

**2019 PERIODIC REVIEW REPORT**  
**and**  
**ANNUAL SITE MANAGEMENT PLAN**  
**(SMP) REPORT**  
**for the**  
**CLOSED LANDFILL SITE SWMF #32N03**  
**(Formerly UCAR Carbon Company, Republic Site Registry No. 932035)**  
**(Per the SMP Approved October 29, 2018)**

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## 1. Introduction

This Periodic Review Report (PRR) is being submitted for the GrafTech International Holdings Inc. (GrafTech) (formerly UCAR Carbon Company Inc.) closed landfill facility, SWMF #32N03 (Registry No. 932035) (“Landfill” or “Site”), under the provisions of the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Inactive Hazardous Waste Site Program. The Landfill is located in the Town of Niagara, Niagara County, State of New York, on Parcel Number 130.20-1.1. The Site is located off Hyde Boulevard behind the former UCAR Carbon Republic Plant. The Site is comprised of a 16.48 acres capped landfill on 61.60 acres of undeveloped land.

The 16.48 acre landfill was closed in accordance with a NYSDEC-approved closure plan under Part 360 Solid Waste Management Facility (SWMF) Guidelines, which included the installation of an engineered cap, completed in June 1987. A Preliminary Site Assessment (PSA) report was issued in April of 1995. The assessment involved the entire property in order to effectively characterize the Landfill and any on-site or off-site contaminant migration. Based on the results of the PSA, the state made a “no significant threat” determination and reclassified the Landfill in 1997 from Class 2a to a Class 4 Inactive Hazardous Waste Site. There have been no required remedial programs or remedial objectives established for this Site. GrafTech has continued to monitor the groundwater quality and implement the established institutional/engineered controls (IC/EC) at the Site, discussed in more detail in Sections 2.0 and 3.1, for over 30 years.

Prior to May 2016, this Site was being managed under the state programs of both the DER and the Division of Materials Management (DMM). On May 25, 2016, NYSDEC communicated to GrafTech that, going forward, the Site would be managed solely by the DER, thereby eliminating some prior reporting and oversight redundancies.

GrafTech voluntarily submitted a proposed Site Management Plan (SMP) to NYSDEC Region 9 on December 17, 2013, to bring the Plan in line with the state’s Technical Guidance for Site Investigation and Remediation, DER 10. The more comprehensive SMP incorporated and replaced the prior Operation, Maintenance and Monitoring (OM&M) Plan, which the state had previously approved on November 4, 2009. NYSDEC issued a letter on November 17, 2016, approving GrafTech’s proposed December 2013 SMP; the only change being that GrafTech would no longer be required to submit a separate annual groundwater monitoring report to the DMM.



The PRR for Reporting Year 2017 submitted in January 2018 included a request to downsize the groundwater monitoring plan and reduce the number of parameters that would be analyzed. NYSDEC issued the Site Management (SM) Periodic Review Report (PRR) Response Letter dated February 8, 2018, which approved GrafTech's proposal for a modified sampling program to only include sampling of monitoring wells BW-3, GW-8B and BW-4 with analysis of only volatile organic compounds (VOCs). Based on approval of the modified sampling program, GrafTech submitted a revised SMP dated October 23, 2018, to include the updated monitoring program requirements and to bring the SMP in line with the NYSDEC recommended SMP format. NYSDEC subsequently issued a letter dated October 29, 2018 accepting GrafTech's revised SMP.

The NYSDEC-approved SMP specifies the routine site inspection, maintenance and groundwater monitoring programs, and outlines the reporting and record retention requirements for the Site. In addition, the SMP describes provisions for an approved Excavation Plan to manage potentially contaminated soils at the Site in the event that GrafTech has future plans to excavate soil from any areas outside the footprint of the Landfill.

The purpose of this PRR is to document GrafTech's implementation and conformance with the post closure care procedures and Institutional Controls (IC)/Engineering Controls (EC) outlined in the SMP. This PRR covers the period of January 1, 2019 through December 31, 2019. It should be noted that, in past agreement with Mr. Michael Hinton, NYSDEC, DER, Region 9, the annual SMP compliance report for this Site is incorporated in this annual PRR to eliminate unnecessary redundancy.

For the report period specified above, GrafTech has designated the GrafTech Corporate Health, Safety and Environmental Protection (HS&EP) Manager, to be responsible for managing the Site. This position is currently filled by Ms. Julianne Snyder, who is located at the GrafTech Corporate Headquarters, 982 Keynote Circle, Brooklyn Heights, Ohio 44131. In addition, GrafTech has also contracted the services of National Maintenance Contracting Corporation (NMCC), a local general maintenance contractor, to act as the local point of-contact for the Site. NMCC is responsible for managing the routine operations at the Landfill, including site security; conducting the routine site inspections according to the schedule and protocols established in the SMP; completing or arranging for any needed maintenance and/or repairs at the Site; escorting approved visitors at the Site such as environmental contractors commissioned by GrafTech; responding to neighborhood requests, etc. All NMCC activities are supervised by Ms. Snyder.

NMCC is also responsible for communicating to Ms. Snyder whenever a significant event took place that could have possibly prevented full conformance with the SMP, or for any other important matters concerning the Landfill outside the scope of this Plan.

Ms. Snyder has been granted the authority by GrafTech to requisition the necessary resources so that appropriate corrective actions can then be promptly implemented to adequately address any identified deficiency and ensure full conformance with the provisions of the SMP.

## 2. Institutional Controls and Engineering Controls (IC/EC)

There is no required Remedial Program or remedial objectives for this Site.

### 2.1. Engineering Controls (EC)

The EC in place at the Landfill include a physical barrier installed in 1987, which is an engineered cap to contain and eliminate potential exposure pathways to the contaminants in the waste disposal area, and a groundwater monitoring well network. Another EC employed at the Site is a security system designed to prevent unauthorized access, which consists of an eight (8) foot high metal hurricane-style perimeter fence and two (2) locked gates. In addition, the casings on the groundwater monitoring wells are equipped with locking devices and padlocks to prevent unauthorized access and potential contamination to groundwater. These engineering controls were routinely inspected and repaired/replaced, as needed, to ensure that unauthorized access was restricted. The padlocks were kept locked except when drawing groundwater samples or when performing internal inspections of the monitoring wells.

As detailed in the Final Landfill Closure report<sup>1</sup>, the engineered cap is a low-permeability cap installed over the entire 16.48-acre Site, except for the wooded areas. The final cover consists of a 6-inch thick topsoil layer with vegetative cover (grass) overlying a 3-inch thick sand/gravel layer (drainage layer) overlying an 18-inch thick clay layer. The clay was placed and compacted to a hydraulic conductivity of less than  $1 \times 10^{-7}$  cm/sec. At the edge of the waste disposal area, the clay cover was keyed approximately two feet into the existing native fine-grained soils or to the top of bedrock, whichever was encountered first. The drainage layer was spread over the entire clay cap to laterally drain precipitation and reduce infiltration. The sand used for the drainage layer was obtained from Niagara Stone No. 1B. Geotechnical testing completed on this sand during source selection yielded a maximum hydraulic conductivity of  $2.68 \times 10^{-2}$  cm/sec. The topsoil layer was placed on top of the drainage layer and was seeded with a persistent vegetative species that was selected to effectively minimize erosion. The vegetative cover has a shallow root system which should not penetrate beyond the lateral drainage layer. The topsoil is a fertile loamy material obtained from an abandoned cornfield at Shevlin-Manning's mining operation.

The surface slope of the final cover was designed at 3 percent slope. The final slope varies slightly across the cover in order to accommodate the total amount of fill, but does not

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<sup>1</sup> Final Landfill Closure, Solid Waste Management Facility, Union Carbide Corporation, Republic Plant, Town of Niagara, New York, prepared by Conestoga-Rovers & Associates for Union Carbide Corporation, dated September 1987.

exceed 5 percent and is not less than 2 percent. Side slopes around the landfill portions of the Site are at a 3:1 slope (33 percent) or less.

The western area of the SWMF was never used for waste disposal, but was covered with a thin layer of carbonaceous material. This area was regraded and capped at a 2 percent slope with final contour elevations matching existing ground elevations around the perimeter of the Site. In order to accomplish this, the thickness of the clay, drainage, and topsoil layers was reduced over the last 100 feet to a total thickness of approximately 1.5 feet toward the edge of the Site. Surface water at the Site is allowed to follow natural drainage paths, given the slopes and runoff characteristics of the Site, engineered cap, and surrounding area. This decision was made at the time of closure and is further described in the closure report. There are no additional erosion/drainage controls in place at the Site.

## 2.2. Institutional Controls (IC)

The IC at this Site is the implementation of the SMP, including the Operation and Monitoring Plan discussed below, which specifies the groundwater monitoring program; the routine facility inspections for the engineered cap and the security features of the Site; maintenance of the Site; and the recordkeeping and reporting requirements. These inspection and groundwater monitoring programs were conducted in 2019 in accordance with the state-approved SMP to ensure the EC remained in place, were properly maintained and continued to be effective.

Under the previous and current NYSDEC approved groundwater monitoring program for the Landfill, one (1) sampling event must occur in every calendar year; scheduling of the sample collection must be rotated every year between spring (every odd year) and fall (every even year). Groundwater elevation measurements are also recorded during each annual sampling campaign.

Annual groundwater monitoring for the identified Contaminants of Concern (COCs) was conducted per the rotating schedule established in the SMP, which in this compliance period was a spring sampling campaign for an odd numbered year. Further details of the 2019 groundwater monitoring program are provided below in subsection 3.1 – Groundwater Monitoring.

No soil vapor monitoring program is required for the Landfill. In May 2007, Graftech submitted a Soil Intrusion Evaluation Report to the NYSDEC, which concluded that there is no threat to neighboring residential properties, and recommended that no further action regarding vapor studies was warranted. NYSDEC and NYSDOH informed Graftech on December 28, 2008, that they had reviewed the report and agreed that no further action

was needed regarding soil vapor intrusion. No vapor intrusion monitoring program is required at the landfill.

Inspections of the Site were performed and documented weekly and quarterly in accordance with the approved SMP. Further details of the 2019 site inspection programs are provided below in subsection 3.3 – Site Inspections and Records.

### 3. Operations and Monitoring (O&M) Plan

#### 3.1. Groundwater Monitoring

##### *Overview of the Historical Annual Groundwater Monitoring Program for the Landfill*

The Landfill was capped and closed in 1987. The groundwater monitoring well network at the Landfill site currently consists of 11 active on-site wells; three (3) of which are sampled for analysis annually (BW-3, BW-4, and GW-8B) and another eight (8) of which are only subject to hydraulic monitoring requirements (BW-1, BW-2, BW-5, BW-6, GW-9B, MW-1, MW-2, and MW-3). Water levels were collected from all 11 active wells in 2019. In addition, there are seven (7) inactive groundwater wells (WW-1, OW-1, OW-2, GW-7B, GW-8A, GW-9A, and GW-11B), which are included in the Site inspection program only and are not subject to chemical or hydraulic monitoring. A table listing the active and inactive monitoring wells and associated monitoring well details is presented as Table 1. Elevations of the top of riser, top of outer casing (where present), and ground surface at each of the 11 active wells and at the two inactive bedrock wells GW-7B and GW-11B were resurveyed on June 1, 2020. Table 1 also lists the full names of these wells, which appear on Site drawings and other documents. The abbreviated well names are used within this document.

The locations of the groundwater monitoring wells are shown on the map of the Landfill included as part of the Site inspection forms (refer to Appendix A) and on the groundwater contour maps provided in Appendix D.

Groundwater monitoring wells GW-10A and GW-10B are located outside the Landfill perimeter security fencing on neighboring property not owned by GrafTech. Following GrafTech's request during a state inspection of the Landfill in May 2010, NYSDEC subsequently reviewed the PSA records and confirmed that NYSDEC had installed and still owns these two (2) wells. Thus, GrafTech is not responsible to secure, maintain or sample these wells and, therefore, they were not covered under the SMP.

The history of the groundwater monitoring program is as follows.

##### 1987 - 2005

Between 1987 and 2000, groundwater monitoring was conducted quarterly. Following their review of the collected groundwater quality data, the NYSDEC DER and the Division of Solid and Hazardous Materials approved a modified semiannual sampling program in a letter dated January 18, 2000, in accordance with the requirements of 6 NYCRR Section 360 to monitor the effectiveness of the solid waste landfill closure in

protecting groundwater quality. This new monitoring program was implemented from April 2000 to November 2005.

#### 2006 - 2017

Following a subsequent review of the post closure groundwater monitoring program and historical groundwater quality data, the NYSDEC DER and the Division of Solid and Hazardous Materials agreed to a modified annual post-closure groundwater monitoring program, which was first implemented in the fall of 2006.

The groundwater monitoring program remained in effect from 2006 through 2017 and consisted of sampling seven (7) of the 11 active on-site groundwater wells at the Landfill (specifically, bedrock wells BW-1, BW-2, BW-3, BW-4, GW-8B, GW-9B and the overburden monitoring well MW-3). The collected representative samples were analyzed for VOCs, Total and Dissolved Iron, Potassium and Zinc, Ammonia, Nitrite, and Total Kjeldahl Nitrogen (TKN) following EPA methodologies. Standard field measurements to assess well stabilization for sampling were also collected. Water level readings were taken on all of the active monitoring wells.

#### 2018 - Current

Based on a review of the Site's historical groundwater data through 2017 showing that concentrations remained relatively consistent, in the PRR for Reporting Year 2017, GrafTech proposed that the groundwater monitoring program be downsized from seven (7) wells to three (3) wells and that the COCs be reduced so that representative samples are tested for only VOCs, Total and Dissolved Iron, and Ammonia; thus, Potassium, Zinc, Nitrite and TKN would be dropped from the parameter list. In the SM PRR Response Letter dated February 8, 2018, NYSDEC accepted GrafTech's proposal for a reduced monitoring program. Beginning in the fall of 2018 and moving forward, only three (3) bedrock wells would require to be sampled (BW-3, GW-8B, and BW-4), and samples would only be analyzed for VOCs.

In a letter from the NYSDEC dated March 18, 2019 commenting on the 2018 PRR for the Site, the NYSDEC requested that bedrock wells with a buildup of sediment/debris be redeveloped to remove sediment buildup to the extent practicable prior to the next annual sampling and hydraulic monitoring event. As per this request, GrafTech's environmental consultant, GHD, redeveloped bedrock wells BW-1 through BW-6 on April 24 and 25, 2019. The results of the well redevelopment were detailed in "Bedrock Well Redevelopment Summary Letter, Former Republic Landfill, Niagara Falls, New York," dated May 22, 2019, prepared by GHD for GrafTech. GrafTech subsequently submitted

this letter to the NYSDEC for its files. The letter is also included herein in Appendix D, following the 2019 Annual Groundwater Monitoring Letter. Six drums of well redevelopment water were transported off-site by EnviroServe to Vexor Technology LLC in Medina, Ohio, for disposal as non-hazardous waste.

#### *Summary of the 2019 Groundwater Sampling Campaign, Reports and Results*

The annual groundwater sampling campaign was conducted by GHD on May 23, 2019. The NYSDEC was present for a portion of the sampling event. GHD's 2019 Annual Groundwater Monitoring Letter, dated July 2, 2019 (revised June 18, 2020), is included as Appendix D. Samples collected from bedrock wells BW-3, BW-4, and GW-8B were submitted to Test America for analysis of VOCs. Analytical test results were compared to the New York State Class GA Groundwater Standards and Guidance Values ("criteria") and to the results of the historical monitoring data for the Landfill for analytes of interest. The full analytical results for May 2019 are included in Appendix D and in Table 2 of this PRR. Table 2 identifies all analytes that were detected at concentrations above the criteria during the sampling event. Analytes that were detected above criteria during this monitoring event are also discussed below.

Water levels were collected from the three active overburden wells (MW-1, MW-2, and MW-3) and eight active bedrock wells (BW-1 through BW-6, GW-8B, and GW-9B) to document groundwater flow conditions in the overburden and bedrock at the time of the sampling event and to assist in evaluating the analytical results from the bedrock wells sampled. Based on the water level data collected, groundwater flow in the overburden was flowing in a general southerly direction and groundwater in the bedrock was flowing in general southwesterly and northwesterly directions at the time of sample collection. This is generally consistent with groundwater flow directions observed during previous monitoring events.

Table 3 presents the current and historical concentration data for BW-3, BW-4, and GW-8B for tetrachloroethylene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and vinyl chloride. Although other VOCs have been detected in these wells, they have only been detected intermittently and at levels below or only slightly above criteria. The four above-listed VOCs have collectively been detected consistently and at elevated concentrations among these three bedrock wells, and as such their concentrations have been monitored through time. Figures 1 through 3 present the historical concentration data for these four VOCs, from March 2000 to the present. For BW-4, the average concentrations of the parent and duplicate samples were used for plotting.



The following is a brief discussion of the 2019 sampling results relative to historical concentrations for these four VOCs in the three bedrock wells sampled.

### **BW-3 (Figure 1)**

- **Vinyl Chloride:** Vinyl chloride was detected at a concentration of 5.1 micrograms per liter ( $\mu\text{g/L}$ ) in May 2019, which was above the criteria of 2  $\mu\text{g/L}$ . Concentrations have increased over the last two monitoring events. Future monitoring events will aid in determining if the increased concentrations detected in September 2018 and May 2019 are part of an increasing trend, or if they constitute a fluctuation in the overall decreasing trend that has been observed since September 2008. Concentrations of vinyl chloride have either been non-detect or below 9  $\mu\text{g/L}$  since September 2001 and appear to have historically shown seasonal variations with higher concentrations historically observed during the fall sampling events.
- **Cis-1,2-DCE:** Cis-1,2-DCE was detected at a concentration of 1.2  $\mu\text{g/L}$  in May 2019 and has not been detected at concentrations above the criteria of 5  $\mu\text{g/L}$  from March 2000 to the present.
- **PCE and TCE:** PCE and TCE were non-detect in May 2019 and have been non-detect since March 2000. As such, they are not shown on Figure 1.

### **BW-4 (Figure 2)**

- **Cis-1,2-DCE:** Cis-1,2- DCE was detected at a concentration of 1,000  $\mu\text{g/L}$  (also 1,000  $\mu\text{g/L}$  in the duplicate) in May 2019, which was above the criteria of 5  $\mu\text{g/L}$ . Concentrations of cis-1,2-DCE have been above criteria since March 2000. Concentrations have been slightly increasing since September 2016 but remain below the maximum concentration observed in October 2014.
- **PCE:** PCE was detected at a concentration of 390  $\mu\text{g/L}$  (400  $\mu\text{g/L}$  in the duplicate) in May 2019, which was above the criteria of 5  $\mu\text{g/L}$ . Concentrations of PCE have been above criteria since March 2000 and were relatively stable from March 2000 to May 2013. Concentrations have been higher since October 2014 relative to the previous concentrations, but appear to have stabilized overall. Future monitoring events will aid in determining if the increased concentrations detected in September 2018 and May 2019 are part of an increasing trend or a fluctuation in the apparent stable trend that has been observed since October 2014.
- **TCE:** TCE was detected at a concentration of 510  $\mu\text{g/L}$  (540  $\mu\text{g/L}$  in the duplicate) in May 2019, which was above the criteria of 5  $\mu\text{g/L}$ . Concentrations of TCE have been above criteria since March 2000 and increased from March 2009 to October 2014. Concentrations have been decreasing since October 2014.

- **Vinyl Chloride:** Vinyl chloride was detected at a concentration of 230 µg/L (270 µg/L in the duplicate) in May 2019, which was above the criteria of 2 µg/L. Concentrations of vinyl chloride have been above criteria since March 2000 and gradually increased from March 2000 to October 2014. Concentrations have been slowly decreasing since October 2014 and appear to have stabilized overall.
- **Other Analytes:** 1,1-Dichloroethene, chloroform, and trans-1,2-dichloroethene were detected at concentrations slightly above criteria in BW-4 during the May 2019 monitoring event. Based on low historical concentrations and intermittent detections of these analytes, these results do not present an obvious concern.

### **GW-8B (Figure 3)**

- **Cis-1,2-DCE:** Cis-1,2-DCE was detected at a concentration of 18 µg/L in May 2019, which was above the criteria of 5 µg/L. Concentrations of cis-1,2-DCE have been above criteria since March 2000, with the exception of a non-detect in September 2003, but appear to have remained stable since that time. Concentrations observed since September 2012 appear to be part of an overall decreasing trend.
- **Vinyl Chloride:** Vinyl chloride was detected at a concentration of 2.1 µg/L in May 2019, which was above the criteria of 2 µg/L. Vinyl chloride was non-detect from March 2000 to March 2005 and has been detected at concentrations slightly above criteria since September 2006, with the exception of a non-detect in March 2007 and concentrations in May 2015 and May 2017 that were slightly below criteria. Concentrations appear to have remained stable since September 2006.
- **TCE:** TCE was detected at a concentration of 8.0 µg/L in May 2019, which was above the criteria of 5 µg/L. Concentrations were above criteria from September 2001 to May 2017 and appeared to have been relatively stable throughout that time. Future monitoring events will aid in determining if the concentrations observed since May 2015 are part of an overall decreasing trend.
- **PCE:** PCE was non-detect in May 2019 and has been non-detect since March 2000. As such, PCE is not shown on Figure 3.

Concentrations of VOCs detected in the three (3) bedrock wells sampled were generally consistent with the concentrations detected during the May 2018 sampling event. The historical data has shown that concentrations of VOCs in well BW-3 remain low, with only vinyl chloride present at concentrations slightly above criteria. This well was hydraulically downgradient of the landfill during the May 2019 monitoring event, but has been shown to be hydraulically upgradient of the landfill during some previous monitoring events. These shifts in gradient direction may be due to seasonality, as monitoring events have alternated

between spring and fall. Water levels will be measured in bedrock wells GW-7B and GW-11B on a voluntary basis during the next monitoring event to help further understand groundwater flow direction in the bedrock in this area of the Site. Concentrations of VOCs in GW-8B, which is hydraulically downgradient of the landfill, also remain low and have either stabilized or are decreasing. As such, **no discernable negative trend in groundwater quality was observed for the Site.** Concentrations of VOCs in BW-4, which is hydraulically upgradient of the landfill based on the current and historical gauging events, remain elevated and are 2 to 3 orders of magnitude higher than VOC concentrations in the other bedrock monitoring wells. This strongly suggests an off-Site source.

#### *Discussion of BW-4*

The analytical results from the annual groundwater monitoring events have remained relatively stable since 2010, with the exception of the bedrock aquifer upgradient well BW-4, which during the October 2014 sampling event had notable increases in the four (4) VOCs of interest, namely PCE, TCE, vinyl chloride, and cis-1,2-DCE. In addition, several of these analytes have shown long-term increasing trends since March 2000. The reason for these long-term increases is not known. This well is hydraulically upgradient of the landfill, and does not represent groundwater quality at the Site.

