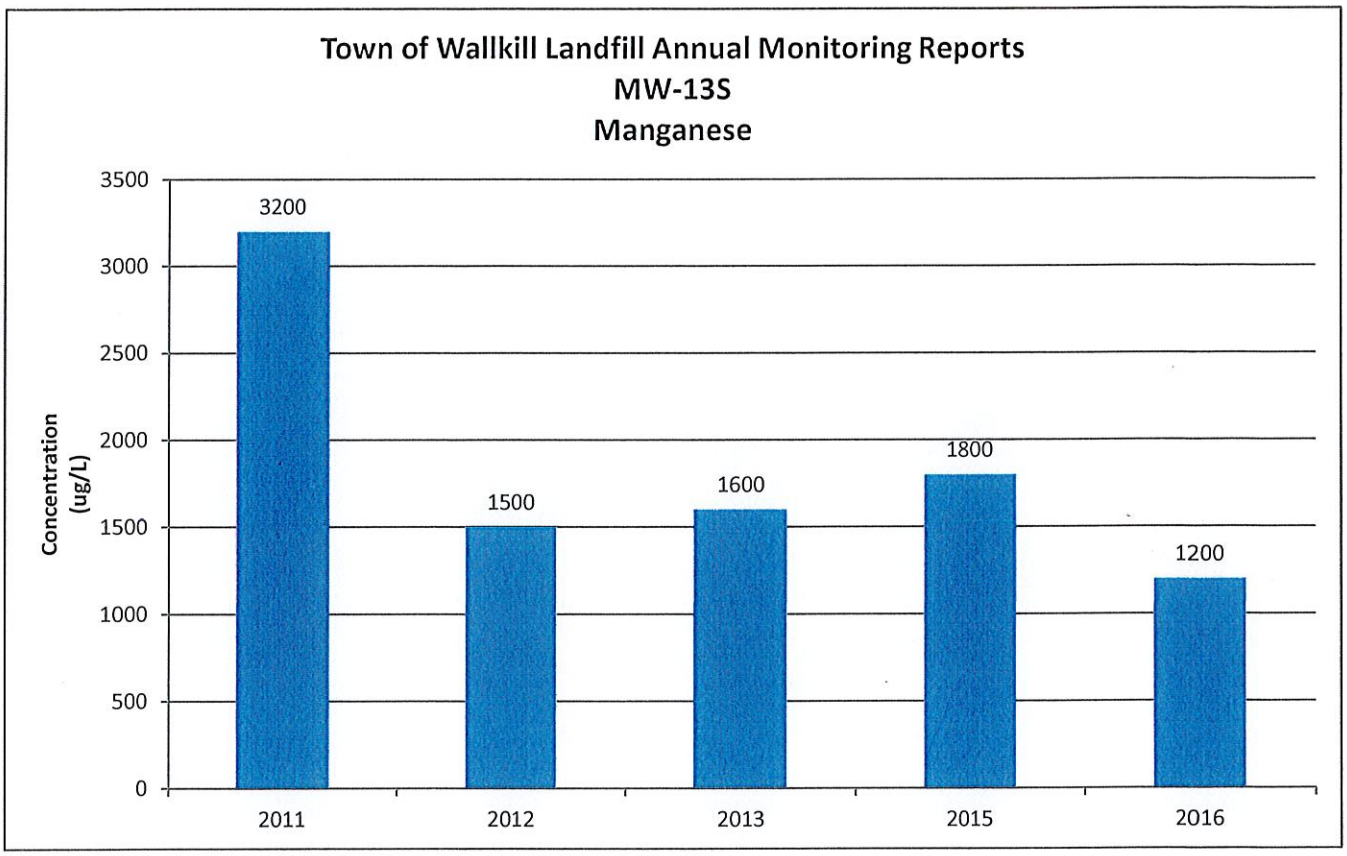
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	497	375	406	423	423
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1.4	0.27		2.1
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	7.9		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	0.73	5	5		
Calcium	UG/L	N.S.	168000	125000	124000	140000	118000
Chemical Oxygen Demand	MG/L		44	36.6	38.8	18.5	
Chloride	MG/L	250	12	6	8	11.6	8
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	-1	3			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			418	313	310	349	265
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	46900	12300	22500	7700	2100
Lead	UG/L	15	22	11	6.2		
Magnesium	UG/L	35000	36400	21500	23400	22400	19900
Manganese	UG/L	300	3200	1500	1600	1800	1200
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.48	0.23		0.93
pH (Std.)		6.5-8.5	7.3	6.74	7.19	6.78	6.76
Potassium	UG/L	N.S.	11200	5000	5000		3500
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	17100	15400	15400	15500	15100
Specific Conductivity		N.S.	868	806	500	443	321
Static Water Level (Ft.)							
Sulfate	MG/L	250	7.5	11.6	10.7	7.2	6.3
Temperature (C)	MG/L	N.S.	6.6	14.3	10.1	19	19.2
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		552	456	430	518	450