A voluntary supplemental investigation of the entire groundwater well network at the Site conducted by Conestoga-Rovers & Associates (CRA) in January 2015 did not identify any structural abnormalities of the wells in the network that could account for the increases in VOC concentrations in BW-4. A copy of CRA's well inspection report was submitted as part of the 2014 PRR. BW-4 was redeveloped in fall 2016, the results of which were submitted as part of the 2016 PRR. No further investigations or developments of the monitoring wells have been conducted at the Site since 2016, other than the redevelopment of bedrock wells BW-1 through BW-6 in April 2019 due to buildup of sediment/debris (refer to Appendix D).

During the following sampling events, the VOC concentrations in well BW-4 all decreased from the 2014 levels, although they remained elevated in comparison to the analytical results from the prior years. The concentrations of these four (4) VOCs at this upgradient well have continued to have a downward trend since 2014 and, by the May 2017 sampling event, all had generally returned to pre-2014 levels or similar except for PCE. However, the concentrations of these VOCs still remain well above criteria, consistent with prior years.

It is noteworthy that the VOC exceedances of the applicable state criteria at bedrock monitoring well BW-4, which is upgradient of the landfilled area, continue to be at much

higher concentrations (by 2 to 3 orders of magnitude) than the VOC levels at the other bedrock aquifer monitoring wells (refer to Table 3).

Furthermore, the significant increases in VOC concentrations detected at the upgradient bedrock aquifer well BW-4 during the 2014 sampling event were not observed in the other bedrock monitoring wells. Although not currently in the sampling plan, historically these VOCs have not been detected in the downgradient bedrock wells BW-2 and GW-9B. This indicates that contaminant migration has not occurred.

It is also significant that the more notable exceedances of the applicable VOC criteria are in the bedrock groundwater monitoring wells located along the northern border of the Site (BW-4 and GW-8B), which are adjacent to the Niagara Mohawk right-of-way (ROW). BW-4 is hydraulically upgradient of the landfill, and GW-8B is hydraulically downgradient of the landfill (refer to the bedrock potentiometric surface map included in Appendix D). Although GW-8B is hydraulically downgradient of the landfill, the proximity of upgradient well BW-4, with VOC impacts 2 to 3 orders of magnitude greater than in the other bedrock wells, strongly suggests that the VOC concentrations in both of these wells are the result of an off-site source. Nevertheless, as concentrations of VOCs in GW-8B are low and have either stabilized or are decreasing, concentrations in this well do not represent a negative trend in groundwater quality for the Site.

### 3.2. Soil Vapor Monitoring

No soil vapor monitoring was required or performed during the report year.

### 3.3. Site Inspections and Records

NYSDEC did not conduct a state inspection of the Landfill in 2019.

Based on a deficiency in the groundwater well inspection program that was identified by NYSDEC during its last Site inspection in May 2013, GrafTech increased the frequency of its inspections of the monitoring wells on a temporary basis between August 2013 through December 2013, by including them in the scheduled weekly inspections. GrafTech also proposed to NYSDEC a formal modification to the Site inspection program to consist of:

- weekly general and security inspections at the Site; and
- quarterly monitoring well inspections (increased from annually).

NYSDEC subsequently approved this proposal. GrafTech implemented the improved inspection program starting in January 2014.

GrafTech incorporated the modified Site inspection protocol and inspection forms into the proposed SMP, which was submitted to the state for approval in December 2013, and subsequently approved by NYSDEC in November 2016. There have been no other deficiencies identified in the approved IC/EC at this Site nor any other recommended improvements to the SMP during the prior or current certification periods.

Routine inspections continued to be performed at the Site in 2019 by the current contracted GrafTech Designated Representative, NMCC, in accordance with the modified protocol specified in the SMP. Further details are provided below.

Routine inspections of the facilities and established controls at the Landfill Site were conducted and the results documented by NMCC (refer to the standard forms for documenting the weekly and quarterly inspections in Appendix A). NMCC was responsible for scheduling and managing the routine maintenance, repairs or any other actions needed to correct any deficiencies identified during these periodic inspections, under the supervision of the GrafTech Representative, currently Julianne Snyder.

Details are provided below of the modified weekly and the quarterly inspection programs, first initiated in 2014.

#### 3.3.1. General Landfill and Site Security Inspections and Records - Weekly

The following areas were inspected once per week and the inspection results documented on the standard inspection form.

- Fence (general condition, evidence of security breaches).
- Gate (general condition, lock, evidence of security breaches).
- Cap (general condition, signs of erosion, adequate vegetation).
- Surrounding area (general condition).

Note: if any evidence of a Site security breach was found during the above inspections, the groundwater well installations were also inspected for potential tampering or damage, and those inspections were documented on the standard quarterly monitoring well inspection form.

Any noted deficiency was identified on the inspection record and the corrective action was documented on the same or a subsequent inspection record when completed. Any fence areas that were found to be damaged were also duly noted on the inspection map.

### 3.3.2. Groundwater Monitoring Well Inspections and Records - Quarterly

The GrafTech-Designated Representative, currently NMCC, inspected all the active on-site GrafTech-owned groundwater monitoring well installations quarterly to ensure they were kept in good condition and were properly secured with a lock. The inspector recorded his/her name, the date and time of the inspection, the inspection results and any recommended corrective actions on the standard report form.

- Closed locks on the well casing caps.
- Condition of outer well casing.
- Condition of concrete seals.

Documentation of any needed corrective actions were recorded on the same or a subsequent inspection record when completed.

### 3.4. Routine Maintenance and Repairs

The following maintenance and repair activities were conducted per the SMP:

- Repairs were made as needed by outside contractor(s) to timely correct any deficiencies discovered during the routine weekly Site security and quarterly monitoring well inspections. These included repairs to the perimeter security fencing and the concrete pads at the well installations, as needed.
- Mowing of the vegetative cover on the Landfill cap and the perimeter lawn of the Landfill, and other general care of the Site were scheduled, as needed.
- General clean-up of any debris found along the fence line and inside the Site were performed, as needed, to keep the Landfill and surrounding area clear of any objectionable or unsightly materials.

### 3.5. Record Retention

All inspection records are being retained for a minimum period of three (3) years. Completed inspection forms are located in Appendices F (weekly inspections) and G (quarterly inspections). Completed inspection forms will be made available for review during scheduled NYSDEC Site inspections, or copies will be made available to the state upon reasonable written request.

#### **4. Excavation Plan Status**

No excavations were performed during 2019.

## **5. Property Transfer Status**

No property transfer activities were completed in 2019.



## 6. Conclusions and Recommendations

The GrafTech Landfill is a Class 4 Inactive Hazardous Waste Site, with no required Remedial Program or remedial objectives. Site inspections, monitoring and maintenance activities, and reporting requirements were implemented in conformance with the SMP for the Site during the certification period.

The analytical results from the 2019 groundwater monitoring campaign were consistent with the historical data. The groundwater monitoring program for the past 30+ years since closure of the Landfill has identified no negative trends in the groundwater quality associated with the landfill. VOC concentrations in well BW-4, which is upgradient of the landfill, continue to be 2 to 3 orders of magnitude higher than VOC concentrations detected in the other bedrock wells at the Site. This strongly suggests an off-site source.

The engineering controls and associated institutional controls are still in place, are performing properly, remain effective, and continue to be protective of public health and the environment. Based on GrafTech's review, there is no indication that changes to the IC/EC are needed. A copy of the completed and signed IC/EC Certification form is attached in Appendix E.

Due to the following facts:

- 1) this Landfill is a Class 4 Inactive Hazardous Waste Site;
- 2) there is no required Remedial Program or remedial objectives; and
- 3) the monitoring program for the past 32 years since closure of the Site has identified no negative trends in the groundwater quality at downgradient wells;

GrafTech recommends that compliance be maintained with the approved SMP during 2020. Once the fall 2020 groundwater monitoring campaign has been completed, and the data is available from the laboratory and has been validated by GHD, an assessment will be made at that time to determine whether modifications to the established Site management programs are recommended. GrafTech will communicate the results of its assessment to NYSDEC with its recommendations, if any, for proposed changes to the Site Management Plan for this Landfill.

---

## Table 1

### Site Monitoring Well Details

**Table 1**  
**Site Monitoring Well Details**

Well	Status	Well Type	Well Diameter (inches)	Installed Depth (ft. bgs)	Ground Elevation (ft. AMSL)	Top of Riser Elevation (ft. AMSL)	Top of Casing Elevation (ft. AMSL)	Monitored Interval (ft. bgs)	Full Name of Well
BW-1	Active	Bedrock/Open Hole	4/3	34.5	609.05	608.55	611.66*	19.5 to 34.5	BW1-86
BW-2	Active	Bedrock/Open Hole	4/3	35.0	605.37	606.58	608.40*	19.0 to 35.0	BW2-86
BW-3	Active	Bedrock/Open Hole	4/3	22.4	602.00	603.46	605.02*	7.4 to 22.4	BW3-86
BW-4	Active	Bedrock/Open Hole	4/3	25.0	604.33	605.47	607.13*	11.4 to 25.0	BW4-86
BW-5	Active	Bedrock/Open Hole	4/3	24.9	599.60	600.36	603.27*	10.0 to 24.9	BW5-86
BW-6	Active	Bedrock/Open Hole	4/3	32.9	607.59	607.08	611.11*	17.7 to 32.9	BW6-86
GW-7B	Inactive	Bedrock/Open Hole	3	29.7	599.80	602.49	603.81*	19.4 to 29.7	GW7B-93
GW-8A	Inactive	Overburden	3	17.5	601.50	NA	604.04*	12.4 to 17.4	GW8A-93
GW-8B	Active	Bedrock/Open Hole	3	27.5	601.38	603.30*	603.97	20.7 to 27.5	GW8B-93
GW-9A	Inactive	Overburden	3	20.3	601.50	NA	603.29*	15.3 to 20.3	GW9A-93
GW-9B	Active	Bedrock/Open Hole	3	29.5	600.55	602.74*	602.99	24.8 to 29.5	GW9B-93
GW-11B	Inactive	Bedrock/Open Hole	3	25.4	599.07	601.40*	601.66	16.0 to 25.4	GW11B-93
MW-1	Active	Overburden	4	18.3	608.55	608.97	611.13*	16.8 to 18.3	MW1-78
MW-2	Active	Overburden	4	20.1	607.04	611.62*	NP	17.5 to 18.0	MW2-78
MW-3	Active	Overburden	2	13.4	599.27	601.80*	602.18	8.0 to 13.0	MW3-79
WW-1	Inactive	Overburden	2	NA	NA	NA	NA	NA	WW1-86
OW-1	Inactive	Overburden	2	NA	NA	NA	NA	NA	OW1-88
OW-2	Inactive	Overburden	2	NA	NA	NA	NA	NA	OW2-88

\* = Reference elevation for determining groundwater elevation

NA = Not available

NP = Not present

4/3 = Casing diameter/corehole diameter

ft. bgs = Feet below ground surface

ft. AMSL = Feet above mean sea level

---

## Table 2

Analytical Results Summary – May 2019

Table 2

**Analytical Results Summary  
May 2019**

Sample Location: Sample ID: Sample Date:			BW-3 WG-11194450-052319-DT-002 5/23/2019	BW-4 WG-11194450-052319-DT-003 5/23/2019	BW-4 WG-11194450-052319-DT-004 5/23/2019 (Duplicate)	GW-8B WG-11194450-052319-DT-001 5/23/2019
Parameters	Units	NYSDEC Class GA Criteria				
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	5	1.0 U	20 U	3.3	1.0 U
1,1,2-Trichloroethane	µg/L	1	1.0 U	20 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	5	0.50 J	20 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	5	1.0 U	6.3 J	4.3	0.36 J
1,2-Dichloroethane	µg/L	0.6	1.0 U	20 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1	1.0 UJ	20 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50	10 U	200 U	10 U	10 U
2-Hexanone	µg/L	50	5.0 U	100 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	5.0 U	100 U	5.0 U	5.0 U
Acetone	µg/L	50	3.1 J	200 U	3.2 J	10 U
Benzene	µg/L	1	1.0 U	20 U	0.42 J	1.0 U
Bromodichloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromoform	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Carbon disulfide	µg/L	60	1.0 U	20 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chlorobenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	7	1.0 U	8.0 J	5.5	1.0 U
Chloromethane (Methyl chloride)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	5	1.2	1000	1000	18
cis-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Ethylbenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Methylene chloride	µg/L	5	0.62 J	20 U	1.0 U	1.0 U
Styrene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	5	1.0 U	390	400	1.0 U
Toluene	µg/L	5	1.0 U	20 U	0.91 J	1.0 U
trans-1,2-Dichloroethene	µg/L	5	1.0 U	20 UJ	6.1 J	1.0 U

Table 2

**Analytical Results Summary  
May 2019**

Sample Location:			BW-3	BW-4	BW-4	GW-8B
Sample ID:			WG-11194450-052319-DT-002	WG-11194450-052319-DT-003	WG-11194450-052319-DT-004	WG-11194450-052319-DT-001
Sample Date:			5/23/2019	5/23/2019	5/23/2019	5/23/2019
			(Duplicate)			
Parameters	Units	NYSDEC Class GA Criteria				
Volatile Organic Compounds						
trans-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Trichloroethene	µg/L	5	1.0 U	510	540	8.0
Vinyl chloride	µg/L	2	5.1	230	270	2.1
Xylenes (total)	µg/L	5	2.0 U	40 U	1.1 J	2.0 U

## Notes:

J - Estimated concentration

Class GA Criteria - New York State Ambient Water Quality Standards and Guidance Values ("criteria"), June 1998

5.1

 -Boxed cell denotes exceedance of water quality criteria

U - Not detected at the associated reporting limit

UJ - Not detected; associated reporting limit is estimated

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### Table 3

Summary of Bedrock Well Analytical Results: PCE, TCE, cis-1,2-DCE, and Vinyl  
Chloride

Table 3

Summary of Bedrock Well Analytical Results: PCE, TCE, cis-1,2-DCE, and Vinyl Chloride  
March 2000 - May 2019

Well Number	Parameter	Groundwater Criteria (ppb)	March 2000 (ppb)	Sept. 2001 (ppb)	March 2002 (ppb)	Sept. 2002 (ppb)	March 2003 (ppb)	Sept. 2003 (ppb)	March/April 2004 (ppb)	Sept. 2004 (ppb)	March 2005 (ppb)	Sept. 2006 (ppb)	March 2007 (ppb)
BW-3	Cis-1,2-DCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	1.8	5U
	PCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
	TCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
	Vinyl Chloride	2	15	5U	5U	5U	5U	5U	5U	6.1	5U	5.7	5.0U
GW-8B	Cis-1,2-DCE	5	14	23 (22)	26	27	22	5U	21	20	22	23	20
	PCE	5	10U	5U (5U)	5U	5U	5U	5U	5U	5U	5U	5U	5U
	TCE	5	10U	7.5 (7.2)	10	10	13	12	8.3	13	6.5	6.9	9.8
	Vinyl Chloride	2	10U	5U (5U)	5U	5U	5U	5U	5U	5U	5U	4.6J	5.0U
BW-4	Cis-1,2-DCE	5	180	270	420	300	230 (240)	500	660	370 (390)	540 (530)	620 (620)	710 (640)
	PCE	5	135	240	64	230	29 (30)	100	110	55 (56)	64 (65)	84 (86)	120 (110)
	TCE	5	178	410	230	420	170 (170)	330	230	290 (290)	180 (180)	290 (290)	310 (280)
	Vinyl Chloride	2	115	74	92	59	41 (41)	100	180	75 (79)	180 (180)	140 (140)	170 (150)

Shaded cells indicate the concentrations exceeds the New York State Class GA Groundwater Criteria

Parenteses indicate the results of the duplicate sample

\* - Concentration represents total 1,2-DCE

\*\* - Concentration represents total DCE

J - Concentration is an estimated value

U - Not present at or above the associated value



Table 3

Summary of Bedrock Well Analytical Results: PCE, TCE, cis-1,2-DCE, and Vinyl Chloride  
March 2000 - May 2019

Well Number	Parameter	Groundwater Criteria (ppb)	Sept. 2008 (ppb)	March 2009 (ppb)	Sept. 2010 (ppb)	May 2011 (ppb)	Sept. 2012 (ppb)	May 2013 (ppb)	Oct. 2014 (ppb)	May 2015 (ppb)	Sept. 2016 (ppb)	May 2017 (ppb)	Sept. 2018 (ppb)	May 2019 (ppb)
BW-3	Cis-1,2-DCE	5	2.2	10U*	2.2J*	0.95J**	2	1.7	0.45	2.8	0.85	0.99	1.0U	1.2
	PCE	5	5U	5U	5U	0.42U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	TCE	5	5U	5U	5U	0.30U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	Vinyl Chloride	2	8.2	5.0U	6.4	0.3U	5.7	6.0	4.1	3.2	3.1	1.0U	2.5	5.1
GW-8B	Cis-1,2-DCE	5	23	20*	20*	19**	23	20	22	17	24	14 (14)	21.0	18
	PCE	5	5U	5U	5U	0.42U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	TCE	5	5.7	7.4	8.8	8.2	7.6	7.2	12	12	9.7	9.2 (9.2)	4.7	8.0
	Vinyl Chloride	2	4.7J	3.5J	3.5J	2.9J	3.5	3.8	2.7	1.6	3.1	1.7	3.5	2.1
BW-4	Cis-1,2-DCE	5	580 (540)	720*	740*	1000**	1700	1300	2200 (1700)	1300	930J	950	1000 (940)	1000 (1000)
	PCE	5	86 (79)	140J	97	92	120	92	390 (330)	300	240	250	390 (410)	390 (400)
	TCE	5	320 (300)	220J	300	390	640	510	1300 (980)	790	660J	600	650 (640)	510 (540)
	Vinyl Chloride	2	100 (100)	160J	170	190	290	240	350 (270)	270	180	240	150 (180)	230 (270)

Shaded cells indicate the concentrations exceeds the New York State Class GA Groundwater Criteria

Parentheses indicate the results of the duplicate sample

\* - Concentration represents total 1,2-DCE

\*\* - Concentration represents total DCE

J - Concentration is an estimated value

U - Not present at or above the associated value

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## Figures

Figure 1  
Historical Data Graph  
Well BW-3

GrafTech Site

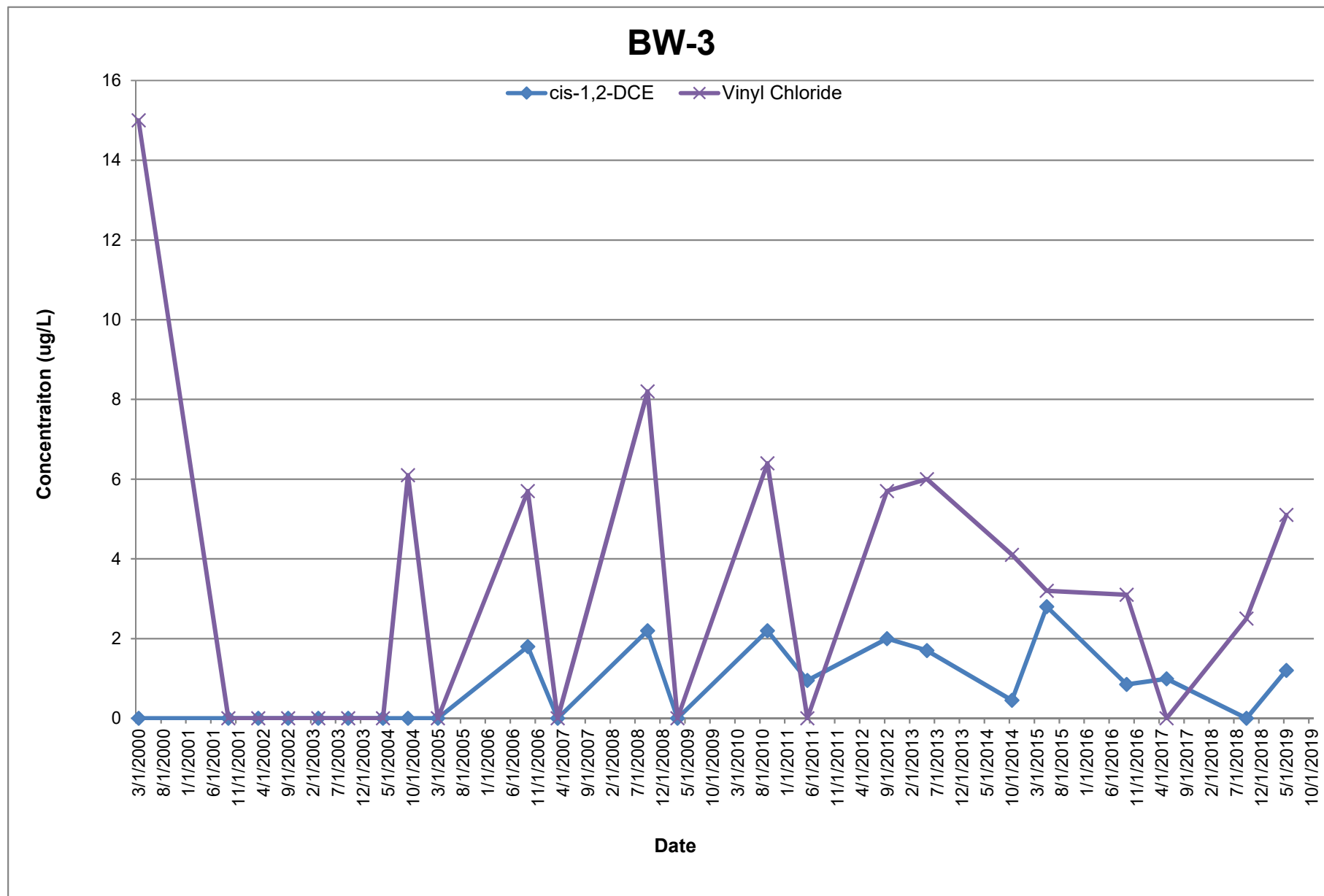


Figure 2  
Historical Data Graph  
Well BW-4

GrafTech Site

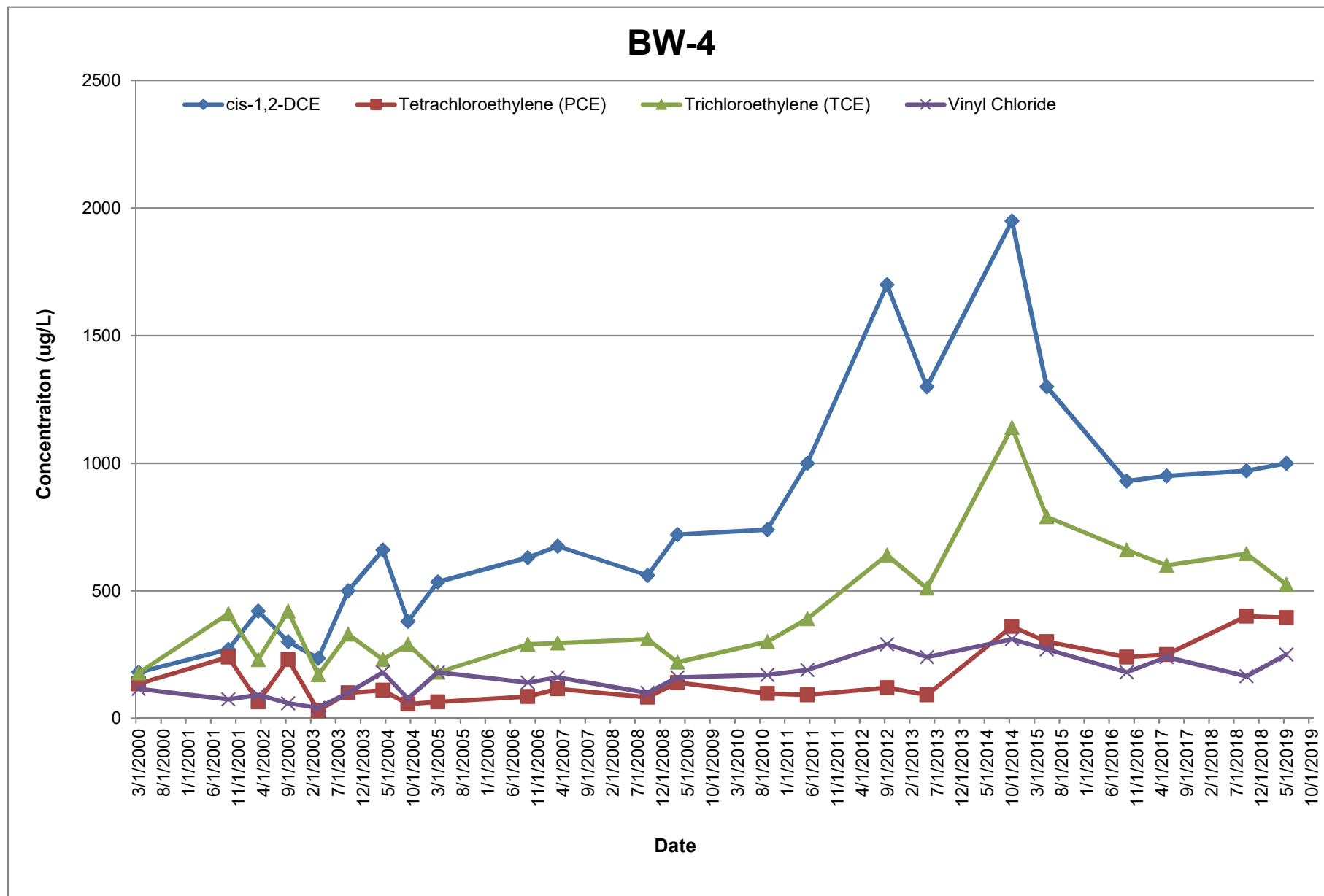
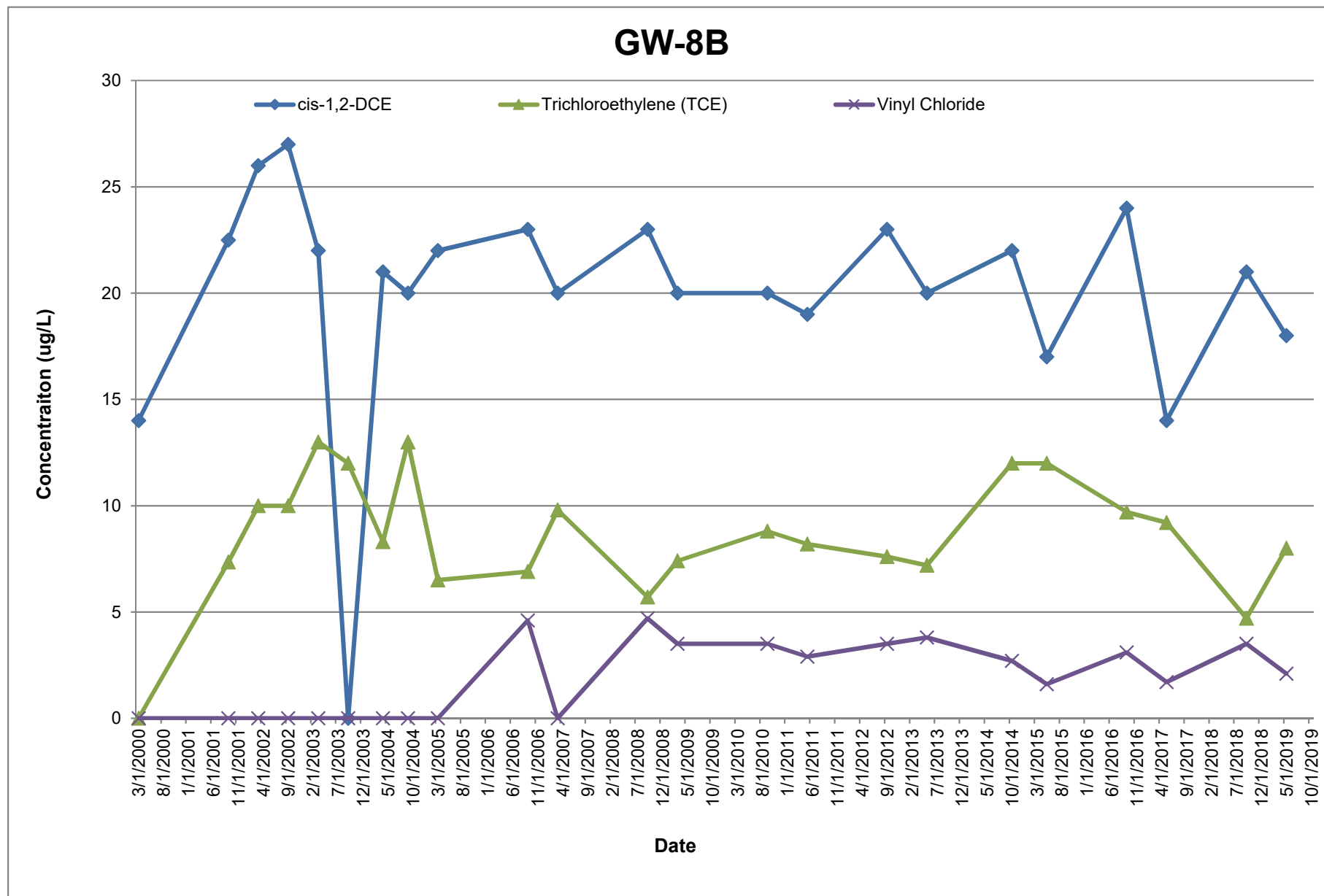


Figure 3  
Historical Data Graph  
Well GW-8B

GrafTech Site



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## Appendix A

Weekly General Landfill and Site Security Inspection Report Form

Quarterly Groundwater Well Inspection Report Form

**WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

DATE	TIME	INSPECTOR NAME

FENCE AREA	OK	DAMAGED	REPAIR DATE	REMARKS
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1				
2				
3				

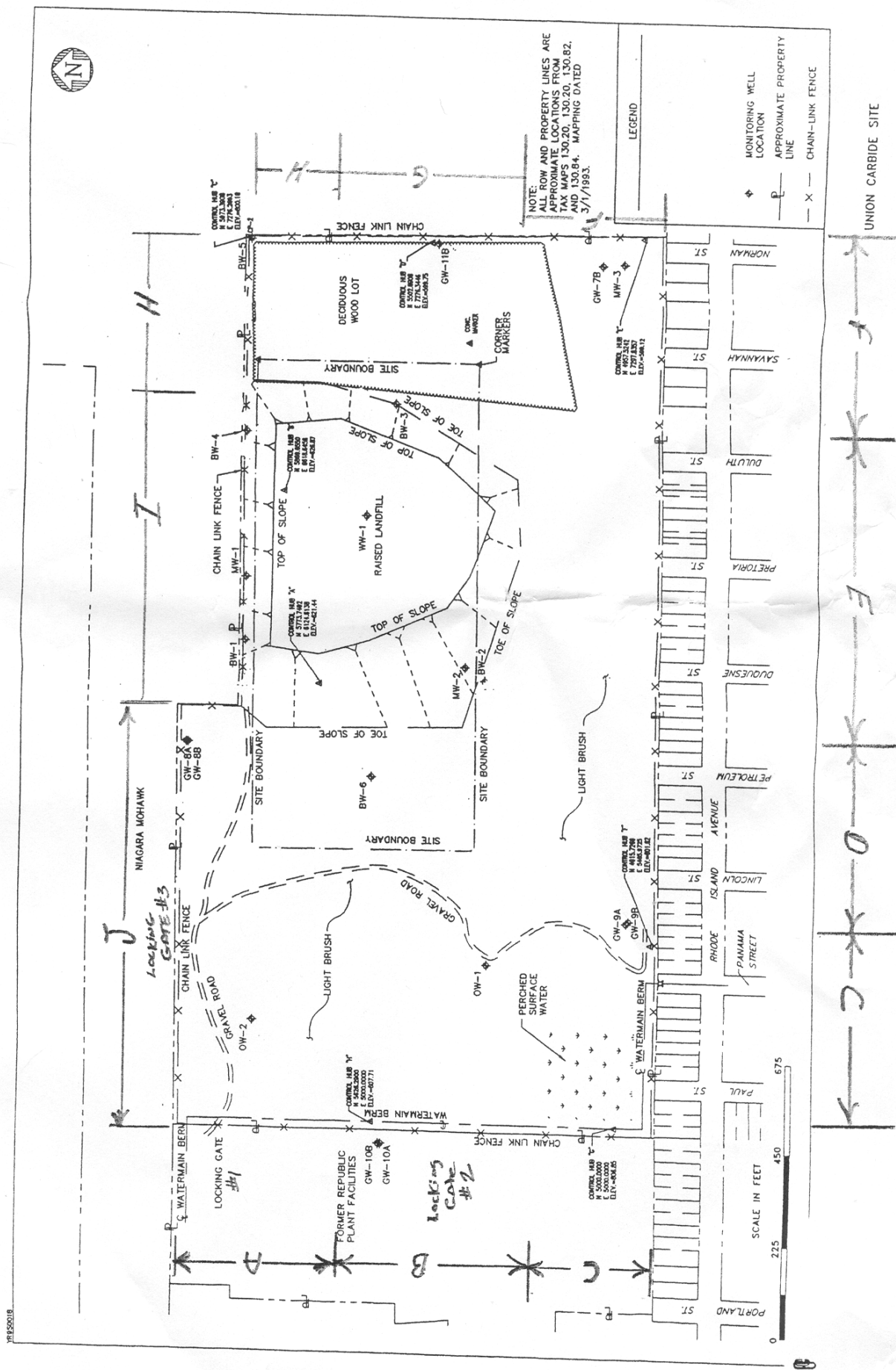
**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

**IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.**





**QUARTERLY GROUNDWATER WELL INSPECTION REPORT****GRAFTECH WELLS**

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
MW1-78					
MW2-78					
MW3-79					
BW1-86					
BW2-86					
BW3-86					
BW4-86					
BW5-86					
BW6-86					
WW1-86					
OW1-88					
OW2-88					

**ON-SITE WELLS INSTALLED BY NYSDEC**

(Installed Sept./Oct. 93)

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
GW7B-93					
GW8A-93					
GW8B-93					
GW9A-93					
GW9B-93					
GW11B-93					

**Note:**

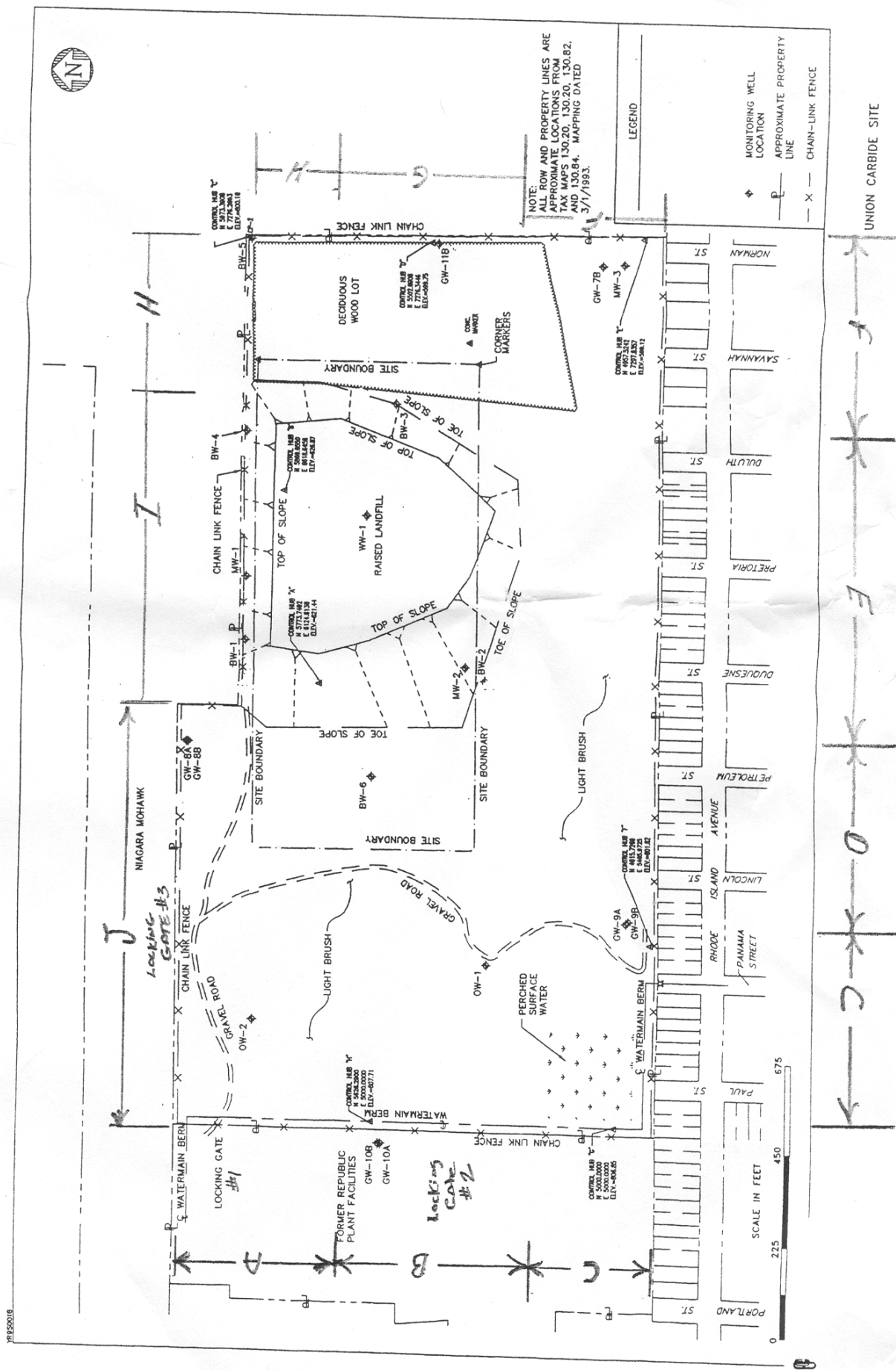
MW wells are installed in the overburden.

BW wells are bedrock wells.

GWA wells are installed in the overburden.

GWB wells are bedrock wells.

OW and WW wells are overburden wells installed with the screen above the till layer.



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## Appendix B

Letter from NYSDEC, DER - Region 9, to GrafTech, dated February 8, 2018  
(SM PRR Response Letter)

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9  
270 Michigan Avenue, Buffalo, NY 14203-2915  
P: (716) 851-7220 | F: (716) 851-7226  
www.dec.ny.gov

February 8, 2018

GrafTech International Holdings, Inc.  
Juanita M. Bursley  
982 Keynote Circle  
Brooklyn Heights, OH 44131

Dear Ms. Bursley:

Site Management (SM) Periodic Review Report  
(PRR) Response Letter  
GrafTech International Holdings Inc., Niagara  
Niagara County, Site No.: 932035

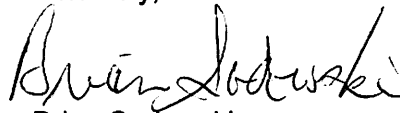
The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for the period of December 31, 2016 to December 31, 2017.

The Department hereby accepts the PRR and associated Certifications. We have also considered GrafTech's proposals to reduce the monitoring program, drop specific parameters and to only analyze for VOC's. After a review of historical data, trend plots and parameter applicability, GrafTech's proposals are approved. Therefore, going forward, the monitoring program will be reduced from seven to three wells. Wells MW-3, BW-1, GW9B and BW-2 will be eliminated. Wells BW-3, GW-8B and BW-4 will be kept. Parameters of Potassium, Zinc, TKN, Total Iron, Dissolved Iron and Ammonia will be eliminated. VOC's will be kept and the only analysis to run.

The frequency of Periodic Reviews for this site is 1 year, your next PRR is due on January 30, 2019. You will receive a reminder letter and updated certification form approximately 75-days prior to the due date. Regardless of receipt or not, of the reminder notice, the next PRR including the signed certification form, is still due on the date specified above.

If you have any questions, please contact me at 716-851-7220 or e-mail:  
brian.sadowski@dec.ny.gov.

Sincerely,

  
Brian Sadowski  
Project Manager

BS/tm

ec: Mary McIntosh, RSG, Buffalo  
Glenn May, EGII, CPG, Buffalo



Department of  
Environmental  
Conservation

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## Appendix C

Letter from NYSDEC, DER - Region 9, to GrafTech, dated October 29, 2018  
(Site Management Plan)

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9  
270 Michigan Avenue, Buffalo, NY 14203-2915  
P: (716) 851-7220 | F: (716) 851-7226  
[www.dec.ny.gov](http://www.dec.ny.gov)

October 29, 2018

GrafTech International Holdings, Inc.  
Juanita M. Bursley  
982 Keynote Circle  
Brooklyn Heights, OH 44131

Dear Ms. Bursley:

Site Management Plan  
GrafTech International Holdings Inc.  
Niagara (T), Niagara County  
DER Site No.: 932035

The Department completed its review of GrafTech's Site Management Plan submitted on October 23, 2018. This correspondence provides formal transmittal that the Site Management Plan is accepted.

Sincerely,

Brian  
Sadowski  
Project Manager

Digitally signed by Brian Sadowski  
DN: cn=Brian Sadowski, o=DEC,  
ou=DER,  
email=brian.sadowski@dec.ny.gov,  
c=US  
Date: 2018.10.29 13:32:35 -04'00'

ec: Stan Radon, NYSDEC, Buffalo  
Glenn May, NYSDEC, Buffalo



Department of  
Environmental  
Conservation

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## Appendix D

GHD Letter to GrafTech, Reference No. 11194450,  
2019 Annual Groundwater Monitoring Results Summary Letter

GHD Letter to GrafTech, Reference No. 11194450-01,  
Bedrock Well Redevelopment Summary Letter



July 2, 2019 – Revised June 18, 2020

Reference No. 11194450

Ms. Julianne Snyder  
HSEP Manager  
GrafTech International Holdings Inc.  
982 Keynote Circle  
Brooklyn Heights, OH 44131

Dear Ms. Snyder:

**Re: 2019 Annual Groundwater Monitoring Results Summary Letter  
Former Republic Landfill, Niagara Falls, New York**

GHD is presenting this 2019 Annual Groundwater Monitoring Results Summary Letter documenting the results of the annual groundwater monitoring event completed on May 23, 2019 at the Former Republic Landfill in Niagara Falls, New York (New York State Department of Environmental Conservation [NYSDEC] Site No. 932035). The monitoring event was conducted in accordance with the Field Sampling Plan (FSP) Post-Closure Monitoring Program for UCAR Carbon Solid Waste Management Unit (SWMU) No. 32NO3, prepared by Conestoga-Rovers & Associates (CRA), dated July 2000. This letter presents a summary of the completed Scope of Work and results of the annual monitoring event.

## 1. Scope of Work

The Scope of Work for the monitoring event consisted of the following tasks:

- Measurement of groundwater depths (hydraulic monitoring) at eight bedrock wells (BW-1 through BW-6, GW-8B, and GW-9B) and three overburden wells (MW-1 through MW-3).
- Purging and collection of groundwater samples and quality assurance samples from bedrock wells BW-3, BW-4, and GW-8B for analysis of Target Compound List (TCL) volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method SW-846 8260C.
- Preparation of a groundwater monitoring letter report documenting the monitoring activities.

The results of the monitoring event are summarized below. The field notes for the monitoring event are located in Attachment A.

## 2. Hydraulic Monitoring

Prior to sampling, GHD measured static water levels and well depths in bedrock wells BW-1 through BW-6, GW-8B, and GW-9B; and in overburden wells MW-1 through MW-3 using an electronic water level tape. Measurements were collected from the top of the well's reference point (either top of casing or top of riser, depending on the well) and were completed to the nearest 0.01 foot. Table 2.1 below presents the





collected depth to water measurements and calculated groundwater elevations. Table 2.2 below presents the sounded well depths. Wells BW-1 through BW-6 were last redeveloped on April 24 and 25, 2019. The sounded well depths following the April 2019 redevelopment as well as the reported installed well depths are shown for comparison.

Table 2.1 Water Levels and Groundwater Elevations – May 23, 2019

Well ID	Well Type	Reference Point Elevation (ft. AMSL)	Depth to Water (ft. BTOR <sub>f</sub> )	Groundwater Elevation (ft. AMSL)
MW-1	Overburden	611.13 (TOC)	7.54	603.59
MW-2	Overburden	611.62 (TOR)	11.62	600.00
MW-3	Overburden	601.80 (TOR)	4.03	597.77
BW-1	Bedrock	611.66 (TOC)	13.22	598.44
BW-2	Bedrock	608.40 (TOC)	7.65	600.75
BW-3	Bedrock	605.02 (TOC)	4.41	600.61
BW-4	Bedrock	607.13 (TOC)	5.40	601.73
BW-5	Bedrock	603.27 (TOC)	1.23	602.04
BW-6	Bedrock	611.11 (TOC)	9.18	601.93
GW-8B	Bedrock	603.30 (TOR)	6.96	596.34
GW-9B	Bedrock	602.74 (TOR)	9.97	592.77
Notes:				
Ft. AMSL	- Feet above mean sea level			
Ft. BTOR <sub>f</sub>	- Feet below top of reference point			
TOC	- Top of casing			
TOR	- Top of riser			



Table 2.2 Sounded Well Depths – May 23, 2019

Well ID	Well Type	Sounded Depth (ft. BTOR <sub>f</sub> )	Sounded Depth after April 2019 Redevelopment (ft. BTOR <sub>f</sub> )	Installed Depth (ft. BTOC)
MW-1	Overburden	21.13	NA	21.10
MW-2	Overburden	24.68	NA	21.10
MW-3	Overburden	15.32	NA	14.40
BW-1	Bedrock	28.98	29.00	35.90
BW-2	Bedrock	25.78	27.63	37.10
BW-3	Bedrock	23.60	25.00	22.70
BW-4	Bedrock	25.57	27.10	27.50
BW-5	Bedrock	25.68	28.75	28.20
BW-6	Bedrock	25.83	30.40	36.50
GW-8B	Bedrock	29.20	NA	29.50
GW-9B	Bedrock	31.98	NA	31.70
Notes:				
Ft. BTOR <sub>f</sub>	- Feet below top of reference point			
Ft. BTOC	- Feet below top of casing			
NA	- Not applicable			

Figures 2.1 and 2.2 present potentiometric surface maps for the observed groundwater elevations in the overburden and bedrock, respectively. Based on the maps, groundwater was flowing in a general southerly direction in the overburden and, in general, southwesterly and northwesterly directions in the bedrock during the monitoring event. This is generally consistent with groundwater flow directions observed during previous monitoring events.