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1.1	1.7	1		2.2
Total Organic Carbon	MG/L		5.3	3.3	3.5	3.3	4.3
Total Phenols	UG/L		0.01	0.01	0.01	0.012	
Turbidity (NUT)	NTU	N.S.	661.9	605.8	369.4	25.65	7.07
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-13S
Iron
Concentration (ug/L)
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
46900
12300
22500
7700
2100
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-13S
Manganese
Concentration (ug/L)
3500
3000
2500
2000
1500
1000
500
0
3200
1500
1600
1800
1200
2011
2012
2013
2015
2016

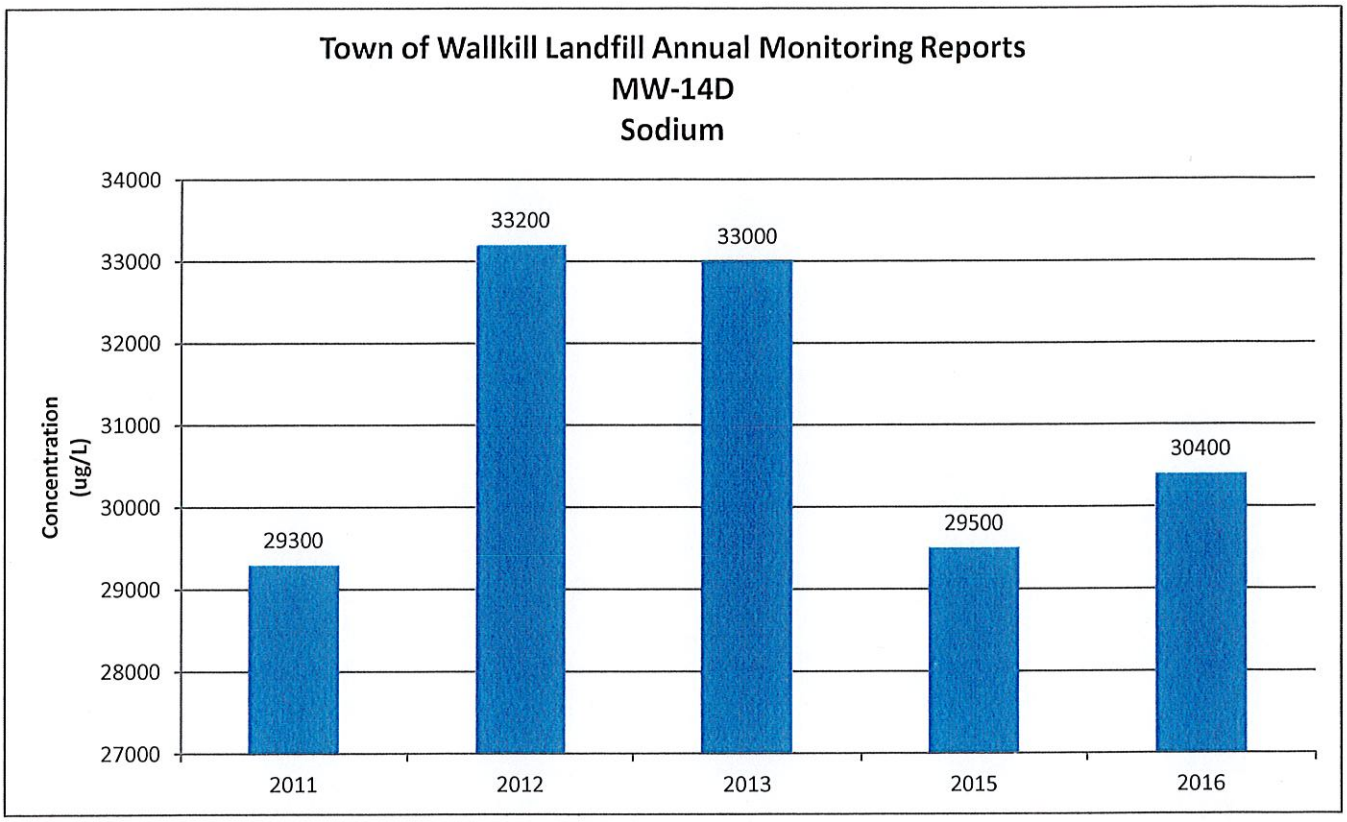
MW-14D

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	178	181	181	176	178
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.35		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		0.5
Cadmium	UG/L	5	1.3	5	5		
Calcium	UG/L	N.S.	41800	43900	43800	39500	37400
Chemical Oxygen Demand	MG/L		10	10	10		
Chloride	MG/L	250	17	18	25	22.3	14
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	63				
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)	MG/L		104	110	109	98.6	84.1
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	510	100	120	1000	89
Lead	UG/L	15	2.8	5	5		
Magnesium	UG/L	35000	13200	13600	13800	11600	11600
Manganese	UG/L	300	110	120	130	110	100
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.01	0.25	0.25		
pH (Std.)		6.5-8.5	7.99	7.75	7.51	6.55	6.92
Potassium	UG/L	N.S.	2000	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	29300	33200	33000	29500	30400
Specific Conductivity		N.S.	430	513	335	279	200
Static Water Level (Ft.)							
Sulfate	MG/L	250	28.9	27.5	22.5	23.7	24.4
Temperature (C)	MG/L	N.S.	8.9	15.2	10.9	11.7	17.1
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		262	300	270	286	256

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		1.2	1	1.1		1.2
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	14.74	0.35	1.4	13.82	1.1
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-14D
Sodium
Concentration (ug/L)
34000
33000
32000
31000
30000
29000
28000
27000
29300
33200
33000
29500
30400
2011
2012
2013
2015
2016