### 3. Groundwater Quality Monitoring

#### 3.1 Sample Collection

Following measurement of static water levels, GHD purged and sampled wells BW-3, BW-4, and GW-8B using a Masterflex® peristaltic pump with ¼-inch diameter Teflon tubing following USEPA low-flow sampling procedures. During the purging activities, field parameters (temperature, pH, specific conductivity, dissolved oxygen, oxidation-reduction potential, and turbidity) were measured in approximate 5-minute intervals. Attachment B presents the field parameters collected during the well purging. In accordance with the FSP, purge waters were discharged to the ground surface following the sampling event.

Following completion of purging, GHD collected groundwater samples from BW-3, BW-4, and GW-8B for analysis of TCL VOCs via USEPA Method SW-846 8260C. One field duplicate sample was collected from



BW-4. A trip blank prepared by the laboratory accompanied the sample bottles at all times and was also analyzed for VOCs. The samples were submitted on ice under standard chain of custody procedures to TestAmerica Laboratories, Inc. in Amherst, New York, a New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP) certified laboratory.

### 3.2 Analytical Results

The laboratory analytical data report for the groundwater samples submitted for analysis is included as Attachment C. Table 3.1 presents the analytical results. According to the laboratory report, the following analytes were detected at concentrations above the NYSDEC Class GA Standards and Guidance Values ("criteria"):

- BW-3: Vinyl chloride (VC)
- BW-4: Trans-1,2-dichloroethylene (duplicate only), 1,1-dichloroethylene, chloroform, cis-1,2-dichloroethylene (DCE), tetrachloroethylene (PCE), trichloroethylene (TCE), and VC
- GW-8B: cis-1,2-DCE, TCE, and VC

A GHD chemist completed a reduced data validation on the laboratory analytical data package from the sampling event. The chemist concluded that the laboratory data are acceptable without qualification except for the concentrations of 1,1-dichloroethane, 1,2-dichloropropane, and methylene chloride in BW-3; and the concentrations of trans-1,2-dichloroethylene in BW-4 and its duplicate, which were qualified as estimated. The data validation memo is included as Attachment D.

### 3.3 Trends Analysis

Table 3.2 presents the current and historical concentration data for BW-3, BW-4, and GW-8B for PCE, TCE, cis-1,2-DCE, and VC. Although other VOCs have been detected in these wells, they have only been detected intermittently and at levels below or only slightly above criteria. The four above-listed VOCs have collectively been detected consistently and at elevated concentrations in these three bedrock wells, and, as such, their concentrations have been monitored through time. Figures 3.1 through 3.3 present the historical concentration data for these four VOCs, from March 2000 to the present. The following is a brief discussion of the May 2019 sampling results relative to historical concentrations for these four VOCs in the three bedrock wells sampled.

#### *BW-3 (Figure 3.1)*

- Vinyl chloride was detected at a concentration of 5.1 micrograms per liter ( $\mu\text{g/L}$ ) in May 2019, which was above the criteria of 2  $\mu\text{g/L}$ . Concentrations have increased over the last two monitoring events. Future monitoring events will aid in determining if the increased concentrations detected in September 2018 and May 2019 are part of an increasing trend, or if they constitute a fluctuation in the overall decreasing trend that has been observed since September 2008. Concentrations of VC have either been non-detect or below 9  $\mu\text{g/L}$  since September 2001 and appear to have historically shown seasonal variations with higher concentrations historically observed during the fall sampling events.



- cis-1,2-DCE was detected at a concentration of 1.2 µg/L in May 2019 and has not been detected at concentrations at or above the criteria of 5 µg/L from March 2000 to the present.
- PCE and TCE were non-detect in May 2019 and have been non-detect since March 2000. As such, they are not shown on Figure 3.1.

#### ***BW-4 (Figure 3.2)***

- cis-1,2-DCE was detected at a concentration of 1,000 µg/L (also 1,000 µg/L in the duplicate) in May 2019, which was above the criteria of 5 µg/L. Concentrations of cis-1,2-DCE have been above criteria since March 2000. Concentrations have been slightly increasing since September 2016 but remain below the maximum concentration observed in October 2014.
- PCE was detected at a concentration of 390 µg/L (400 µg/L in the duplicate) in May 2019, which was above the criteria of 5 µg/L. Concentrations of PCE have been above criteria since March 2000 and were relatively stable from March 2000 to May 2013. Concentrations have been higher since October 2014 relative to the previous concentrations, but appear to have stabilized overall. Future monitoring events will aid in determining if the increased concentrations detected in September 2018 and May 2019 are part of an increasing trend or a fluctuation in the apparent stable trend that has been observed since October 2014.
- TCE was detected at a concentration of 510 µg/L (540 µg/L in the duplicate) in May 2019, which was above the criteria of 5 µg/L. Concentrations of TCE have been above criteria since March 2000 and increased from March 2009 to October 2014. Concentrations have been decreasing since October 2014.
- VC was detected at a concentration of 230 µg/L (270 µg/L in the duplicate) in May 2019, which was above the criteria of 2 µg/L. Concentrations of VC have been above criteria since March 2000 and gradually increased from March 2000 to October 2014. Concentrations have been slowly decreasing since October 2014 and appear to have stabilized overall.
- Other Analytes: Trans-1,2-dichloroethene, 1,1-dichloroethylene, and chloroform were detected at concentrations slightly above criteria in BW-4 during the May 2019 monitoring event. Based on low historical concentrations and intermittent detections of these analytes, these results do not present an obvious concern.

#### ***GW-8B (Figure 3.3)***

- cis-1,2-DCE was detected at a concentration of 18 µg/L in May 2019, which was above the criteria of 5 µg/L. Concentrations of cis-1,2-DCE have been above criteria since March 2000, with the exception of a non-detect in September 2003, but appear to have remained stable since that time. Concentrations observed since September 2012 appear to be part of an overall decreasing trend.
- VC was detected at a concentration of 2.1 µg/L in May 2019, which was above the criteria of 2 µg/L. VC was non-detect from March 2000 to March 2005 and has been detected at concentrations slightly above criteria since September 2006, with the exception of a non-detect in March 2007 and



concentrations in May 2015 and May 2017 that were slightly below criteria. Concentrations appear to have remained stable since September 2006.

- TCE was detected at a concentration of 8.0 µg/L in May 2019, which was above the criteria of 5 µg/L. Concentrations were above criteria from September 2001 to May 2017 and appeared to have been relatively stable throughout that time. Future monitoring events will aid in determining if the concentrations observed since May 2015 are part of an overall decreasing trend.
- PCE was non-detect in May 2019 and has been non-detect since March 2000. As such, PCE is not shown on Figure 3.3.

Concentrations of VOCs detected in the three bedrock wells sampled were generally consistent with the concentrations detected during the May 2018 sampling event. The historical data has shown that concentrations of VOCs in well BW-3 remain low, with only vinyl chloride present at concentrations slightly above criteria. This well was hydraulically downgradient of the landfill during the May 2019 monitoring event, but has been shown to be hydraulically upgradient of the landfill during some previous monitoring events. These shifts in gradient direction may be due to seasonality, as monitoring events have alternated between spring and fall. Water levels will be measured in bedrock wells GW-7B and GW-11B on a voluntary basis during the next monitoring event to help further understand groundwater flow direction in the bedrock in this area of the Site. Concentrations of VOCs in GW-8B, which is hydraulically downgradient of the landfill, also remain low and have either stabilized or are decreasing. As such, no discernable negative trend in groundwater quality was observed for the Site. Concentrations of VOCs in BW-4, which is hydraulically upgradient of the landfill based on the current and historical gauging events, remain elevated and are 2 to 3 orders of magnitude higher than the VOC concentrations in the other bedrock monitoring wells. This strongly suggests an off-Site source.

#### 4. Closing/Recommendations

Results from the 2019 groundwater monitoring activities indicate that concentrations of cis-1,2-DCE, PCE, TCE, and VC are consistent with previous results. The groundwater monitoring program for the past 30 years since closure of the landfill has identified no negative trends in the groundwater quality associated with the landfill. VOC concentrations in well BW-4, which is upgradient of the landfill, continue to be 2 to 3 orders of magnitude higher than VOC concentrations detected in the other bedrock wells at the Site. This strongly suggests an off-Site source. The next groundwater monitoring event will occur in September 2020.

GHD appreciates the opportunity to conduct this work. If you have any questions regarding this or require additional assistance, please contact the undersigned at 716-297-6150 or [margaret.popek@ghd.com](mailto:margaret.popek@ghd.com).



Sincerely,

GHD

*Margaret A. Popek*

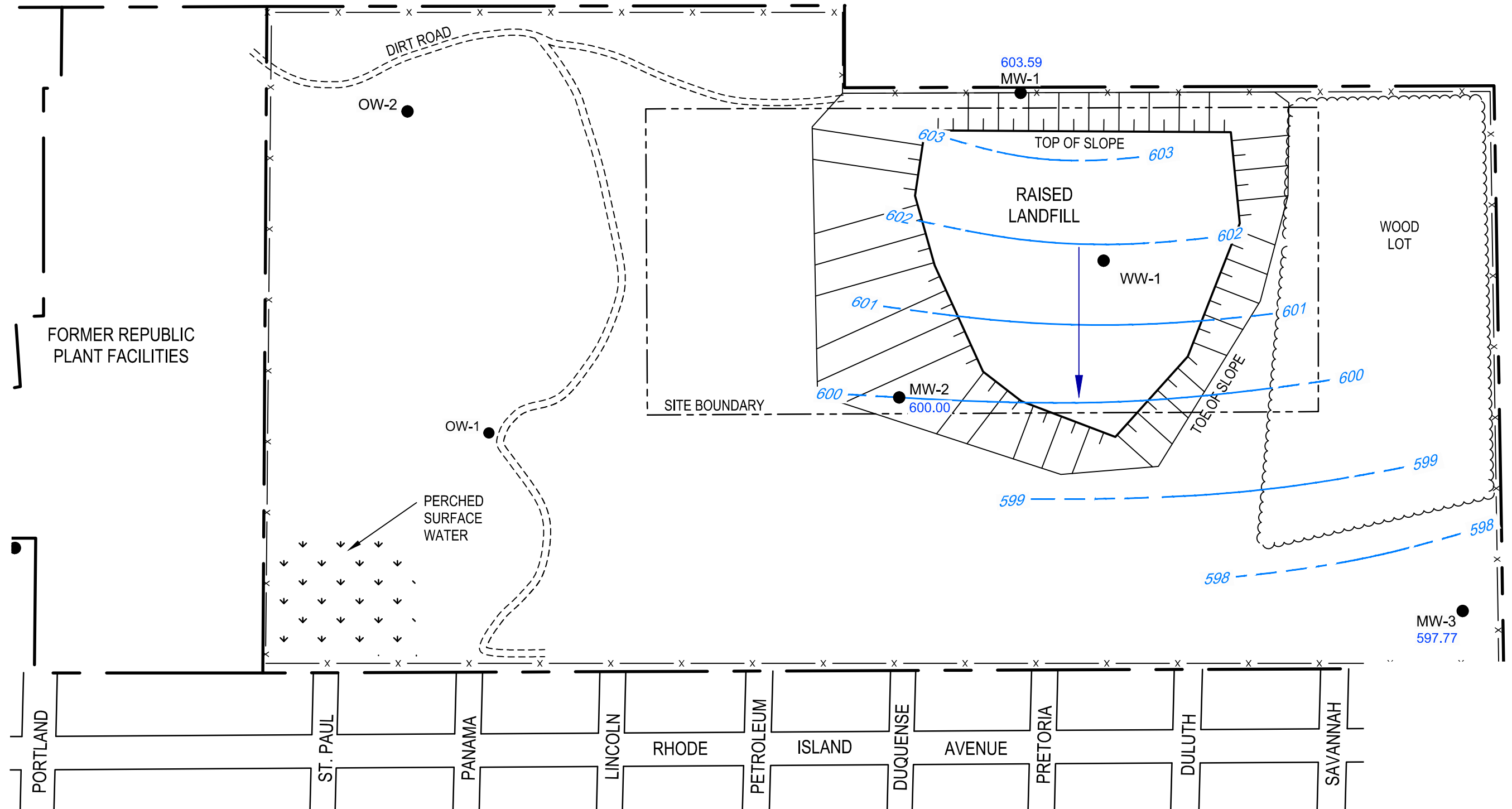
Margaret A. Popek

Geologist

MP/adh

Encl.

cc: D. Hoyt, GHD



# LEGEND

- MW-3 OVERBURDEN MONITORING WELL LOCATION
- 596.55 GROUNDWATER ELEVATION (FT) AMSL
- — — — — PROPERTY LINE
- x — — — — — FENCE
- ← APPROXIMATE GROUNDWATER FLOW DIRECTION
- — — — — GROUNDWATER ELEVATION CONTOUR (FT) AMSL
- - - - - CONTOUR INFERRED

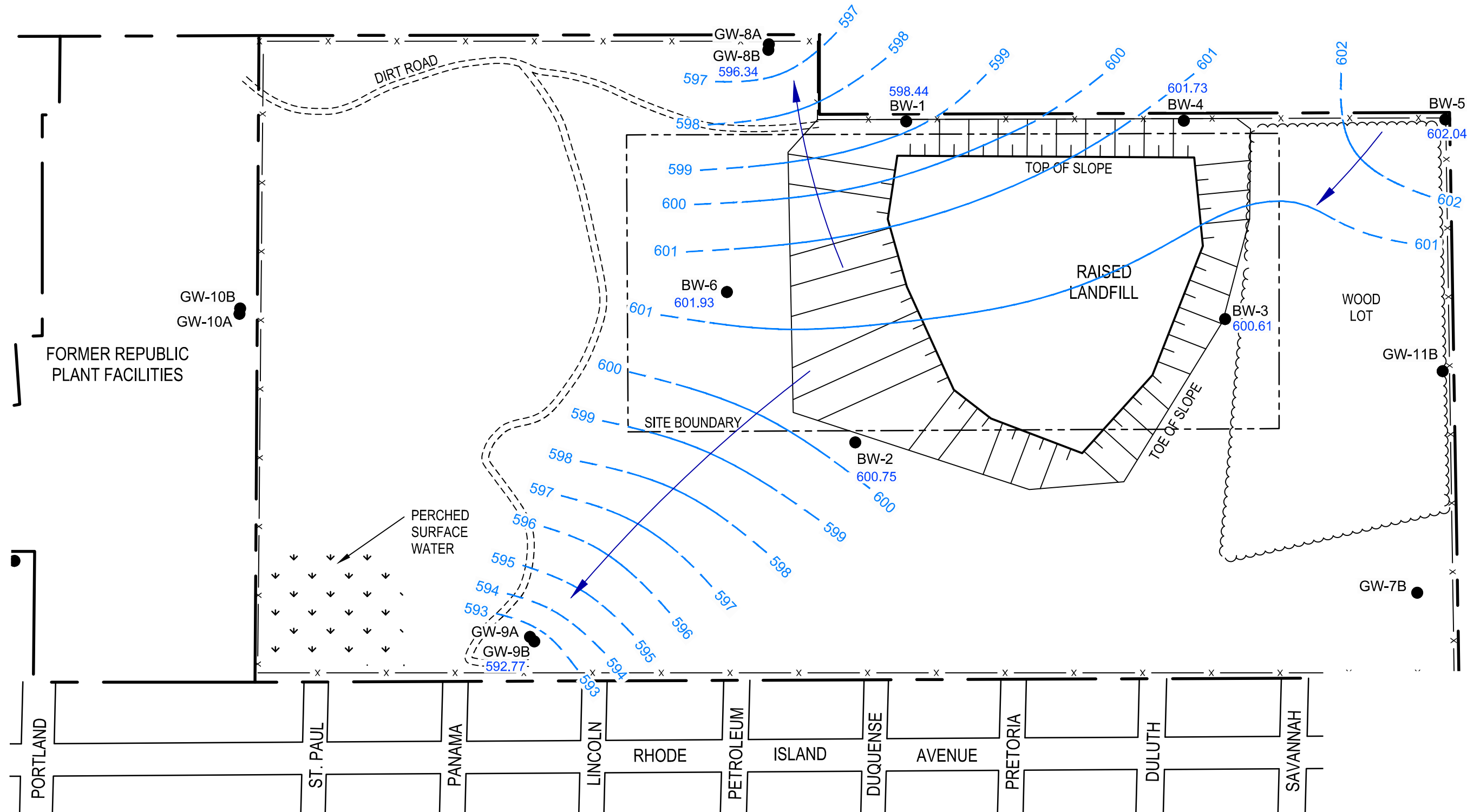


FORMER REPUBLIC LANDFILL  
 NIAGARA FALLS, NEW YORK

OVERBURDEN GROUNDWATER  
 POTENTIOMETRIC SURFACE MAP  
 (MAY 23, 2019)


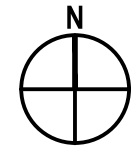
Project No. 11194450  
 Report No.  
 Date JUNE 2020


FIGURE 2.1



**LEGEND**

- |        |                                  |       |   |
|--------|----------------------------------|-------|---|
| ● BW-1 | BEDROCK MONITORING WELL LOCATION | ←     | APPROXIMATE GROUNDWATER FLOW DIRECTION  |
| 529.77 | GROUNDWATER ELEVATION (FT) AMSL  | —     | GROUNDWATER ELEVATION CONTOUR (FT) AMSL |
| — — —  | PROPERTY LINE                    | - - - | CONTOUR INFERRED                        |
| — x —  | FENCE                            |       |   |





**FORMER REPUBLIC LANDFILL  
NIAGARA FALLS, NEW YORK**

**BEDROCK GROUNDWATER  
POTENTIOMETRIC SURFACE MAP  
(MAY 23, 2019)**

Project No. **11194450**  
Report No.  
Date **JUNE 2020**

**FIGURE 2.2**

Filename: N:\US\Niagara Falls\Projects\564\11194450\Digital\_Design\ACAD 2018\Figures\May 2020 Groundwater Contours\11194450-FIG-2020 Bedrock Groundwater Potentiometric Surface Map.dwg  
Plot Date: 11 June 2020 - 12:22 PM



Figure 3.1  
Historical Data Graph  
Well BW-3

Former Republic Landfill

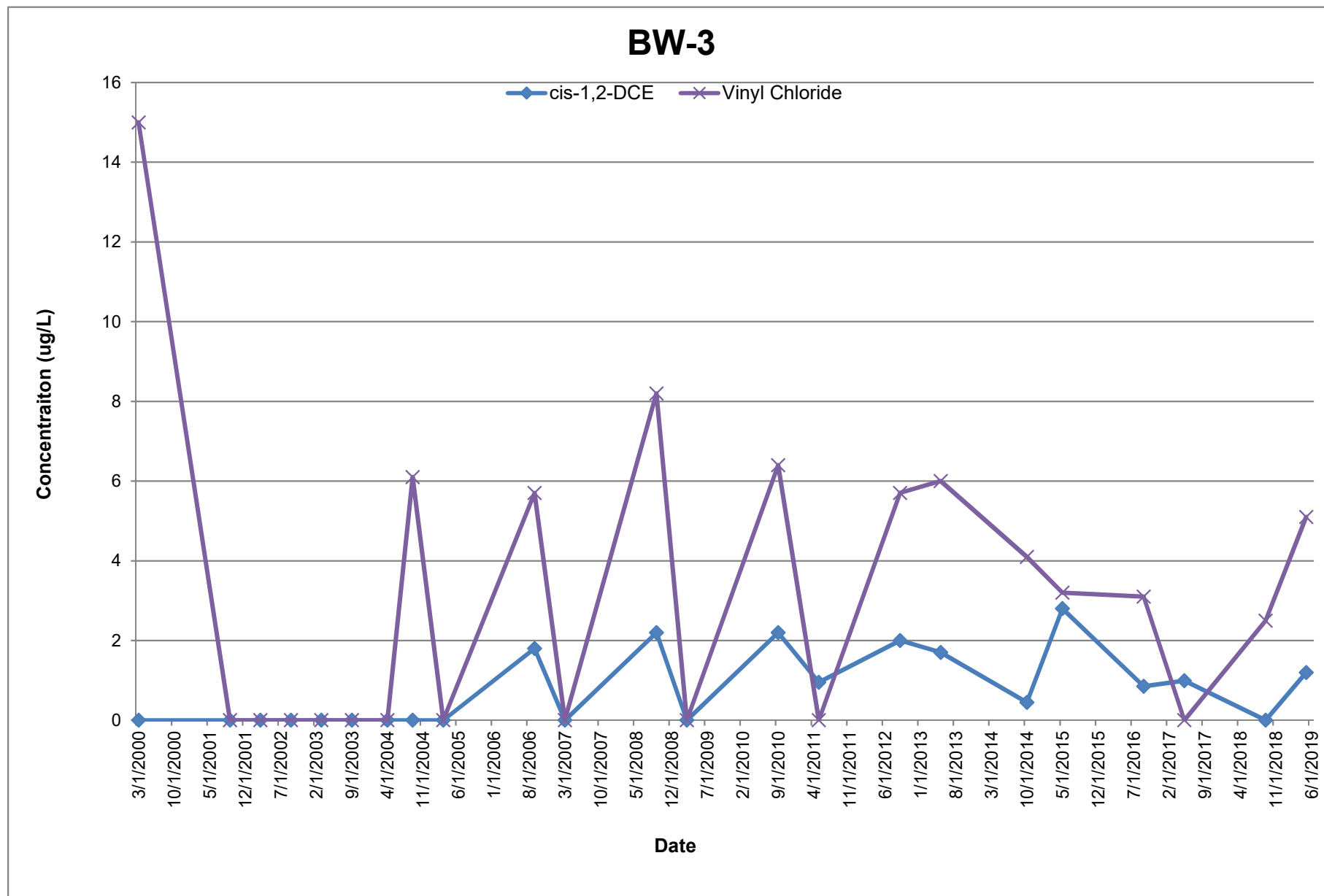


Figure 3.2  
Historical Data Graph  
Well BW-4

Former Republic Landfill

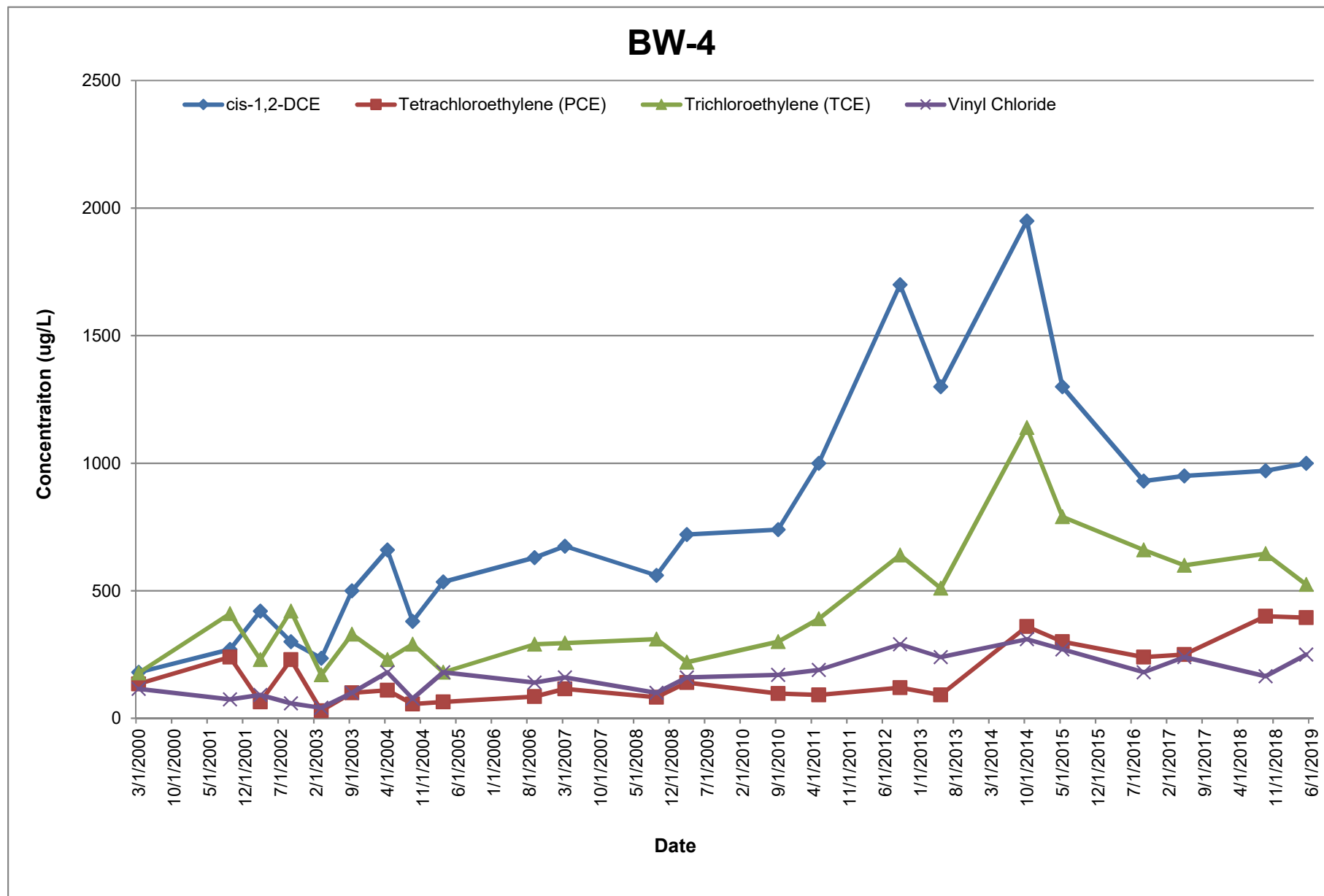


Figure 3.3  
Historical Data Graph  
Well GW-8B

Former Republic Landfill

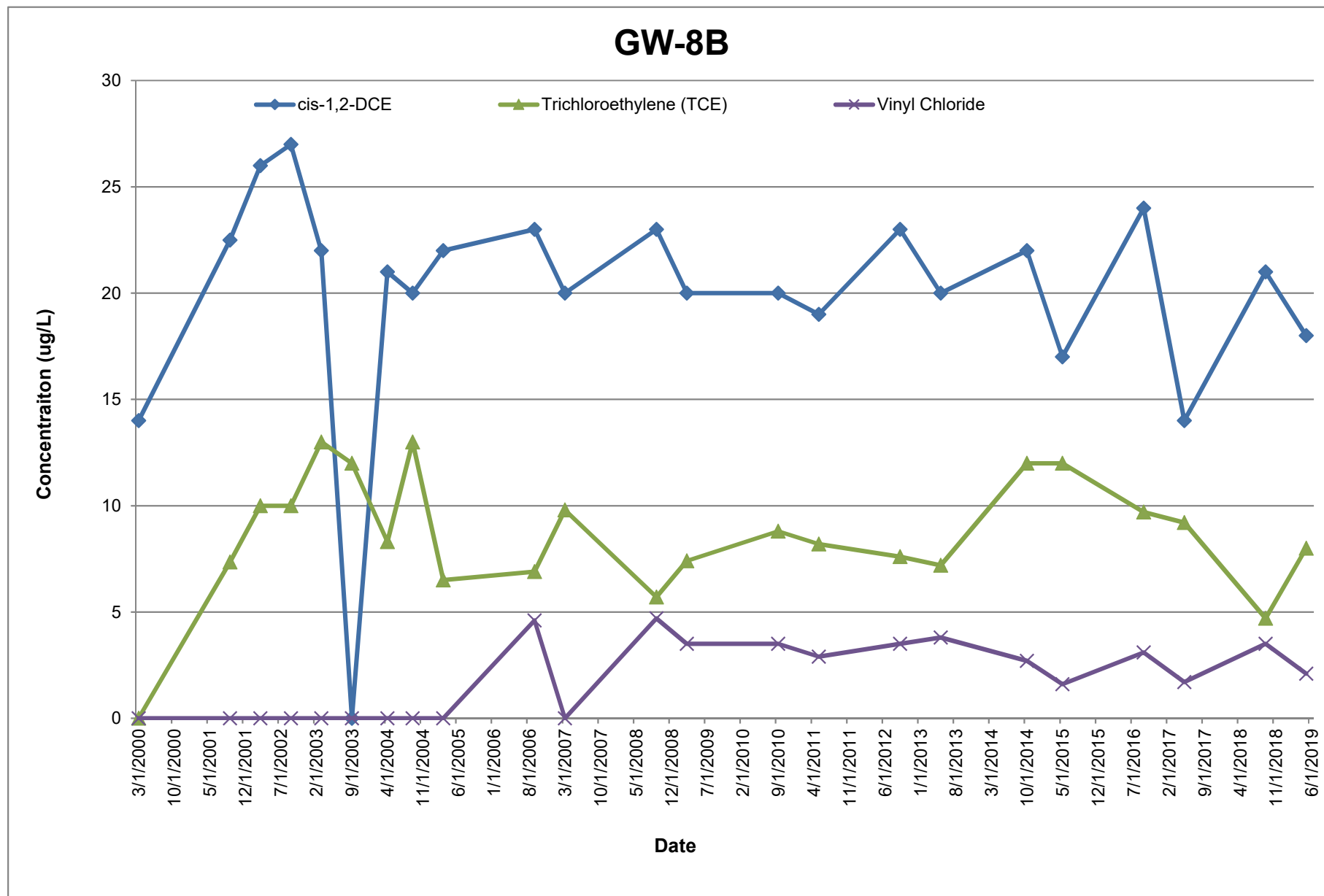


Table 3.1

**Analytical Results Summary**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

Sample Location:			BW-3	BW-4	BW-4	GW-8B
Sample ID:			WG-11194450-052319-DT-002	WG-11194450-052319-DT-003	WG-11194450-052319-DT-004	WG-11194450-052319-DT-001
Sample Date:			5/23/2019	5/23/2019	5/23/2019	5/23/2019
NYSDEC					(Duplicate)	
Parameters	Units	Class GA Criteria/TOGS				
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	5	1.0 U	20 U	3.3	1.0 U
1,1,2-Trichloroethane	µg/L	1	1.0 U	20 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	5	0.50 J	20 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	5	1.0 U	6.3 J	4.3	0.36 J
1,2-Dichloroethane	µg/L	0.6	1.0 U	20 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1	1.0 UJ	20 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50	10 U	200 U	10 U	10 U
2-Hexanone	µg/L	50	5.0 U	100 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	5.0 U	100 U	5.0 U	5.0 U
Acetone	µg/L	50	3.1 J	200 U	3.2 J	10 U
Benzene	µg/L	1	1.0 U	20 U	0.42 J	1.0 U
Bromodichloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromoform	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Carbon disulfide	µg/L	60	1.0 U	20 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chlorobenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	7	1.0 U	8.0 J	5.5	1.0 U
Chloromethane (Methyl chloride)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	5	1.2	1000	1000	18
cis-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Ethylbenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Methylene chloride	µg/L	5	0.62 J	20 U	1.0 U	1.0 U
Styrene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	5	1.0 U	390	400	1.0 U
Toluene	µg/L	5	1.0 U	20 U	0.91 J	1.0 U
trans-1,2-Dichloroethene	µg/L	5	1.0 U	20 UJ	6.1 J	1.0 U

Table 3.1

**Analytical Results Summary  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York  
May 2019**

Sample Location:			BW-3	BW-4	BW-4	GW-8B
Sample ID:			WG-11194450-052319-DT-002	WG-11194450-052319-DT-003	WG-11194450-052319-DT-004	WG-11194450-052319-DT-001
Sample Date:			5/23/2019	5/23/2019	5/23/2019	5/23/2019
NYSDEC					(Duplicate)	
Parameters	Units	Class GA Criteria/TOGS				
<b>Volatile Organic Compounds</b>						
trans-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Trichloroethene	µg/L	5	1.0 U	510	540	8.0
Vinyl chloride	µg/L	2	5.1	230	270	2.1
Xylenes (total)	µg/L	5	2.0 U	40 U	1.1 J	2.0 U

## Notes:

J - Estimated concentration

Class GA Criteria/TOGS - Groundwater Effluent Limitations/Technical and Operational Guidance Series

U - Not detected at the associated reporting limit

UJ - Not detected; associated reporting limit is estimated

Table 3.2

Summary of Bedrock Well Analytical Results: PCE, TCE, cis-1,2-DCE, and Vinyl Chloride  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York

Well Number	Parameter	Groundwater Criteria (ppb)	March 2000 (ppb)	Sept. 2001 (ppb)	March 2002 (ppb)	Sept. 2002 (ppb)	March 2003 (ppb)	Sept. 2003 (ppb)	March/April 2004 (ppb)	Sept. 2004 (ppb)	March 2005 (ppb)	Sept. 2006 (ppb)	March 2007 (ppb)
BW-3	Cis-1,2-DCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	1.8	5U
	PCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
	TCE	5	10U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
	Vinyl Chloride	2	15	5U	5U	5U	5U	5U	5U	6.1	5U	5.7	5.0U
GW-8B	Cis-1,2-DCE	5	14	23 (22)	26	27	22	5U	21	20	22	23	20
	PCE	5	10U	5U (5U)	5U	5U	5U	5U	5U	5U	5U	5U	5U
	TCE	5	10U	7.5 (7.2)	10	10	13	12	8.3	13	6.5	6.9	9.8
	Vinyl Chloride	2	10U	5U (5U)	5U	5U	5U	5U	5U	5U	5U	4.6J	5.0U
BW-4	Cis-1,2-DCE	5	180	270	420	300	230 (240)	500	660	370 (390)	540 (530)	620 (620)	710 (640)
	PCE	5	135	240	64	230	29 (30)	100	110	55 (56)	64 (65)	84 (86)	120 (110)
	TCE	5	178	410	230	420	170 (170)	330	230	290 (290)	180 (180)	290 (290)	310 (280)
	Vinyl Chloride	2	115	74	92	59	41 (41)	100	180	75 (79)	180 (180)	140 (140)	170 (150)

Shaded cells indicate the concentrations exceeds the New York State Class GA Groundwater Criteria

Parenteses indicate the results of the duplicate sample

\* - Concentration represents total 1,2-DCE

\*\* - Concentration represents total DCE

J - Concentration is an estimated value

U - Not present at or above the associated value

Table 3.2

Summary of Bedrock Well Analytical Results: PCE, TCE, cis-1,2-DCE, and Vinyl Chloride  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York

Well Number	Parameter	Groundwater Criteria (ppb)	Sept. 2008 (ppb)	March 2009 (ppb)	Sept. 2010 (ppb)	May 2011 (ppb)	Sept. 2012 (ppb)	May 2013 (ppb)	Oct. 2014 (ppb)	May 2015 (ppb)	Sept. 2016 (ppb)	May 2017 (ppb)	Sept. 2018 (ppb)	May 2019 (ppb)
BW-3	Cis-1,2-DCE	5	2.2	10U*	2.2J*	0.95J**	2	1.7	0.45	2.8	0.85	0.99	1.0U	1.2
	PCE	5	5U	5U	5U	0.42U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	TCE	5	5U	5U	5U	0.30U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	Vinyl Chloride	2	8.2	5.0U	6.4	0.3U	5.7	6.0	4.1	3.2	3.1	1.0U	2.5	5.1
GW-8B	Cis-1,2-DCE	5	23	20*	20*	19**	23	20	22	17	24	14 (14)	21.0	18
	PCE	5	5U	5U	5U	0.42U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U	1.0U
	TCE	5	5.7	7.4	8.8	8.2	7.6	7.2	12	12	9.7	9.2 (9.2)	4.7	8.0
	Vinyl Chloride	2	4.7J	3.5J	3.5J	2.9J	3.5	3.8	2.7	1.6	3.1	1.7	3.5	2.1
BW-4	Cis-1,2-DCE	5	580 (540)	720*	740*	1000**	1700	1300	2200 (1700)	1300	930J	950	1000 (940)	1000 (1000)
	PCE	5	86 (79)	140J	97	92	120	92	390 (330)	300	240	250	390 (410)	390 (400)
	TCE	5	320 (300)	220J	300	390	640	510	1300 (980)	790	660J	600	650 (640)	510 (540)
	Vinyl Chloride	2	100 (100)	160J	170	190	290	240	350 (270)	270	180	240	150 (180)	230 (270)

Shaded cells indicate the concentrations exceeds the New York State Class GA Groundwater Criteria

Parentheses indicate the results of the duplicate sample

\* - Concentration represents total 1,2-DCE

\*\* - Concentration represents total DCE

J - Concentration is an estimated value

U - Not present at or above the associated value

# Attachment A Field Notes



Graftech Annual

GW Sampling

May 23, 2019

Project # 11194450

Field File

**Field Data Record Form**  
**Monitor, PID MiniRae/UltraRae (Gas)**  
**(QSF-259D)**  
Page 1 of 1

Control number: NF 07522  
Date (mm/dd/yyyy): 5/23/2019  
User (print name): D. Tyran

Project number: 1194450  
Project name: Graf Tech Annual  
GW Sampling  
Location: Wiltmer & Hyde Park  
Blud

Calibration gas(es): Isobutylene  
Lot #(s): BB1-248-100-5  
Supplier(s): T.E.  
Expiration date(s): 1/30/2022

Additional information: \_\_\_\_\_

**Field procedure before use:**

	Check when completed
<ul style="list-style-type: none"> <li>• Unscrew and remove the probe assembly.</li> <li>• Remove the dust filter (steel wool) from the cavity in the probe using a pair of tweezers.</li> <li>• Check to ensure the probe is clean.</li> <li>• Replace the filter back into the probe cavity and replace the probe assembly.</li> <li>• Turn on the instrument and allow to warm up and stabilize.</li> <li>• Check battery voltage by pressing the down arrow 4 times, until display reads reads bAt X.X.</li> <li>• Check battery level and record on the space provided, recharge if below 6.0 V.</li> <li>• Check pump inlet flow using your finger to detect suction.</li> <li>• Perform zero gas calibration. If calibrating in unclean air attach the charcoal filter (to exclude any organic gas) to the gas inlet tube.</li> <li>• Press [Menu] key until "CO 0.0" is displayed on LCD.</li> <li>• Press [Enter] key to zero the instrument.</li> <li>• Indicate the use of the charcoal filter by filling in a check box on the side of the filter (if used).</li> <li>• Remove the zero gas charcoal filter (if used).</li> <li>• Press the [Menu] key until the display reads "Clu 100.0" ( or 107.0 depending on the concentration of isobutylene used to previously calibrate the instrument).</li> <li>• If the concentration of the calibration gas to be used is the same as the displayed value, press the [Enter] key 4 times to accept the value otherwise use the arrow keys to change the digit value and [Enter] key to confirm the digit. The flashing digit will move to the next digit to its right. Repeat the process until all 4 digits are entered.</li> <li>• "Gas On" will be displayed on the LCD. Connect the instrument to the calibration gas cylinder.</li> <li>• Turn the cylinder on.</li> <li>• Press [Enter] key to continue the calibration procedure.</li> <li>• Press [Menu] until the instrument is in real time measurement mode.</li> <li>• Expose the instrument to calibration gas and record reading on the space provided. The reading must be within <math>\pm 2</math> ppm of the cal gas otherwise the instrument must be recalibrated.</li> <li>• Turn the instrument off by pressing the [ON] button and then confirming by pressing [Enter].</li> </ul>	<div style="text-align: center;"> <input checked="" type="checkbox"/> </div> <div style="text-align: center;"> <u>Good</u> <input checked="" type="checkbox"/> </div> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div> <div style="text-align: center;"> <input checked="" type="checkbox"/> </div>

Filing: Field file

Signature: D. Tyran

**Field Data Record Form**  
**Meter, Turbidity (Portable) Hach 2100P and 2100Q**  
**(QSF-421D)**

Page 1 of 1

Control number: NF05040 Project number: 11194450  
 Date (mm/dd/yyyy): 5/23/2019 Project name: Graftech  
 User (print name): D. Tyrer Location: Hyde Park Blvd  
and Whitmer Rd

Additional equipment control numbers and descriptions:

10 NTU LOT # A8080 exp 6/2019  
100 NTU LOT # A8075 exp 6/2019  
800 NTU LOT # A8079 exp 6/2019

Field procedure before use:

Do not calibrate in the field.		Check when completed								
Check kit contents; <ul style="list-style-type: none"> <li>• Meter</li> <li>• STABLCAL standards (2100Q)</li> <li>• Low 0-10, medium 0-100, high standards (2100P)</li> <li>• Extra AA batteries</li> <li>• Sample vials</li> </ul>		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>								
Test and record standards: <table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">Gelex (2100P)/STABLCAL (2100Q) Standard</td> <td style="text-align: center;">Meter Reading</td> </tr> <tr> <td style="text-align: center;"><u>10</u></td> <td style="text-align: center;"><u>9.96</u></td> </tr> <tr> <td style="text-align: center;"><u>100</u></td> <td style="text-align: center;"><u>95.1</u></td> </tr> <tr> <td style="text-align: center;"><u>800</u></td> <td style="text-align: center;"><u>752</u></td> </tr> </table>		Gelex (2100P)/STABLCAL (2100Q) Standard	Meter Reading	<u>10</u>	<u>9.96</u>	<u>100</u>	<u>95.1</u>	<u>800</u>	<u>752</u>	<input checked="" type="checkbox"/>
Gelex (2100P)/STABLCAL (2100Q) Standard	Meter Reading									
<u>10</u>	<u>9.96</u>									
<u>100</u>	<u>95.1</u>									
<u>800</u>	<u>752</u>									
Note: Condensation on outside of sample bottles affects meter readings.										