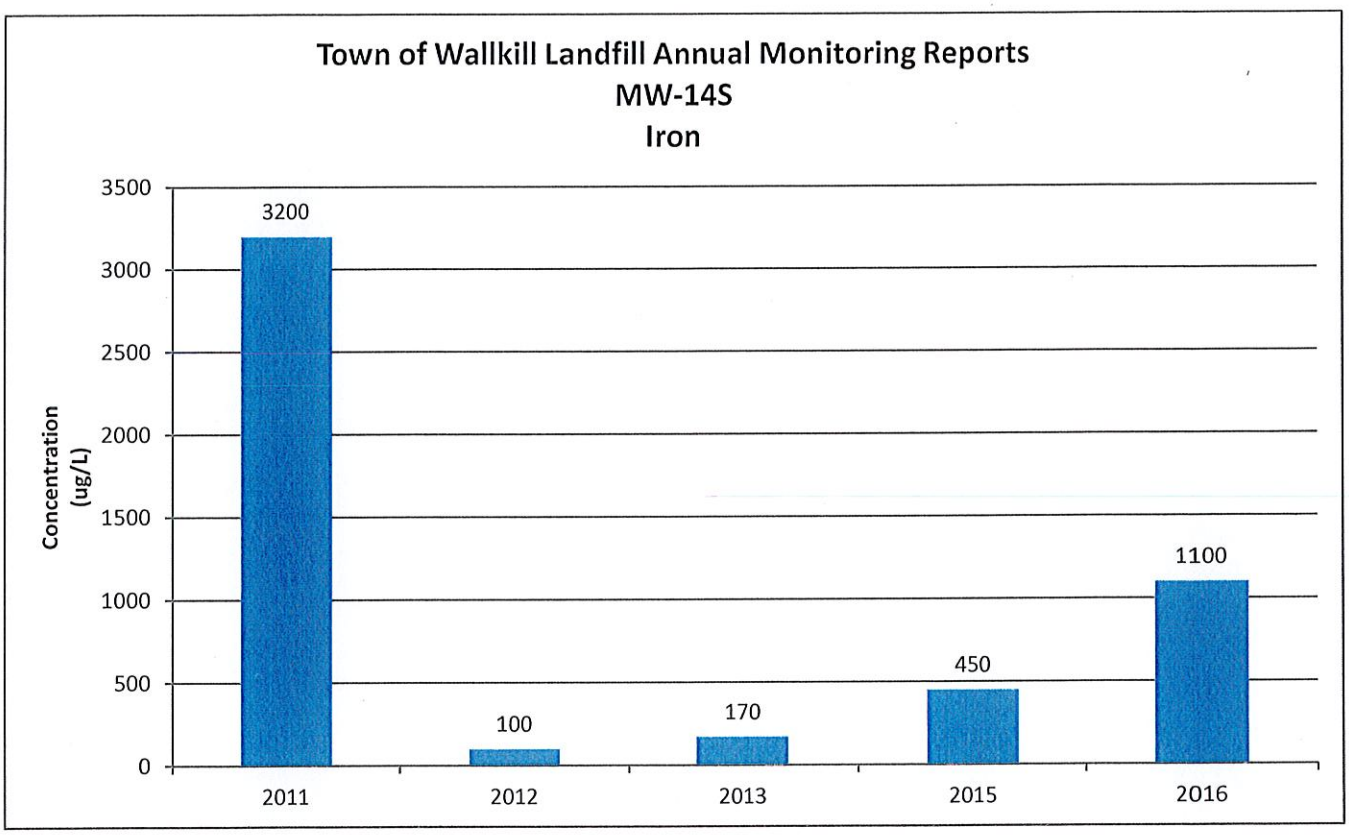
MW-14S

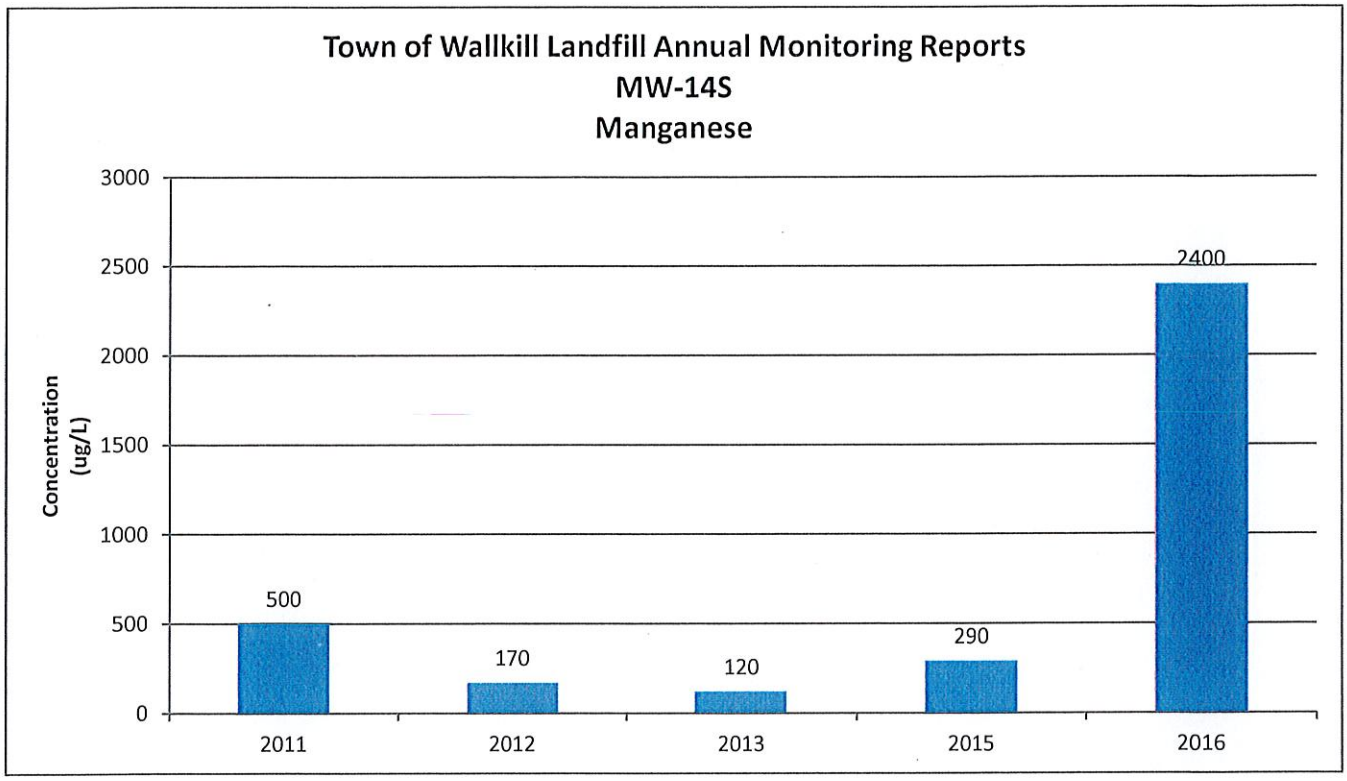
PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	175	143	132	163	177
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.15		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	6	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	1.1	5	5		
Calcium	UG/L	N.S.	44400	50500	51000	45300	39700
Chemical Oxygen Demand	MG/L		10	10	10		
Chloride	MG/L	250	16	11	5	16.2	14
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	119				
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			111	126	127	113	89.2
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	3200	100	170	450	1100
Lead	UG/L	15	6.9	5	5		
Magnesium	UG/L	35000	13600	9500	9000	11600	11500
Manganese	UG/L	300	500	170	120	290	2400
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.22	1.5	2.3	0.79	
pH (Std.)		6.5-8.5	7.99	7.81	7.88	6.71	7.83
Potassium	UG/L	N.S.	3100	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	29900	15300	6600	25200	31200
Specific Conductivity		N.S.	421	404	271	265	200
Static Water Level (Ft.)							
Sulfate	MG/L	250	29	31.5	31.4	26.1	24.9
Temperature (C)	MG/L	N.S.	7.5	16.2	10.7	10.9	16.9
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		258	304	228	262	274