Filing: Field file

Signature: D. Tyrer

**Field Data Record Form**  
**Meter, Water Level**  
**(QSF-251D)**  
Page 1 of 1

Control number: NF07581  
Date (mm/dd/yyyy): 05/23/2019  
User (print name): D. Tyran

Project number: 11194450  
Project name: Graftech Annual  
Location: Hyde Park Blvd @  
Wilmer Rd

Additional equipment control numbers and descriptions:

**Field procedure before use:**

	Check when completed
<ul style="list-style-type: none"><li>Check for broken or missing parts.</li><li>Check battery</li><li>Check operation of buzzer.</li><li>Check operation of signal light.</li><li>Test probe in water to ensure unit operates, both visually and audibly.</li><li>Check cable.</li></ul>	<div><input checked="" type="checkbox"/></div> <div><input checked="" type="checkbox"/></div> <div><input checked="" type="checkbox"/></div> <div><input checked="" type="checkbox"/></div> <div><input checked="" type="checkbox"/></div>

Filing: Field file

Signature: Daniel Tyran

Water Level Measurement Equipment and Supply Checklist  
(Form SP-10)

Date: 05/23/2019  
(mm/dd/yyyy)

Reference No. 11194450

Instruments

- ☒ Water level indicator
- ☐ Steel tape
- ☐ Oil/Water interface probe
- ☐ Air monitoring equipment

Supplies

- ☐ Foil
- ☐ Tyveks (assorted sizes and types)
- ☒ Paper towels / Rags
- ☐ Decontamination fluids
  - ☐ 2 - Propanol
  - ☒ Deionized water
  - ☐ Hexane (pesticide grade)
  - ☐ Methanol (pesticide grade)
  - ☒ Other Ligunox
- ☒ Trash bags
- ☒ Plastic spray bottles

Documentation

- ☐ Well logs
- ☒ Notebook/Field book
- ☐ Photolog
- ☐ Site pass/badge
- ☒ Previous well logs/previous historical well data
- ☐ Site map
- ☒ Blank well data forms

Miscellaneous

- ☒ Well cap keys
- ☒ Bolt cutters
- ☐ Camera/Film
- ☒ Knife
- ☒ Spare batteries for instruments
- ☐ Lock deicer (winter)

Personal Protective Equipment

- ☒ Latex gloves
- ☐ Hard hats/liner(s)
- ☒ Field overboots
- ☒ Work gloves (cotton and chemical resistant)
- ☐ Safety glasses/or side shields on
- ☐ OSHA-approved prescription lenses
- ☒ First aid kit
- ☐ Respirators
- ☒ Check health and safety plan

- ☒ Pen/Pencil/Indelible marking pen
- ☒ Tool box
- ☒ Spare locks/keys
- On site transportation  
(all-terrain vehicle/snowmobiles)

Completed By:

David Tyran  
(please print)

Date:

05/23/2019  
(mm/dd/yyyy)

Groundwater Sampling Equipment and Supply Checklist  
(Form SP-05)

Date: 05/23/2019  
(mm/dd/yyyy)

Reference No. \_\_\_\_\_

**Equipment**

- ☒ Required sampling equipment  
(as per work plan or QAPP)

**Instruments**

- ☒ Water level indicator  
☒ Thermometer \*  
☒ pH meter \*  
☒ Conductivity probe \*  
☒ Turbidity meter  
☐ HNu/OVA/Microtip  
☒ Air monitoring equipment

**Supplies**

- ☐ Gasoline can/gas  
☐ Polypropylene rope  
☐ Aluminum foil  
☒ Paper towels / Rags  
☒ pH buffer solution(s)  
☒ Conductivity standard solution(s)  
☒ Decontamination fluids  
(as per work plan and QAPP)  
☒ Sample jars (extra)  
☒ Sample jar labels (GHD) materials  
☒ Cooler(s)/ice packs/packing materials  
☒ Trash bags  
☐ Sample preservatives  
☒ Plastic spray bottles  
☐ Plastic basin or pan  
☐ Sample filter (on line or external filter)  
☐ Polyethylene sheeting  
☒ First aid kit  
☒ Personal protective equipment (as per HASP)

**Documentation**

- ☒ Chain of custody forms  
☐ Well logs  
☒ Notebook/Field book  
☐ Photolog  
☐ Site pass/badge  
☐ Federal Express manifests  
☒ Previous well logs/previous historical well data  
☒ Site map  
☒ Blank well data forms

**Miscellaneous**

- |   |  |
|---|--|
| <input checked="" type="checkbox"/> Well cap keys                   | <input checked="" type="checkbox"/> Reinforced packing tape                          |
| <input type="checkbox"/> Bolt cutters                               | <input checked="" type="checkbox"/> Pen/pencil/indelible marking pen                 |
| <input type="checkbox"/> Camera/film                                | <input checked="" type="checkbox"/> Tool box   |
| <input checked="" type="checkbox"/> Knife                           | <input type="checkbox"/> Spare locks/keys  |
| <input checked="" type="checkbox"/> Spare batteries for instruments | <input type="checkbox"/> On site transportation<br>(all-terrain vehicle/snowmobiles) |
| <input type="checkbox"/> Lock deicer (winter)                       |  |

Completed By: David Tyran  
(please print)

Date: 05/23/2019  
(mm/dd/yyyy)

**Project Planning Completion and Follow-Up Checklist**  
**(Form SP-02)**

Date: 05/24/2019  
(mm/dd/yyyy)

Reference No. 11194450

**Prior Planning and Coordination**

- ☒ Confirm well numbers, location and accessibility
- ☒ Review of project documents, Health and Safety Plan (HASP), sampling Quality Assurance/Quality Control (QA/QC) and site-specific sampling requirements
- ☒ Historical well data; depth, pH, performance and disposition of purge water
- ☒ Site access notification and coordination
- ☒ Coordination with laboratory through GHD chemistry group
- ☒ Procurement, inventory and inspection of all equipment and supplies
- ☒ Prior equipment preparation, calibration or maintenance
- ☒ All utilities located and approved

**Field Procedure**

- ☒ Instruments calibrated daily
- ☒ Sampling equipment decontaminated in accordance with the QAPP
- ☒ Field measurements and sampling details logged in appropriate field books or an appropriate field form
- ☒ Well volume calculated and specified volumes removed
- ☒ Specified samples, and QA/QC samples taken per Quality Assurance Project Plan (QAPP)
- ☒ Samples properly labeled, preserved and packed
- ☒ Sampling locations secured or completed according to work plan
- ☒ Sample date times, locations and sample numbers have all been recorded in applicable log(s)
- ☒ Samples have been properly stored if not shipped/delivered to lab same day
- ☒ Samples were shipped with complete and accurate chain of custody record

**Follow-Up Activities**

- ☒ Questionable measurements field verified
- ☒ Confirm all samples collected
- ☒ All equipment has been maintained and returned
- ☒ Sampling information reduced and required sample keys and field data distributed
- ☒ Chain of custody records filed
- ☒ Expendable stock supplies replaced
- ☒ GHD and client-controlled items returned (i.e., keys)
- ☒ Arrange disposal of investigation generated wastes with client
- ☒ Confirm all samples collected

Completed By:

David Tyran  
(please print)

Date:

05/24/2019  
(mm/dd/yyyy)

# Tailgate Safety Meeting Form

## Small Group Format - Multiple Days

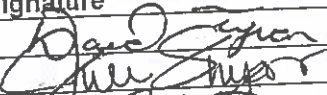
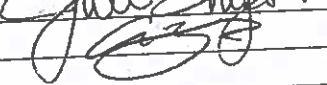

Date:	5/23/2019	Time:	0711	Project No.:	11194450
Presenter:	D. Tyran	Project Name:	Graftech		

Safety topics/items discussed:

High grass, wet conditions will increase the likely hood of ticks and mosquitos, take necessary precautions. Walk area before driving to make sure ground is solid enough. Practice STAR

Emergency preparedness:

First Aid Provider(s):	D. Tyran	Muster Point:	Front Gate
		Method of Communication:	Cell Phone
AED Responder:	911	Fire Extinguisher Location:	GHD Truck
First Aid Kit Location:	GHD Truck	Eye Wash Location:	GHD Truck

Print Name	Signature	Company
David Tyran		GHD
Julianne Snyder		Graftech
Andrew Zwick		DEC

Date:	Time:	Project No.:	
Presenter:	Project Name:		

Safety topics/items discussed:


Emergency preparedness:

First Aid Provider(s):		Muster Point:	
		Emergency Communication:	
AED Responder:		Fire Extinguisher Location:	
First Aid Kit Location:		Eye Wash Location:	

Print Name	Signature	Company





# CHAIN OF CUSTODY RECORD

COC NO.: 5000

PAGE 1 OF 1

Address: 115 Office

Phone: Fax:

Project No/ Phase/Task Code: 1194450				Laboratory Name: Tart America				Lab Location: Amherst NY				SSOW ID:			
Project Name: Columbia River Sample				Lab Contact: Melissa Davis								Cooler No:			
Project Location: Mile Rock Blvd @ W. Main Rd				SAMPLE TYPE				ANALYSIS REQUESTED (See Back of COC for Definitions)				Carrier: Horn Delivery			
GHD Chemistry Contact: D. Anderson				Matrix Code (see back of COC) Grab (G) or Comp (C) Filtered (Y/N) VOL				Total Containers/sample				Airbill No:			
Sampler(s): D. Anderson												Total # of Containers:			
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)				DATE (mm/dd/yy)				TIME (hh:mm)				COMMENTS/ SPECIAL INSTRUCTIONS:			
PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)				AC											
1 1194450-032319 DT-2				5/23/19 1230				WWSG N Y				3			
2 -COI															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Notes/ Special Requirements:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1. [Signature]	GHD	5/23/19	1443	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution:

WHITE - Fully Executed Copy (CRA)

YELLOW - Receiving Laboratory Copy

PINK - Shipper

GOLDENROD - Sampling Crew

GHD Form, COC-10B (20110804)



# CHAIN OF CUSTODY RECORD

COC NO.: 50924

Address: NIF Office PAGE 1 OF 1

Phone: Fax:

Project No/ Phase/Task Code: 11194450				Laboratory Name: Test America				Lab Location: Amherst NY				SSOW ID:			
Project Name: Sediment Analysis				Lab Contact: Melissa Davis								Cooler No:			
Project Location: Hwy 288 Blvd & Wilbur Rd				SAMPLE TYPE: VOCs				ANALYSIS REQUESTED (See Back of COC for Definitions)				Carrier: H&M Transport			
GHD Chemistry Contact: John Hurlbuck				Matrix Code (see back of COC) Grab (G) or Comp (C) Filtered (Y/N) VOCs				Total Containers/sample				Airbill No:			
Sampler(s): D. Tyson												Total # of Containers: 19			
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)				DATE (mm/dd/yy)				TIME (hh:mm)				COMMENTS/ SPECIAL INSTRUCTIONS:			
PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)				HC											
1	WIG-11194450-052319-DT-001			5/23/19	1135	WIG	G	N	X					3	
2	WIG-11194450-052319-DT-002			5/23/19	1335	WIG	G	N	X					9	X
3	WIG-11194450-052319-DT-003			5/23/19	1405	WIG	G	N	X					3	
4	WIG-11194450-052319-DT-004			5/23/19	1405	WIG	G	N	X					3	
5	TB-11194450-052319-DT			5/23/19		TB	G	N						1	
6															
7															
8															
9															
10															
11															
12															

TAT Required in business days (use separate COCs for different TATs): <input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other:				Notes/ Special Requirements:					
RELINQUISHED BY		COMPANY	DATE	TIME	RECEIVED BY		COMPANY	DATE	TIME
1. D. Tyson		GHD	5/23/19	1436	1.				
2.					2.				
3.					3.				

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT -- ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE - Fully Executed Copy (CRA) YELLOW - Receiving Laboratory Copy PINK - Shipper GOLDENROD - Sampling Crew GHD Form: COC-10B (201108C)

Graftech

11194450

Graftech

DAILY LOG

5/23/2019 Calibrate Horiba W-72 control #  
NE07597 with auto Cal solution Lot # 19040042  
exp 2/15/2020

	Before	After
pH (4.00)	4.07	3.99
Cond (4.49)	4.43	4.48
DO	8.69	8.61

0812 DJT on-site meet Maggie Popok

Overcast 63-73°F Winds WSW 5-8 mph

0815 Julie Snyder on-site Tailgate safety meeting

0845 Maggie off-site Start W/L Round

0900 Andrew Zwack from DEC on-site

1000 Rain coming will start sampling before it starts

Set up on GW8B Purge & Sample Low Flow (master flex)

1030 Heavy rain lightning SWA

1105 Start back on GW8B

Trip Blank = TB-11194450-052319-DT 1x40ml w/HCL

1210 Checked 6 development water drums with PID

Sampled drum with highest reading (0.3ppm)

ID WWT-11194450-052319-DT-001 Time 1230 3x40ml w/HCL

1250 Setup on BW-3 Purge & Sample Low-Flow (master flex)

1335 Setup on BW-4 Purge & Sample Low-Flow (master flex)

1430 Complete Sampling - fill out chains

1450 Julie Off-site to deliver samples - DJT grab

last water level close drums

1555 Off-Site

Dave Tyson

(64)

## Hydraulic Monitoring

Date 5/23/19

Project # 11194450

W/L Meter NFO7581

Crew DJT

Well #	Time	W/L	DTB
MW-1	0906	7.54	21.13
MW-2	0956	11.62	<del>11.62</del> 2468
MW-3	1522	4.03	15.32
BW-1	0858	13.22	28.98
( BW-2	0948	7.65	25.78
( BW-3	0915	4.41	23.60
BW-4	0910	5.40	25.57
BW-5	0928	1.23	25.68
BW-6	0943	9.18	25.83
GW-8B	0851	6.96	29.20
GW-9B	1011	9.97	31.98

David J. Tyan

16540-157

Project Name: Graftech Annual  
Ref. No.: 11194450

Date: 5-23-19  
Personnel: D. Tylan

Well No.: G4 GB

Measurement Point: \_\_\_\_\_

Measured Well Depth (m/ft): \_\_\_\_\_

Depth of Sediment (m/ft): \_\_\_\_\_

Depth to Pump Intake (m/ft)<sup>(1)</sup>: \_\_\_\_\_

Well Diameter, D (cm/in): \_\_\_\_\_

Well Screen Volume,  $V_s$  (L)<sup>(2)</sup>: \_\_\_\_\_

Initial Depth to Water (m/ft): 6.46

[illegible]

WG-1119445-052319-DT-001

1135

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well screen.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = n \cdot (r^2) \cdot L$  in mL, where  $r$  ( $r = D/2$ ) and  $L$  are in cm. For Imperial units,  $V_s = n \cdot (r^2) \cdot L \cdot (2.54)^3$ , where  $r$  and  $L$  are in inches.
- (3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .
- (5) For conductivity, the average value of three readings  $< 1$  mS/cm  $\pm 0.005$  mS/cm or where conductivity  $> 1$  mS/cm  $\pm 0.01$  mS/cm.

Inst. Control #3

Florida NFO7597

TUNB NF05040

W/L NF07581

Start Purge @ 1025

Dave Tyson

Masterflex

**Monitoring Well Record for Low-Flow Purging**  
**(Form SP-09)**

**Project Data:**

Project Name: Grafted Annual  
Ref. No.: 11194450

Date: 5/23/19  
Personnel: D. Tyron

### Monitoring Well Data:

Well No.: BW-3

Vapour PID (ppm): \_\_\_\_\_

**Measurement Point:**

Constructed Well Depth (m/ft): \_\_\_\_\_

Measured Well Depth (m/ft):

Depth of Sediment (m/ft): \_\_\_\_\_

**Saturated Screen Length (m/ft):** \_\_\_\_\_

Depth to Pump Intake (m/ft)<sup>(1)</sup>:

Well Diameter, D (cm/in): \_\_\_\_\_

Well Screen Volume,  $V_s$  (L)<sup>(2)</sup>: \_\_\_\_\_

Initial Depth to Water (m/ft): 4.40

[illegible]

Sample ID: ~~WV~~ <sup>WV</sup> WG-11194450-052319-DT-002

Sample Time: 1325

Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi \cdot (r^2) \cdot L$  in mL, where  $r$  ( $r=D/2$ ) and L are in cm.  
For Imperial units,  $V_s = \pi \cdot (r^2) \cdot L \cdot (2.54)^3$ , where r and L are in inches
- (3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged=  $V_p/V_s$ .
- (5) For conductivity, the average value of three readings  $< 1 \text{ mS/cm} \pm 0.005 \text{ mS/cm}$  or where conductivity  $> 1 \text{ mS/cm} \pm 0.01 \text{ mS/cm}$ .

Inst. Contol #s

W/C NF07581

Hbriba NF07597

Turb NF05046

Start Purge @ 1256

Paul Ryan

DUP

Monitoring Well Record for Low-Flow Purging  
(Form SP-09)

## Project Data:

Project Name: Graftech Annual  
Ref. No.: 11194450Date: 5/23/19  
Personnel: D-Tyran

## Monitoring Well Data:

Well No.: BW-4  
Vapour PID (ppm): \_\_\_\_\_  
Measurement Point: \_\_\_\_\_  
Constructed Well Depth (m/ft): \_\_\_\_\_  
Measured Well Depth (m/ft): \_\_\_\_\_  
Depth of Sediment (m/ft): \_\_\_\_\_Saturated Screen Length (m/ft): \_\_\_\_\_  
Depth to Pump Intake (m/ft)<sup>(1)</sup>: \_\_\_\_\_  
Well Diameter, D (cm/in): \_\_\_\_\_  
Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: \_\_\_\_\_  
Initial Depth to Water (m/ft): 5.39

Time	Pumping Rate (mL/min)	Depth to Water (m/ft)	Drawdown from Initial Water Level <sup>(3)</sup> (m/ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, Vp (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
			Precision Required <sup>(5)</sup>	±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		
1353	140			12.4	1.63	18.6	0.00	7.45	-92		
1358		5.39	0.00	13.1	1.63	3.69	0.00	7.46	-97		
1403				13.4	1.61	2.53	0.00	7.46	-101		

Sample ID: WG-11194450-052319-DT-003Sample Time: 1405Notes: Duplicate WG-11194450-052319-DT-004

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi \cdot (r^2) \cdot L$  in mL, where  $r$  ( $r = D/2$ ) and  $L$  are in cm. For Imperial units,  $V_s = \pi \cdot (r^2) \cdot L \cdot (2.54)^3$ , where  $r$  and  $L$  are in inches.
- (3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 500 mL/min.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged =  $V_p/V_s$ .
- (5) For conductivity, the average value of three readings  $< 1$  mS/cm  $\pm 0.005$  mS/cm or where conductivity  $> 1$  mS/cm  $\pm 0.01$  mS/cm.

Inst. Control #'s  
W/L NF07501  
Turb NF05040  
Abribe NF07597

Start Purge @ 1342

Dave Tyran

# Attachment B Field Parameters



## Attachment B

Groundwater Quality Parameters  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York  
May 2019

Monitoring Well Location	Date	Time (hours:minutes)	Purge Rate (mL/per min.)	Water Level (ft. BTOC)	Temperature (°C)	Conductivity (mS/cm)	Turbidity (NTU)	DO (mg/L)	pH (Units)	ORP (mv)
GW-8B	05/23/2019	11:01	130	7.83	11.4	2.00	3.99	1.33	9.67	NM
		11:06	80	NM	12.1	2.02	3.50	0.00	8.74	NM
		11:11	80	7.65	12.9	2.03	2.20	0.00	8.20	NM
		11:16	90	7.62	12.2	2.09	2.15	0.00	7.91	NM
		11:21	80	NM	12.5	2.08	2.06	0.00	7.80	NM
		11:26	80	7.55	13.1	2.08	1.34	0.00	7.77	NM
BW-3	05/23/2019	13:01	150	4.40	11.4	1.25	5.39	0.00	7.75	-54
		13:06	150	4.40	11.3	1.22	3.60	0.00	7.54	-46
		13:11	150	4.40	11.3	1.18	4.77	0.00	7.49	-41
		13:16	150	4.40	11.1	1.18	3.26	0.00	7.47	-41
BW-4	05/23/2019	13:53	140	5.39	12.4	1.63	18.60	0.00	7.45	-92
		13:58	140	5.39	13.1	1.63	3.69	0.00	7.46	-97
		14:03	140	5.39	13.4	1.61	2.53	0.00	7.46	-101

## Notes:

ft. BTOC - Feet below top of casing  
 NM - Not measured  
 DO - Dissolved oxygen  
 ORP - Oxidation-reduction potential

# Attachment C Laboratory Report

## ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo  
10 Hazelwood Drive  
Amherst, NY 14228-2298  
Tel: (716)691-2600

Laboratory Job ID: 480-154078-1

Client Project/Site: 11194450-02, GrafTech International Hold

For:

GHD Services Inc.  
2055 Niagara Falls Blvd., Suite 3  
Niagara Falls, New York 14304

Attn: Ms. Deborah Andrasko



Authorized for release by:  
5/31/2019 4:44:02 PM

Rebecca Jones, Project Management Assistant I  
[rebecca.jones@testamericainc.com](mailto:rebecca.jones@testamericainc.com)

Designee for

Melissa Deyo, Project Manager I  
(716)504-9874  
[melissa.deyo@testamericainc.com](mailto:melissa.deyo@testamericainc.com)

### LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*

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## Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

### Qualifiers

#### GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

## Case Narrative

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

### Job ID: 480-154078-1

#### Laboratory: Eurofins TestAmerica, Buffalo

#### Narrative

#### Job Narrative 480-154078-1

#### Receipt

The samples were received on 5/23/2019 3:20 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

#### GC/MS VOA

Method(s) 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: WG-11194450-052319-DT-003 (480-154078-3). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The following samples was diluted to bring the concentration of target analytes within the calibration range: WG-11194450-052319-DT-004 (480-154078-4). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-475447 recovered above the upper control limit for Carbon tetrachloride and 1,1,1-Trichloroethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: WG-11194450-052319-DT-002 (480-154078-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

## Detection Summary

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

### Client Sample ID: WG-11194450-052319-DT-001

### Lab Sample ID: 480-154078-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichlorethylene	0.36	J	1.0	0.29	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	18		1.0	0.81	ug/L	1		8260C	Total/NA
Trichloroethene	8.0		1.0	0.46	ug/L	1		8260C	Total/NA
Vinyl chloride	2.1		1.0	0.90	ug/L	1		8260C	Total/NA

### Client Sample ID: WG-11194450-052319-DT-002

### Lab Sample ID: 480-154078-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	0.50	J F2	1.0	0.38	ug/L	1		8260C	Total/NA
Acetone	3.1	J F2	10	3.0	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	1.2	F2	1.0	0.81	ug/L	1		8260C	Total/NA
Methylene Chloride	0.62	J F1 F2	1.0	0.44	ug/L	1		8260C	Total/NA
Vinyl chloride	5.1		1.0	0.90	ug/L	1		8260C	Total/NA

### Client Sample ID: WG-11194450-052319-DT-003

### Lab Sample ID: 480-154078-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichlorethylene	6.3	J	20	5.8	ug/L	20		8260C	Total/NA
Chloroform	8.0	J	20	6.8	ug/L	20		8260C	Total/NA
cis-1,2-Dichloroethene	1000		20	16	ug/L	20		8260C	Total/NA
Tetrachloroethene	390		20	7.2	ug/L	20		8260C	Total/NA
Trichloroethene	510		20	9.2	ug/L	20		8260C	Total/NA
Vinyl chloride	230		20	18	ug/L	20		8260C	Total/NA

### Client Sample ID: WG-11194450-052319-DT-004

### Lab Sample ID: 480-154078-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,2,2-Tetrachloroethane	3.3		1.0	0.21	ug/L	1		8260C	Total/NA
1,1-Dichlorethylene	4.3		1.0	0.29	ug/L	1		8260C	Total/NA
Acetone	3.2	J	10	3.0	ug/L	1		8260C	Total/NA
Benzene	0.42	J	1.0	0.41	ug/L	1		8260C	Total/NA
Chloroform	5.5		1.0	0.34	ug/L	1		8260C	Total/NA
Toluene	0.91	J	1.0	0.51	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	6.1		1.0	0.90	ug/L	1		8260C	Total/NA
Xylenes, Total	1.1	J	2.0	0.66	ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene - DL	1000		20	16	ug/L	20		8260C	Total/NA
Tetrachloroethene - DL	400		20	7.2	ug/L	20		8260C	Total/NA
Trichloroethene - DL	540		20	9.2	ug/L	20		8260C	Total/NA
Vinyl chloride - DL	270		20	18	ug/L	20		8260C	Total/NA

### Client Sample ID: TB-11194450-052319-DT

### Lab Sample ID: 480-154078-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

Client Sample ID: WG-11194450-052319-DT-001

Lab Sample ID: 480-154078-1

Date Collected: 05/23/19 11:35

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/30/19 14:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/30/19 14:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 14:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/30/19 14:57	1
1,1-Dichloroethylene	0.36	J	1.0	0.29	ug/L			05/30/19 14:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/30/19 14:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/30/19 14:57	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 14:57	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 14:57	1
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 14:57	1
Acetone	ND		10	3.0	ug/L			05/30/19 14:57	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 14:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			05/30/19 14:57	1
Bromoform	ND		1.0	0.26	ug/L			05/30/19 14:57	1
Bromomethane	ND		1.0	0.69	ug/L			05/30/19 14:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/30/19 14:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/30/19 14:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/30/19 14:57	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 14:57	1
Chloroform	ND		1.0	0.34	ug/L			05/30/19 14:57	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 14:57	1
cis-1,2-Dichloroethene	18		1.0	0.81	ug/L			05/30/19 14:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/30/19 14:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			05/30/19 14:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/30/19 14:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/30/19 14:57	1
Styrene	ND		1.0	0.73	ug/L			05/30/19 14:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/30/19 14:57	1
Toluene	ND		1.0	0.51	ug/L			05/30/19 14:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/30/19 14:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/30/19 14:57	1
Trichloroethene	8.0		1.0	0.46	ug/L			05/30/19 14:57	1
Vinyl chloride	2.1		1.0	0.90	ug/L			05/30/19 14:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/30/19 14:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		77 - 120		05/30/19 14:57	1
4-Bromofluorobenzene (Surr)	99		73 - 120		05/30/19 14:57	1
Toluene-d8 (Surr)	95		80 - 120		05/30/19 14:57	1
Dibromofluoromethane (Surr)	103		75 - 123		05/30/19 14:57	1