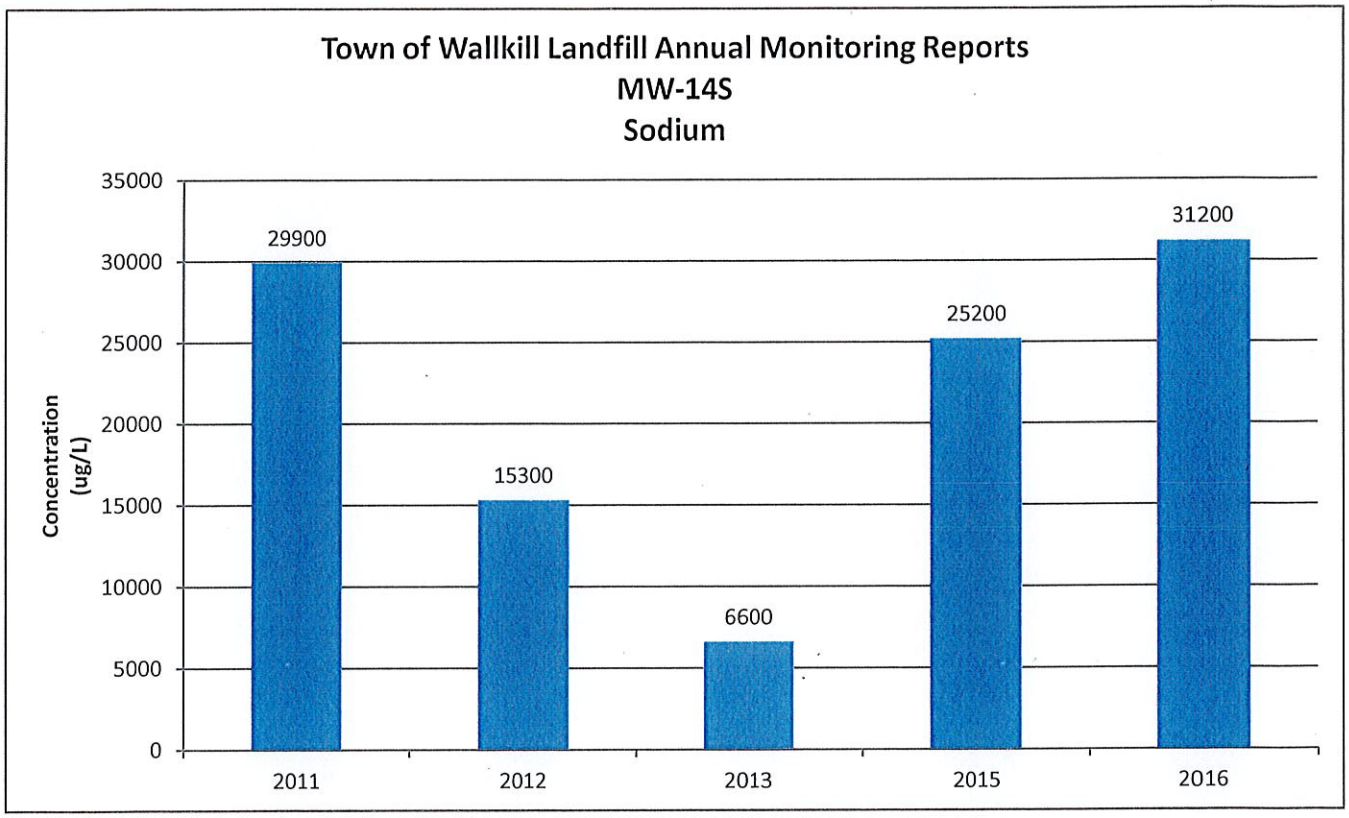
Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		1.1	1	1		3
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	73.24	1.56	5.74	24.55	10.9
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703