Client Sample ID: WG-11194450-052319-DT-002

Lab Sample ID: 480-154078-2

Date Collected: 05/23/19 13:25

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND	F1 F2	1.0	0.82	ug/L			05/30/19 21:39	1
1,1,2,2-Tetrachloroethane	ND	F2	1.0	0.21	ug/L			05/30/19 21:39	1
1,1,2-Trichloroethane	ND	F2	1.0	0.23	ug/L			05/30/19 21:39	1

Eurofins TestAmerica, Buffalo



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

Client Sample ID: WG-11194450-052319-DT-002

Lab Sample ID: 480-154078-2

Date Collected: 05/23/19 13:25

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>1,1-Dichloroethane</b>	<b>0.50</b>	<b>J F2</b>	1.0	0.38	ug/L			05/30/19 21:39	1
1,1-Dichloroethylene	ND	F2	1.0	0.29	ug/L			05/30/19 21:39	1
1,2-Dichloroethane	ND	F2	1.0	0.21	ug/L			05/30/19 21:39	1
1,2-Dichloropropane	ND	F1 F2	1.0	0.72	ug/L			05/30/19 21:39	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 21:39	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 21:39	1
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 21:39	1
<b>Acetone</b>	<b>3.1</b>	<b>J F2</b>	10	3.0	ug/L			05/30/19 21:39	1
Benzene	ND	F2	1.0	0.41	ug/L			05/30/19 21:39	1
Bromodichloromethane	ND	F2	1.0	0.39	ug/L			05/30/19 21:39	1
Bromoform	ND	F2	1.0	0.26	ug/L			05/30/19 21:39	1
Bromomethane	ND	F2	1.0	0.69	ug/L			05/30/19 21:39	1
Carbon disulfide	ND	F2	1.0	0.19	ug/L			05/30/19 21:39	1
Carbon tetrachloride	ND	F1 F2	1.0	0.27	ug/L			05/30/19 21:39	1
Chlorobenzene	ND	F2	1.0	0.75	ug/L			05/30/19 21:39	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 21:39	1
Chloroform	ND	F2	1.0	0.34	ug/L			05/30/19 21:39	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 21:39	1
<b>cis-1,2-Dichloroethene</b>	<b>1.2</b>	<b>F2</b>	1.0	0.81	ug/L			05/30/19 21:39	1
cis-1,3-Dichloropropene	ND	F2	1.0	0.36	ug/L			05/30/19 21:39	1
Dibromochloromethane	ND	F2	1.0	0.32	ug/L			05/30/19 21:39	1
Ethylbenzene	ND	F2	1.0	0.74	ug/L			05/30/19 21:39	1
<b>Methylene Chloride</b>	<b>0.62</b>	<b>J F1 F2</b>	1.0	0.44	ug/L			05/30/19 21:39	1
Styrene	ND	F2	1.0	0.73	ug/L			05/30/19 21:39	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/30/19 21:39	1
Toluene	ND	F2	1.0	0.51	ug/L			05/30/19 21:39	1
trans-1,2-Dichloroethene	ND	F2	1.0	0.90	ug/L			05/30/19 21:39	1
trans-1,3-Dichloropropene	ND	F2	1.0	0.37	ug/L			05/30/19 21:39	1
Trichloroethene	ND	F2	1.0	0.46	ug/L			05/30/19 21:39	1
<b>Vinyl chloride</b>	<b>5.1</b>		1.0	0.90	ug/L			05/30/19 21:39	1
Xylenes, Total	ND	F2	2.0	0.66	ug/L			05/30/19 21:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120		05/30/19 21:39	1
4-Bromofluorobenzene (Surr)	98		73 - 120		05/30/19 21:39	1
Toluene-d8 (Surr)	93		80 - 120		05/30/19 21:39	1
Dibromofluoromethane (Surr)	108		75 - 123		05/30/19 21:39	1

Client Sample ID: WG-11194450-052319-DT-003

Lab Sample ID: 480-154078-3

Date Collected: 05/23/19 14:05

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		20	16	ug/L			05/30/19 15:45	20
1,1,2,2-Tetrachloroethane	ND		20	4.2	ug/L			05/30/19 15:45	20
1,1,2-Trichloroethane	ND		20	4.6	ug/L			05/30/19 15:45	20
1,1-Dichloroethane	ND		20	7.6	ug/L			05/30/19 15:45	20
<b>1,1-Dichloroethylene</b>	<b>6.3</b>	<b>J</b>	20	5.8	ug/L			05/30/19 15:45	20
1,2-Dichloroethane	ND		20	4.2	ug/L			05/30/19 15:45	20

Eurofins TestAmerica, Buffalo

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

Client Sample ID: WG-11194450-052319-DT-003

Lab Sample ID: 480-154078-3

Date Collected: 05/23/19 14:05

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		20	14	ug/L			05/30/19 15:45	20
2-Butanone	ND		200	26	ug/L			05/30/19 15:45	20
2-Hexanone	ND		100	25	ug/L			05/30/19 15:45	20
4-Methyl-2-pentanone	ND		100	42	ug/L			05/30/19 15:45	20
Acetone	ND		200	60	ug/L			05/30/19 15:45	20
Benzene	ND		20	8.2	ug/L			05/30/19 15:45	20
Bromodichloromethane	ND		20	7.8	ug/L			05/30/19 15:45	20
Bromoform	ND		20	5.2	ug/L			05/30/19 15:45	20
Bromomethane	ND		20	14	ug/L			05/30/19 15:45	20
Carbon disulfide	ND		20	3.8	ug/L			05/30/19 15:45	20
Carbon tetrachloride	ND		20	5.4	ug/L			05/30/19 15:45	20
Chlorobenzene	ND		20	15	ug/L			05/30/19 15:45	20
Chloroethane	ND		20	6.4	ug/L			05/30/19 15:45	20
Chloroform	8.0	J	20	6.8	ug/L			05/30/19 15:45	20
Chloromethane	ND		20	7.0	ug/L			05/30/19 15:45	20
cis-1,2-Dichloroethene	1000		20	16	ug/L			05/30/19 15:45	20
cis-1,3-Dichloropropene	ND		20	7.2	ug/L			05/30/19 15:45	20
Dibromochloromethane	ND		20	6.4	ug/L			05/30/19 15:45	20
Ethylbenzene	ND		20	15	ug/L			05/30/19 15:45	20
Methylene Chloride	ND		20	8.8	ug/L			05/30/19 15:45	20
Styrene	ND		20	15	ug/L			05/30/19 15:45	20
Tetrachloroethene	390		20	7.2	ug/L			05/30/19 15:45	20
Toluene	ND		20	10	ug/L			05/30/19 15:45	20
trans-1,2-Dichloroethene	ND		20	18	ug/L			05/30/19 15:45	20
trans-1,3-Dichloropropene	ND		20	7.4	ug/L			05/30/19 15:45	20
Trichloroethene	510		20	9.2	ug/L			05/30/19 15:45	20
Vinyl chloride	230		20	18	ug/L			05/30/19 15:45	20
Xylenes, Total	ND		40	13	ug/L			05/30/19 15:45	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		77 - 120					05/30/19 15:45	20
4-Bromofluorobenzene (Surr)	104		73 - 120					05/30/19 15:45	20
Toluene-d8 (Surr)	99		80 - 120					05/30/19 15:45	20
Dibromofluoromethane (Surr)	105		75 - 123					05/30/19 15:45	20

Client Sample ID: WG-11194450-052319-DT-004

Lab Sample ID: 480-154078-4

Date Collected: 05/23/19 14:05

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/30/19 16:10	1
1,1,2,2-Tetrachloroethane	3.3		1.0	0.21	ug/L			05/30/19 16:10	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 16:10	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/30/19 16:10	1
1,1-Dichloroethylene	4.3		1.0	0.29	ug/L			05/30/19 16:10	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/30/19 16:10	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/30/19 16:10	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 16:10	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 16:10	1

Eurofins TestAmerica, Buffalo

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

Client Sample ID: WG-11194450-052319-DT-004

Lab Sample ID: 480-154078-4

Date Collected: 05/23/19 14:05

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 16:10	1
Acetone	3.2	J	10	3.0	ug/L			05/30/19 16:10	1
Benzene	0.42	J	1.0	0.41	ug/L			05/30/19 16:10	1
Bromodichloromethane	ND		1.0	0.39	ug/L			05/30/19 16:10	1
Bromoform	ND		1.0	0.26	ug/L			05/30/19 16:10	1
Bromomethane	ND		1.0	0.69	ug/L			05/30/19 16:10	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/30/19 16:10	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/30/19 16:10	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/30/19 16:10	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 16:10	1
Chloroform	5.5		1.0	0.34	ug/L			05/30/19 16:10	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 16:10	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/30/19 16:10	1
Dibromochloromethane	ND		1.0	0.32	ug/L			05/30/19 16:10	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/30/19 16:10	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/30/19 16:10	1
Styrene	ND		1.0	0.73	ug/L			05/30/19 16:10	1
Toluene	0.91	J	1.0	0.51	ug/L			05/30/19 16:10	1
trans-1,2-Dichloroethene	6.1		1.0	0.90	ug/L			05/30/19 16:10	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/30/19 16:10	1
Xylenes, Total	1.1	J	2.0	0.66	ug/L			05/30/19 16:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		77 - 120		05/30/19 16:10	1
4-Bromofluorobenzene (Surr)	99		73 - 120		05/30/19 16:10	1
Toluene-d8 (Surr)	98		80 - 120		05/30/19 16:10	1
Dibromofluoromethane (Surr)	117		75 - 123		05/30/19 16:10	1

## Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1000		20	16	ug/L			05/30/19 22:03	20
Tetrachloroethene	400		20	7.2	ug/L			05/30/19 22:03	20
Trichloroethene	540		20	9.2	ug/L			05/30/19 22:03	20
Vinyl chloride	270		20	18	ug/L			05/30/19 22:03	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		05/30/19 22:03	20
4-Bromofluorobenzene (Surr)	107		73 - 120		05/30/19 22:03	20
Toluene-d8 (Surr)	103		80 - 120		05/30/19 22:03	20
Dibromofluoromethane (Surr)	107		75 - 123		05/30/19 22:03	20

Client Sample ID: TB-11194450-052319-DT

Lab Sample ID: 480-154078-5

Date Collected: 05/23/19 00:00

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/30/19 16:34	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/30/19 16:34	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 16:34	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/30/19 16:34	1

Eurofins TestAmerica, Buffalo

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

Client Sample ID: TB-11194450-052319-DT

Lab Sample ID: 480-154078-5

Date Collected: 05/23/19 00:00

Matrix: Water

Date Received: 05/23/19 15:20

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichlorethylene	ND		1.0	0.29	ug/L			05/30/19 16:34	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/30/19 16:34	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/30/19 16:34	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 16:34	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 16:34	1
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 16:34	1
Acetone	ND		10	3.0	ug/L			05/30/19 16:34	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 16:34	1
Bromodichloromethane	ND		1.0	0.39	ug/L			05/30/19 16:34	1
Bromoform	ND		1.0	0.26	ug/L			05/30/19 16:34	1
Bromomethane	ND		1.0	0.69	ug/L			05/30/19 16:34	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/30/19 16:34	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/30/19 16:34	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/30/19 16:34	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 16:34	1
Chloroform	ND		1.0	0.34	ug/L			05/30/19 16:34	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 16:34	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/30/19 16:34	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/30/19 16:34	1
Dibromochloromethane	ND		1.0	0.32	ug/L			05/30/19 16:34	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/30/19 16:34	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/30/19 16:34	1
Styrene	ND		1.0	0.73	ug/L			05/30/19 16:34	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/30/19 16:34	1
Toluene	ND		1.0	0.51	ug/L			05/30/19 16:34	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/30/19 16:34	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/30/19 16:34	1
Trichloroethene	ND		1.0	0.46	ug/L			05/30/19 16:34	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/30/19 16:34	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/30/19 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		77 - 120		05/30/19 16:34	1
4-Bromofluorobenzene (Surr)	104		73 - 120		05/30/19 16:34	1
Toluene-d8 (Surr)	101		80 - 120		05/30/19 16:34	1
Dibromofluoromethane (Surr)	111		75 - 123		05/30/19 16:34	1

## Surrogate Summary

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

### Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	TOL (80-120)	DBFM (75-123)
480-154078-1	WG-11194450-052319-DT-001	115	99	95	103
480-154078-2	WG-11194450-052319-DT-002	106	98	93	108
480-154078-2 MS	WG-11194450-052319-DT-002	105	101	97	100
480-154078-2 MSD	WG-11194450-052319-DT-002	113	103	96	105
480-154078-3	WG-11194450-052319-DT-003	118	104	99	105
480-154078-4	WG-11194450-052319-DT-004	111	99	98	117
480-154078-4 - DL	WG-11194450-052319-DT-004	107	107	103	107
480-154078-5	TB-11194450-052319-DT	112	104	101	111
LCS 480-475230/5	Lab Control Sample	106	106	102	99
LCS 480-475447/5	Lab Control Sample	111	105	100	110
MB 480-475230/7	Method Blank	104	96	97	102
MB 480-475447/7	Method Blank	107	102	98	98

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

# QC Sample Results

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

## Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-475230/7

Matrix: Water

Analysis Batch: 475230

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/30/19 09:57	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/30/19 09:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 09:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/30/19 09:57	1
1,1-Dichloroethylene	ND		1.0	0.29	ug/L			05/30/19 09:57	1
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/30/19 09:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/30/19 09:57	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 09:57	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 09:57	1
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 09:57	1
Acetone	ND		10	3.0	ug/L			05/30/19 09:57	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 09:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			05/30/19 09:57	1
Bromoform	ND		1.0	0.26	ug/L			05/30/19 09:57	1
Bromomethane	ND		1.0	0.69	ug/L			05/30/19 09:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/30/19 09:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/30/19 09:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/30/19 09:57	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 09:57	1
Chloroform	ND		1.0	0.34	ug/L			05/30/19 09:57	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 09:57	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/30/19 09:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/30/19 09:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			05/30/19 09:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/30/19 09:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/30/19 09:57	1
Styrene	ND		1.0	0.73	ug/L			05/30/19 09:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/30/19 09:57	1
Toluene	ND		1.0	0.51	ug/L			05/30/19 09:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/30/19 09:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/30/19 09:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/30/19 09:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/30/19 09:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/30/19 09:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120		05/30/19 09:57	1
4-Bromofluorobenzene (Surr)	96		73 - 120		05/30/19 09:57	1
Toluene-d8 (Surr)	97		80 - 120		05/30/19 09:57	1
Dibromofluoromethane (Surr)	102		75 - 123		05/30/19 09:57	1

Lab Sample ID: LCS 480-475230/5

Matrix: Water

Analysis Batch: 475230

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.5		ug/L		94	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.5		ug/L		94	76 - 120

Eurofins TestAmerica, Buffalo

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-475230/5

Matrix: Water

Analysis Batch: 475230

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	25.0	24.8		ug/L		99	76 - 122
1,1-Dichloroethane	25.0	22.5		ug/L		90	77 - 120
1,1-Dichloroethylene	25.0	18.6		ug/L		74	66 - 127
1,2-Dichloroethane	25.0	25.5		ug/L		102	75 - 120
1,2-Dichloropropane	25.0	22.3		ug/L		89	76 - 120
2-Butanone	125	122		ug/L		98	57 - 140
2-Hexanone	125	122		ug/L		97	65 - 127
4-Methyl-2-pentanone	125	122		ug/L		97	71 - 125
Acetone	125	135		ug/L		108	56 - 142
Benzene	25.0	21.9		ug/L		87	71 - 124
Bromodichloromethane	25.0	25.4		ug/L		102	80 - 122
Bromoform	25.0	26.7		ug/L		107	61 - 132
Bromomethane	25.0	19.9		ug/L		80	55 - 144
Carbon disulfide	25.0	18.6		ug/L		74	59 - 134
Carbon tetrachloride	25.0	22.2		ug/L		89	72 - 134
Chlorobenzene	25.0	24.1		ug/L		97	80 - 120
Chloroethane	25.0	20.3		ug/L		81	69 - 136
Chloroform	25.0	20.9		ug/L		84	73 - 127
Chloromethane	25.0	18.9		ug/L		76	68 - 124
cis-1,2-Dichloroethene	25.0	22.6		ug/L		90	74 - 124
cis-1,3-Dichloropropene	25.0	24.7		ug/L		99	74 - 124
Dibromochloromethane	25.0	27.8		ug/L		111	75 - 125
Ethylbenzene	25.0	23.5		ug/L		94	77 - 123
Methylene Chloride	25.0	20.5		ug/L		82	75 - 124
Styrene	25.0	25.2		ug/L		101	80 - 120
Tetrachloroethene	25.0	22.8		ug/L		91	74 - 122
Toluene	25.0	23.5		ug/L		94	80 - 122
trans-1,2-Dichloroethene	25.0	20.5		ug/L		82	73 - 127
trans-1,3-Dichloropropene	25.0	27.4		ug/L		109	80 - 120
Trichloroethene	25.0	22.0		ug/L		88	74 - 123
Vinyl chloride	25.0	19.3		ug/L		77	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		77 - 120
4-Bromofluorobenzene (Surr)	106		73 - 120
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	99		75 - 123

Lab Sample ID: MB 480-475447/7

Matrix: Water

Analysis Batch: 475447

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	ND		1.0	0.82	ug/L			05/30/19 20:57	1
1,1,1,2-Tetrachloroethane	ND		1.0	0.21	ug/L			05/30/19 20:57	1
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 20:57	1
1,1-Dichloroethane	ND		1.0	0.38	ug/L			05/30/19 20:57	1
1,1-Dichloroethylene	ND		1.0	0.29	ug/L			05/30/19 20:57	1

Eurofins TestAmerica, Buffalo

# QC Sample Results

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-475447/7

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 475447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0	0.21	ug/L			05/30/19 20:57	1
1,2-Dichloropropane	ND		1.0	0.72	ug/L			05/30/19 20:57	1
2-Butanone	ND		10	1.3	ug/L			05/30/19 20:57	1
2-Hexanone	ND		5.0	1.2	ug/L			05/30/19 20:57	1
4-Methyl-2-pentanone	ND		5.0	2.1	ug/L			05/30/19 20:57	1
Acetone	ND		10	3.0	ug/L			05/30/19 20:57	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 20:57	1
Bromodichloromethane	ND		1.0	0.39	ug/L			05/30/19 20:57	1
Bromoform	ND		1.0	0.26	ug/L			05/30/19 20:57	1
Bromomethane	ND		1.0	0.69	ug/L			05/30/19 20:57	1
Carbon disulfide	ND		1.0	0.19	ug/L			05/30/19 20:57	1
Carbon tetrachloride	ND		1.0	0.27	ug/L			05/30/19 20:57	1
Chlorobenzene	ND		1.0	0.75	ug/L			05/30/19 20:57	1
Chloroethane	ND		1.0	0.32	ug/L			05/30/19 20:57	1
Chloroform	ND		1.0	0.34	ug/L			05/30/19 20:57	1
Chloromethane	ND		1.0	0.35	ug/L			05/30/19 20:57	1
cis-1,2-Dichloroethene	ND		1.0	0.81	ug/L			05/30/19 20:57	1
cis-1,3-Dichloropropene	ND		1.0	0.36	ug/L			05/30/19 20:57	1
Dibromochloromethane	ND		1.0	0.32	ug/L			05/30/19 20:57	1
Ethylbenzene	ND		1.0	0.74	ug/L			05/30/19 20:57	1
Methylene Chloride	ND		1.0	0.44	ug/L			05/30/19 20:57	1
Styrene	ND		1.0	0.73	ug/L			05/30/19 20:57	1
Tetrachloroethene	ND		1.0	0.36	ug/L			05/30/19 20:57	1
Toluene	ND		1.0	0.51	ug/L			05/30/19 20:57	1
trans-1,2-Dichloroethene	ND		1.0	0.90	ug/L			05/30/19 20:57	1
trans-1,3-Dichloropropene	ND		1.0	0.37	ug/L			05/30/19 20:57	1
Trichloroethene	ND		1.0	0.46	ug/L			05/30/19 20:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/30/19 20:57	1
Xylenes, Total	ND		2.0	0.66	ug/L			05/30/19 20:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		05/30/19 20:57	1
4-Bromofluorobenzene (Surr)	102		73 - 120		05/30/19 20:57	1
Toluene-d8 (Surr)	98		80 - 120		05/30/19 20:57	1
Dibromofluoromethane (Surr)	98		75 - 123		05/30/19 20:57	1

Lab Sample ID: LCS 480-475447/5

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 475447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	29.7		ug/L		119	73 - 126
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	76 - 120
1,1,2-Trichloroethane	25.0	25.1		ug/L		100	76 - 122
1,1-Dichloroethane	25.0	26.0		ug/L		104	77 - 120
1,1-Dichloroethylene	25.0	25.8		ug/L		103	66 - 127
1,2-Dichloroethane	25.0	27.5		ug/L		110	75 - 120
1,2-Dichloropropane	25.0	24.4		ug/L		98	76 - 120

Eurofins TestAmerica, Buffalo



# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-475447/5

Matrix: Water

Analysis Batch: 475447

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone	125	130		ug/L		104	57 - 140
2-Hexanone	125	124		ug/L		99	65 - 127
4-Methyl-2-pentanone	125	120		ug/L		96	71 - 125
Acetone	125	163		ug/L		130	56 - 142
Benzene	25.0	24.3		ug/L		97	71 - 124
Bromodichloromethane	25.0	27.8		ug/L		111	80 - 122
Bromoform	25.0	26.2		ug/L		105	61 - 132
Bromomethane	25.0	23.1		ug/L		92	55 - 144
Carbon disulfide	25.0	26.0		ug/L		104	59 - 134
Carbon tetrachloride	25.0	30.3		ug/L		121	72 - 134
Chlorobenzene	25.0	25.3		ug/L		101	80 - 120
Chloroethane	25.0	24.7		ug/L		99	69 - 136
Chloroform	25.0	23.7		ug/L		95	73 - 127
Chloromethane	25.0	21.6		ug/L		86	68 - 124
cis-1,2-Dichloroethene	25.0	24.9		ug/L		99	74 - 124
cis-1,3-Dichloropropene	25.0	26.3		ug/L		105	74 - 124
Dibromochloromethane	25.0	28.5		ug/L		114	75 - 125
Ethylbenzene	25.0	25.7		ug/L		103	77 - 123
Methylene Chloride	25.0	24.0		ug/L		96	75 - 124
Styrene	25.0	25.9		ug/L		104	80 - 120
Tetrachloroethene	25.0	26.9		ug/L		108	74 - 122
Toluene	25.0	25.9		ug/L		104	80 - 122
trans-1,2-Dichloroethene	25.0	27.1		ug/L		109	73 - 127
trans-1,3-Dichloropropene	25.0	26.6		ug/L		106	80 - 120
Trichloroethene	25.0	26.4		ug/L		105	74 - 123
Vinyl chloride	25.0	23.6		ug/L		95	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		77 - 120
4-Bromofluorobenzene (Surr)	105		73 - 120
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	110		75 - 123