Town of Wallkill Landfill Annual Monitoring Reports
MW-14S
Iron
Concentration (ug/L)
3500
3000
2500
2000
1500
1000
500
0
3200
100
170
450
1100
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-14S
Manganese
Concentration (ug/L)
3000
2500
2000
1500
1000
500
0
500
170
120
290
2400
2011
2012
2013
2015
2016


Town of Wallkill Landfill Annual Monitoring Reports
MW-14S
Sodium
Concentration (ug/L)
35000
30000
25000
20000
15000
10000
5000
0
29900
15300
6600
25200
31200
2011
2012
2013
2015
2016

MW-SW1

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	26.3	39.9	17.3	30.1	no water
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	8	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	0.54	5	5		
Calcium	UG/L	N.S.	9800	15800	13200	14700	
Chemical Oxygen Demand	MG/L		15.4	45	30.9	54.4	
Chloride	MG/L	250	14	13	24	19.7	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	110	143			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			24.4	39.3	32.9	36.6	
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	270	940	600	1700	
Lead	UG/L	15		5	5		
Magnesium	UG/L	35000	1800	5000	5000		
Manganese	UG/L	300	17	73	100	94	
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.14	0.25	0.28		
pH (Std.)		6.5-8.5	8.28	8.26	8.2	6.44	
Potassium	UG/L	N.S.	390	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000		8500	13200	9800	
Specific Conductivity		N.S.	116	218	218	112	
Static Water Level (Ft.)							
Sulfate	MG/L	250	8.2	6.7	14.5		
Temperature (C)	MG/L	N.S.	6.5	10.5	8.5	20.6	
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		62	182	114	138	

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		8.6	22.6	8.9	25.7	
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	4.86	29.04	29.01	3.16	
Vanadium	UG/L						
Zinc	UG/L	5000					

Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

MW-SW2

PARAMETER	UNIT	STANDARD	2011	2012	2013	2015	2016
Alkalinity (as CaCO (3)	MG/L	N.S.	35.7	64.6	56.7	63.9	no water
Aluminum	UG/L	N.S.					
Ammonia	MG/L	FEN OF T	1	1	0.05		
Antimony	UG/L	3					
Arsenic	UG/L	25					
BOD (5)	MG/L	N.S.	6	8	6		
BOD Time of Analysis)							
Barium	UG/L	1000					
Beryllium	UG/L	4					
Boron	UG/L	10					
Bromide	UG/L	10	1	1	1		
Cadmium	UG/L	5	0.67	5	5		
Calcium	UG/L	N.S.	13400	23000	23400	24900	
Chemical Oxygen Demand	MG/L		12.7	33.8	23	40.6	
Chloride	MG/L	250	13	11	10	17	
Chromium	UG/L	50					
Cobalt	UG/L						
Color (Pt/Co. Units)	PT/CO	15					
Copper	UG/L	200					
Cyanide, Total	UG/L	200					
Dissolved Oxygen							
eH (millivolts)		N.S.	168	-44			
Field Observation							
Floaters and sinkers (P/NP)							
Hardness (as CacO (3)			33.5	57.5	58.4	62.1	
Hexavalent Chromium	UG/L	50					
Iron	UG/L	300	350	1300	340	720	
Lead	UG/L	15	10	5	5		
Magnesium	UG/L	35000	2300	5000	5000		
Manganese	UG/L	300	70	470	74	210	
Mercury	UG/L	0.7					
Nickel	UG/L	100					
Nitrate	MG/L	10	0.16	0.25	0.17		
pH (Std.)		6.5-8.5	8	8.55	8.45	7.05	
Potassium	UG/L	N.S.	470	5000	5000		
Selenium	UG/L	10					
Silver	UG/L	50					
Sodium	UG/L	20000	7000	8300	6500	9200	
Specific Conductivity		N.S.	126	231	231	143	
Static Water Level (Ft.)							
Sulfate	MG/L	250	8.1	6.8	11.1		
Temperature (C)	MG/L	N.S.	5.4	15.4	10.4	21.9	
Thallium	UG/L	2					
Total Dissolved Solids	MG/L		80	150	120	148	

Total Hardness	MG/L						
Total Kjeldahl Nitrogen	MG/L		1	1	1		
Total Organic Carbon	MG/L		7.1	17.6	7.6	21.1	
Total Phenols	UG/L		0.01	0.01	0.01		
Turbidity (NUT)	NTU	N.S.	13.46	15.67	15.6	1.27	
Vanadium	UG/L						
Zinc	UG/L	5000					

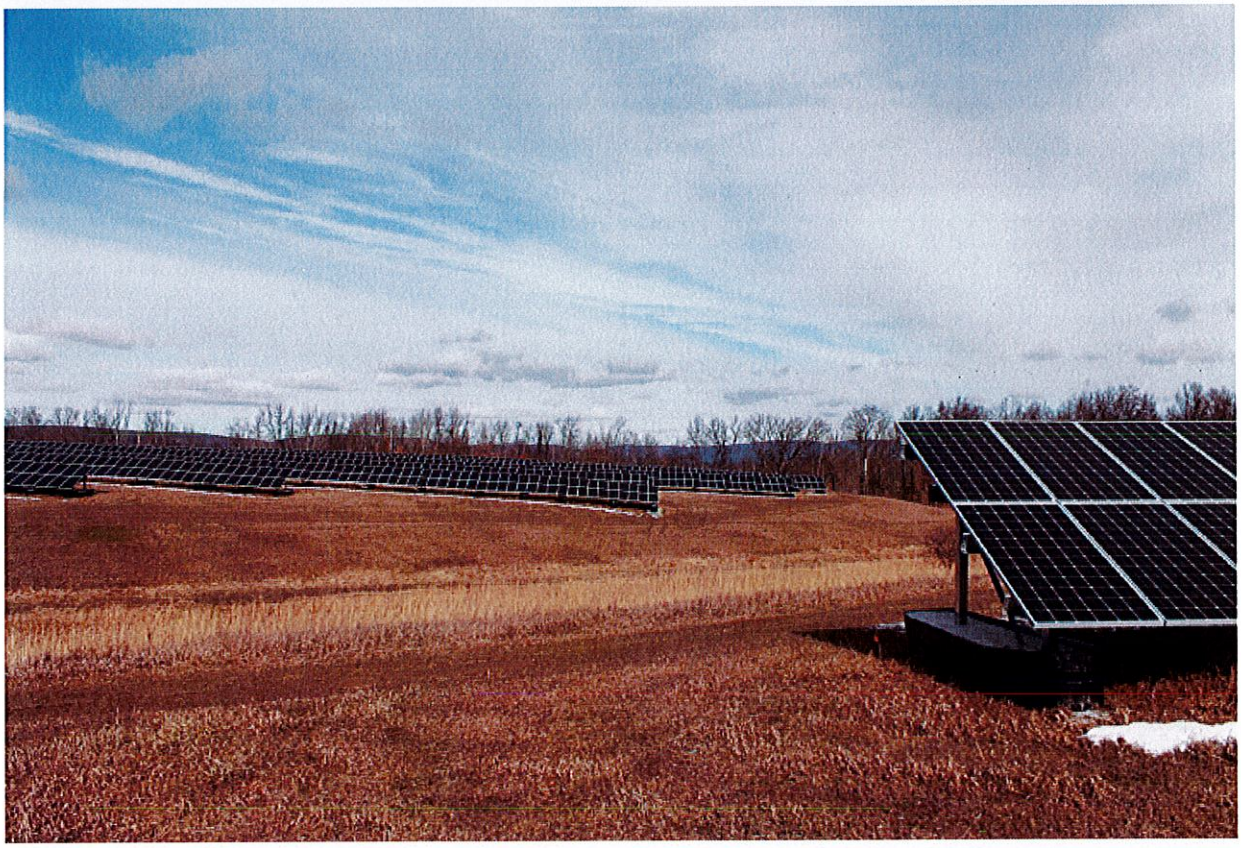
Beryllium,Cadmium,Cyanide,Thallium,Chloride, Iron, Manganese,Sodium,Sulfate, Zinc and Color standards - http://www.health.state.ny.us/environmental/water/drinking/part5/tables.htm#table1

Antimony, Arsenic, Barium,Chromium,Copper,Mercury,Nickel,Selenium,Silver - 6 NYSRR Part 703

ATTACHMENT 4

SITE PHOTOS

#1 Site Access



#2 View North from South Cell

#3 View South of South Cell

#4 View Down Access Drive

ATTACHMENT 5

NYSDEC APPROVAL OF PHOTOVOLTAIC ARRAY

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 11th Floor, Albany, NY 12233-7014
P: (518) 402-9662 I F: (518) 402-9679
www.dec.ny.gov

Todd Minehardt, P.E.
Principal Engineer
ARCADIS
2464 Fortune Drive
Lexington, KY 40509

April 13, 2016

Re: Wallkill Town Landfill
Photovoltaic Development Work Plan
Site ID No. 336017

Dear Mr. Minehardt,

The New York State Department of Environmental Conservation (Department) has reviewed the draft Photovoltaic (PV) Development Work Plan for the Wallkill Town Landfill site submitted on March 17, 2016. The Department approves the PV work plan.

Please provide the Department with advanced notice prior to the start of field activities. If you have any questions, please call me at (518) 402-9662.

Sincerely,

Randy Whitcher
Project Manager
Remedial Bureau C
Division of Environmental Remediation

ec: G. Heitzman
K. Hale
S. Deyette
D2

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Bureau of Technical Support
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518) 402-9543 I F: (518) 402-9547
www.dec.ny.gov

October 28, 2016

Mr. Matthew Yonkin
Arcadis
855 Route 146, Suite 210
Clifton Park, NY 12065

Re: Wallkill Landfill Photovoltaic Project
Wallkill Town Landfill Site No. 336017
Wallkill, Orange County, New York

Dear Mr. Yonkin,

The New York State Department of Environmental Conservation (Department) has reviewed the Wallkill Town Landfill photovoltaic (PV) system completion report. The report is approved.

As outlined in the PV work plan, the Town of Wallkill will retain responsibility for continued operation and maintenance of the landfill cap and General Electric has responsibility for maintenance of PV equipment.

If you have any questions regarding this approval please contact me at 518-402-9669.

Sincerely,

Randy Whitcher
Project Manager
Division of Environmental Remediation

cc: G. Heitzman
K. Hale
S. Deyette
Todd Minehardt Todd.Minehardt@arcadis.com
Daniel Loewenstein Daniel.Loewenstein@arcadis.com
Matthew Yonkin Matthew.Yonkin@arcadis.com
D2