Lab Sample ID: 480-154078-2 MS

Matrix: Water

Analysis Batch: 475447

Client Sample ID: WG-11194450-052319-DT-002

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	ND	F1 F2	25.0	24.8		ug/L		99	73 - 126
1,1,2,2-Tetrachloroethane	ND	F2	25.0	19.8		ug/L		79	76 - 120
1,1,2-Trichloroethane	ND	F2	25.0	20.4		ug/L		82	76 - 122
1,1-Dichloroethane	0.50	J F2	25.0	19.8		ug/L		77	77 - 120
1,1-Dichloroethylene	ND	F2	25.0	20.0		ug/L		80	66 - 127
1,2-Dichloroethane	ND	F2	25.0	22.1		ug/L		88	75 - 120
1,2-Dichloropropane	ND	F1 F2	25.0	18.2	F1	ug/L		73	76 - 120
2-Butanone	ND		125	97.4		ug/L		78	57 - 140
2-Hexanone	ND		125	101		ug/L		81	65 - 127
4-Methyl-2-pentanone	ND		125	99.5		ug/L		80	71 - 125

Eurofins TestAmerica, Buffalo

# QC Sample Results

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-154078-2 MS

Client Sample ID: WG-11194450-052319-DT-002

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 475447

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	3.1	J F2	125	103		ug/L		80	56 - 142
Benzene	ND	F2	25.0	18.8		ug/L		75	71 - 124
Bromodichloromethane	ND	F2	25.0	20.3		ug/L		81	80 - 122
Bromoform	ND	F2	25.0	21.5		ug/L		86	61 - 132
Bromomethane	ND	F2	25.0	19.3		ug/L		77	55 - 144
Carbon disulfide	ND	F2	25.0	18.0		ug/L		72	59 - 134
Carbon tetrachloride	ND	F1 F2	25.0	24.1		ug/L		97	72 - 134
Chlorobenzene	ND	F2	25.0	20.5		ug/L		82	80 - 120
Chloroethane	ND		25.0	23.7		ug/L		95	69 - 136
Chloroform	ND	F2	25.0	18.6		ug/L		75	73 - 127
Chloromethane	ND		25.0	21.3		ug/L		85	68 - 124
cis-1,2-Dichloroethene	1.2	F2	25.0	20.2		ug/L		76	74 - 124
cis-1,3-Dichloropropene	ND	F2	25.0	19.7		ug/L		79	74 - 124
Dibromochloromethane	ND	F2	25.0	23.3		ug/L		93	75 - 125
Ethylbenzene	ND	F2	25.0	21.5		ug/L		86	77 - 123
Methylene Chloride	0.62	J F1 F2	25.0	16.9	F1	ug/L		65	75 - 124
Styrene	ND	F2	25.0	21.1		ug/L		84	80 - 120
Tetrachloroethene	ND		25.0	24.4		ug/L		98	74 - 122
Toluene	ND	F2	25.0	20.5		ug/L		82	80 - 122
trans-1,2-Dichloroethene	ND	F2	25.0	20.2		ug/L		81	73 - 127
trans-1,3-Dichloropropene	ND	F2	25.0	22.5		ug/L		90	80 - 120
Trichloroethene	ND	F2	25.0	19.6		ug/L		78	74 - 123
Vinyl chloride	5.1		25.0	27.3		ug/L		89	65 - 133

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	105		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Toluene-d8 (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	100		75 - 123

Lab Sample ID: 480-154078-2 MSD

Client Sample ID: WG-11194450-052319-DT-002

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 475447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	ND	F1 F2	25.0	33.8	F1 F2	ug/L		135	73 - 126	31	15
1,1,2,2-Tetrachloroethane	ND	F2	25.0	23.8	F2	ug/L		95	76 - 120	18	15
1,1,2-Trichloroethane	ND	F2	25.0	25.8	F2	ug/L		103	76 - 122	23	15
1,1-Dichloroethane	0.50	J F2	25.0	27.1	F2	ug/L		107	77 - 120	31	20
1,1-Dichloroethylene	ND	F2	25.0	27.9	F2	ug/L		112	66 - 127	33	16
1,2-Dichloroethane	ND	F2	25.0	28.4	F2	ug/L		114	75 - 120	25	20
1,2-Dichloropropane	ND	F1 F2	25.0	25.4	F2	ug/L		102	76 - 120	33	20
2-Butanone	ND		125	119		ug/L		95	57 - 140	20	20
2-Hexanone	ND		125	117		ug/L		94	65 - 127	15	15
4-Methyl-2-pentanone	ND		125	118		ug/L		95	71 - 125	17	35
Acetone	3.1	J F2	125	120	F2	ug/L		94	56 - 142	16	15
Benzene	ND	F2	25.0	26.8	F2	ug/L		107	71 - 124	35	13
Bromodichloromethane	ND	F2	25.0	29.4	F2	ug/L		118	80 - 122	37	15

Eurofins TestAmerica, Buffalo

# QC Sample Results

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

## Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-154078-2 MSD

Client Sample ID: WG-11194450-052319-DT-002

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 475447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromoform	ND	F2	25.0	25.1	F2	ug/L		101	61 - 132	16	15
Bromomethane	ND	F2	25.0	24.0	F2	ug/L		96	55 - 144	22	15
Carbon disulfide	ND	F2	25.0	26.1	F2	ug/L		104	59 - 134	37	15
Carbon tetrachloride	ND	F1 F2	25.0	34.8	F1 F2	ug/L		139	72 - 134	36	15
Chlorobenzene	ND	F2	25.0	26.6	F2	ug/L		106	80 - 120	26	25
Chloroethane	ND		25.0	25.1		ug/L		100	69 - 136	6	15
Chloroform	ND	F2	25.0	24.9	F2	ug/L		100	73 - 127	29	20
Chloromethane	ND		25.0	21.9		ug/L		88	68 - 124	3	15
cis-1,2-Dichloroethene	1.2	F2	25.0	26.5	F2	ug/L		101	74 - 124	27	15
cis-1,3-Dichloropropene	ND	F2	25.0	27.6	F2	ug/L		111	74 - 124	34	15
Dibromochloromethane	ND	F2	25.0	28.1	F2	ug/L		113	75 - 125	19	15
Ethylbenzene	ND	F2	25.0	27.1	F2	ug/L		108	77 - 123	23	15
Methylene Chloride	0.62	J F1 F2	25.0	24.3	F2	ug/L		95	75 - 124	36	15
Styrene	ND	F2	25.0	27.8	F2	ug/L		111	80 - 120	28	20
Tetrachloroethene	ND		25.0	29.0		ug/L		116	74 - 122	17	20
Toluene	ND	F2	25.0	26.6	F2	ug/L		106	80 - 122	26	15
trans-1,2-Dichloroethene	ND	F2	25.0	27.7	F2	ug/L		111	73 - 127	32	20
trans-1,3-Dichloropropene	ND	F2	25.0	27.7	F2	ug/L		111	80 - 120	21	15
Trichloroethene	ND	F2	25.0	27.4	F2	ug/L		109	74 - 123	33	16
Vinyl chloride	5.1		25.0	29.7		ug/L		99	65 - 133	9	15

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Toluene-d8 (Surr)	96		80 - 120
Dibromofluoromethane (Surr)	105		75 - 123

## QC Association Summary

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

### GC/MS VOA

#### Analysis Batch: 475230

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-154078-1	WG-11194450-052319-DT-001	Total/NA	Water	8260C	
480-154078-3	WG-11194450-052319-DT-003	Total/NA	Water	8260C	
480-154078-4	WG-11194450-052319-DT-004	Total/NA	Water	8260C	
480-154078-5	TB-11194450-052319-DT	Total/NA	Water	8260C	
MB 480-475230/7	Method Blank	Total/NA	Water	8260C	
LCS 480-475230/5	Lab Control Sample	Total/NA	Water	8260C	

#### Analysis Batch: 475447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-154078-2	WG-11194450-052319-DT-002	Total/NA	Water	8260C	
480-154078-4 - DL	WG-11194450-052319-DT-004	Total/NA	Water	8260C	
MB 480-475447/7	Method Blank	Total/NA	Water	8260C	
LCS 480-475447/5	Lab Control Sample	Total/NA	Water	8260C	
480-154078-2 MS	WG-11194450-052319-DT-002	Total/NA	Water	8260C	
480-154078-2 MSD	WG-11194450-052319-DT-002	Total/NA	Water	8260C	

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 11194450-02, GrafTech International Hold

Job ID: 480-154078-1

**Client Sample ID: WG-11194450-052319-DT-001**

**Lab Sample ID: 480-154078-1**

**Date Collected: 05/23/19 11:35**

**Matrix: Water**

**Date Received: 05/23/19 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	475230	05/30/19 14:57	AEM	TAL BUF

**Client Sample ID: WG-11194450-052319-DT-002**

**Lab Sample ID: 480-154078-2**

**Date Collected: 05/23/19 13:25**

**Matrix: Water**

**Date Received: 05/23/19 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	475447	05/30/19 21:39	RJF	TAL BUF

**Client Sample ID: WG-11194450-052319-DT-003**

**Lab Sample ID: 480-154078-3**

**Date Collected: 05/23/19 14:05**

**Matrix: Water**

**Date Received: 05/23/19 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	475230	05/30/19 15:45	AEM	TAL BUF

**Client Sample ID: WG-11194450-052319-DT-004**

**Lab Sample ID: 480-154078-4**

**Date Collected: 05/23/19 14:05**

**Matrix: Water**

**Date Received: 05/23/19 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	475230	05/30/19 16:10	AEM	TAL BUF
Total/NA	Analysis	8260C	DL	20	475447	05/30/19 22:03	RJF	TAL BUF

**Client Sample ID: TB-11194450-052319-DT**

**Lab Sample ID: 480-154078-5**

**Date Collected: 05/23/19 00:00**

**Matrix: Water**

**Date Received: 05/23/19 15:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	475230	05/30/19 16:34	AEM	TAL BUF

## Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

## Accreditation/Certification Summary

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

### Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

## Method Summary

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

### Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

## Sample Summary

Client: GHD Services Inc.

Job ID: 480-154078-1

Project/Site: 11194450-02, GrafTech International Hold

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-154078-1	WG-11194450-052319-DT-001	Water	05/23/19 11:35	05/23/19 15:20	
480-154078-2	WG-11194450-052319-DT-002	Water	05/23/19 13:25	05/23/19 15:20	
480-154078-3	WG-11194450-052319-DT-003	Water	05/23/19 14:05	05/23/19 15:20	
480-154078-4	WG-11194450-052319-DT-004	Water	05/23/19 14:05	05/23/19 15:20	
480-154078-5	TB-11194450-052319-DT	Water	05/23/19 00:00	05/23/19 15:20	





# CHAIN OF CUSTODY RECORD

COC NO.: 58964


Address: NF Office

Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

Project No/Phase/Task Code: 11194450	Laboratory Name: Test America	Lab Location: Amherst NY	SSOW ID:
Project Name: Grastech Annual	Lab Contact: Melissa Deyo	Carrier: Hand Delivered	Cooler No:
Project Location: Hyde Park Blvd & Iditarod Rd	ANALYSIS REQUESTED (See Back of COC for Definitions)	Airbill No:	
ID Chemistry Contact: Deb Andrasco	SAMPLE TYPE	Total Containers/sample	MS/MSD Request
Sample(s): D-Tyran	Matrix Code	Total # of Containers:	COMMENTS/ SPECIAL INSTRUCTIONS:
	Grab (g) or Comp (c)	19	
	Filtered (Y/N)		

PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)										HC
WLG-11194450-052319-DT-001	5-23-19	1135	WG	G	N	X			3	
WLG-11194450-052319-DT-002	5-23-19	1325	WG	G	N	X			9	X
WLG-11194450-052319-DT-003	5-23-19	1405	WG	G	N	X			3	
WLG-11194450-052319-DT-004	5-23-19	1405	WG	G	N	X			3	
TB-11194450-052319-DT	5-23-19		TB	G	N				1	
<div>DT</div>										



480-154078 Chain of Custody

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## Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 480-154078-1

Login Number: 154078

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Maddux, Ann

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

# Attachment D Data Validation Memo



# Memorandum

June 20, 2019

To: Maggie Popek

Ref. No.: 11194450

From: Sheri Finn/eew/1

Tel: 716-205-1977

**Subject: Analytical Results and Reduced Validation  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York  
May 2019**

## 1. Introduction

This document details a validation of analytical results for groundwater samples collected in support of the Annual Groundwater Monitoring Program at the Niagara Falls, New York Site on May 23, 2019. Samples were submitted to TestAmerica Laboratories, Inc., located in Amherst, New York. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS) and field QC samples.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the document entitled "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-08-01, June 2008, subsequently referred to as the "Guidelines" in this Memorandum.

## 2. Sample Holding Time and Preservation

The sample holding time criterion for the analysis is summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding time.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).



### 3. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect for the compounds of interest.

### 4. Surrogate Spike Recoveries

In accordance with the method employed, all samples, blanks, and QC samples analyzed for Volatile Organic Compounds (VOCs) are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the laboratory criteria.

### 5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the method employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, indicating acceptable analytical accuracy.

### 6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the analytes of concern and analyzed as MS/MSD samples. The relative percent difference (RPD) between the MS and MSD is used to assess analytical precision. If the original sample concentration is significantly greater than the spike concentration, the recovery is not assessed.

MS/MSD analysis was performed as specified in Table 1.



The MS/MSD sample was spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, indicating good analytical accuracy and precision with the exception of the results qualified as estimated in Table 4.

## 7. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample, and one field duplicate sample set.

### 7.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, a trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

### 7.2 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, a field duplicate sample set was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate sample must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value for water samples.

The field duplicate results were in agreement, demonstrating acceptable sampling and analytical precision with the exception of some variability with the trans-1,2-dichloroethene results. The associated results were qualified as estimated (see Table 5).

## 8. Analyte Reporting

The laboratory reported detected results down to the laboratory's MDL for each analyte. Positive analyte detections less than the RL but greater than the MDL were reported as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

## 9. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the qualifications noted.

Table 1

**Sample Collection and Analysis Summary**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	<u>Analysis</u>		Comments
					VOCs		
WG-11194450-052319-DT-002	BW-3	Water	05/23/2019	13:25	X		MS/MSD
WG-11194450-052319-DT-003	BW-4	Water	05/23/2019	14:05	X		
WG-11194450-052319-DT-004	BW-4	Water	05/23/2019	14:05	X		Field Duplicate of WG-11194450-052319-DT-003
WG-11194450-052319-DT-001	GW-8B	Water	05/23/2019	11:35	X		
TB-11194450-052319-DT	-	Water	05/23/2019	00:00	X		Trip Blank

## Notes:

- -Not applicable
- FD - Field Duplicate sample of sample in parentheses
- MS/MSD - Matrix Spike/Matrix Spike Duplicate
- VOCs - Volatile Organic Compounds

Table 2

**Analytical Results Summary**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

Sample Location:			BW-3	BW-4	BW-4	GW-8B
Sample ID:			WG-11194450-052319-DT-002	WG-11194450-052319-DT-003	WG-11194450-052319-DT-004	WG-11194450-052319-DT-001
Sample Date:			5/23/2019	5/23/2019	5/23/2019	5/23/2019
NYSDEC					(Duplicate)	
Parameters	Units	Class GA Criteria/TOGS				
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	5	1.0 U	20 U	3.3	1.0 U
1,1,2-Trichloroethane	µg/L	1	1.0 U	20 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	5	0.50 J	20 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	5	1.0 U	6.3 J	4.3	0.36 J
1,2-Dichloroethane	µg/L	0.6	1.0 U	20 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1	1.0 UJ	20 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	50	10 U	200 U	10 U	10 U
2-Hexanone	µg/L	50	5.0 U	100 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	--	5.0 U	100 U	5.0 U	5.0 U
Acetone	µg/L	50	3.1 J	200 U	3.2 J	10 U
Benzene	µg/L	1	1.0 U	20 U	0.42 J	1.0 U
Bromodichloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromoform	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Carbon disulfide	µg/L	60	1.0 U	20 U	1.0 U	1.0 U
Carbon tetrachloride	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chlorobenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroethane	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	7	1.0 U	8.0 J	5.5	1.0 U
Chloromethane (Methyl chloride)	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	5	1.2	1000	1000	18
cis-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Dibromochloromethane	µg/L	50	1.0 U	20 U	1.0 U	1.0 U
Ethylbenzene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Methylene chloride	µg/L	5	0.62 J	20 U	1.0 U	1.0 U
Styrene	µg/L	5	1.0 U	20 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	5	1.0 U	390	400	1.0 U
Toluene	µg/L	5	1.0 U	20 U	0.91 J	1.0 U
trans-1,2-Dichloroethene	µg/L	5	1.0 U	20 UJ	6.1 J	1.0 U



Table 2

**Analytical Results Summary**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

<b>Sample Location:</b>			<b>BW-3</b>	<b>BW-4</b>	<b>BW-4</b>	<b>GW-8B</b>
<b>Sample ID:</b>			<b>WG-11194450-052319-DT-002</b>	<b>WG-11194450-052319-DT-003</b>	<b>WG-11194450-052319-DT-004</b>	<b>WG-11194450-052319-DT-001</b>
<b>Sample Date:</b>			<b>5/23/2019</b>	<b>5/23/2019</b>	<b>5/23/2019</b>	<b>5/23/2019</b>
<b>NYSDEC</b>					<b>(Duplicate)</b>	
<b>Parameters</b>	<b>Units</b>	<b>Class GA Criteria/TOGS</b>				
<b>Volatile Organic Compounds</b>						
trans-1,3-Dichloropropene	µg/L	0.4	1.0 U	20 U	1.0 U	1.0 U
Trichloroethene	µg/L	5	1.0 U	510	540	8.0
Vinyl chloride	µg/L	2	5.1	230	270	2.1
Xylenes (total)	µg/L	5	2.0 U	40 U	1.1 J	2.0 U

## Notes:

J - Estimated concentration

Class GA Criteria/TOGS - Groundwater Effluent Limitations/Technical and Operational Guidance Series

U - Not detected at the associated reporting limit

UJ - Not detected; associated reporting limit is estimated

**Table 3**

**Analytical Method and Holding Time  
Annual Groundwater Monitoring Program  
GrafTech International Holdings, Inc.  
Niagara Falls, New York  
May 2019**

<b>Parameter</b>	<b>Method</b>	<b>Matrix</b>	<b>Collection to Analysis (Days)</b>
Volatile Organic Compounds	SW-846 8260C	Water	14

Notes:

SW-846 - "Test Methods for Solid Waste/Physical Chemical Methods," SW-846,  
Third Edition, September 1986 (with all subsequent revisions)

Table 4

**Qualified Sample Results Due to Outlying MS/MSD Results**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

Parameter	Sample ID	Analyte	MS	MSD	RPD (percent)	Control Limits		Qualified Result	Units
			% Recovery	% Recovery		% Recovery	RPD		
VOC	WG-11194450-052319-DT-002	1,1-Dichloroethane	77	107	31	77-120	20	0.50 J	µg/L
	WG-11194450-052319-DT-002	1,2-Dichloropropane	73	102	33	76-120	20	1.0 UJ	µg/L
	WG-11194450-052319-DT-002	Methylene chloride	65	95	36	75-124	15	0.62 J	µg/L

## Notes:

- MS - Matrix Spike
- MSD - Matrix Spike Duplicate
- RPD - Relative Percent Difference
- J - Estimated concentration
- UJ - Not detected; associated reporting limit is estimated

**Table 5**

**Qualified Sample Data Due to Variability in Field Duplicate Results**  
**Annual Groundwater Monitoring Program**  
**GrafTech International Holdings, Inc.**  
**Niagara Falls, New York**  
**May 2019**

<b>Parameter</b>	<b>Analyte</b>	<b>RPD/Diff</b>		<b>Sample ID</b>	<b>Qualified Result</b>	<b>Field Duplicate Sample ID</b>	<b>Qualified Result</b>	<b>Units</b>
VOC	trans-1,2-Dichloroethene	-	1.0	WG-11194450-052319-DT-003	20 UJ	WG-11194450-052319-DT-004	6.1 J	µg/L

**Notes:**

- Diff - Difference (i.e., >1X RL for waters or >2XRL for soils)  
 RPD - Relative Percent Difference  
 J - Estimated concentration  
 UJ - Not detected; associated reporting limit is estimated



May 22, 2019

Reference No. 11194450-01

Ms. Julianne Snyder  
HSEP Manager  
GrafTech International Holdings Inc.  
982 Keynote Circle  
Brooklyn Heights, OH 44131

Dear Ms. Snyder:

**Re: Bedrock Well Redevelopment Summary Letter  
Former Republic Landfill, Niagara Falls, New York**

In accordance with GHD's April 8, 2019 proposal, GHD redeveloped bedrock wells BW-1 through BW-6 at the Former Republic Landfill in Niagara Falls, New York (Site) on April 24 and 25, 2019. In a letter from the New York State Department of Environmental Conservation (NYSDEC) dated March 18, 2019 commenting on the 2018 Periodic Review Report (PRR) for the Site, the NYSDEC requested that bedrock wells with a buildup of sediment/debris be redeveloped to remove sediment buildup to the extent practicable prior to the next annual sampling and hydraulic monitoring event. Measured well depths during the 2018 annual sampling event indicated that several wells (BW-1, BW-2, BW-3, BW-4, BW-5, and BW-6) had sediment thicknesses ranging from approximately 1.3 feet to 12.4 feet. As such, these wells were selected for redevelopment. Each well is 4 inches in diameter and includes a 3-inch diameter open hole in the bedrock formation.

GHD oversaw redevelopment of BW-1 through BW-6 by TREC Environmental, Inc. (TREC). TREC redeveloped the wells by injecting compressed air into the bottom of the wells and surging the wells using the resulting displaced well water by repeatedly alternating on-off the air flow. The injected air also agitated any solids present at the bottoms the wells in an attempt to loosen them for removal. The compressed air was delivered to the bottom of each well through tubing inserted into a 1-inch diameter polyvinyl chloride (PVC) pipe temporarily placed into the well. Following surging, water was removed from the well through the PVC pipe and transferred into a 55-gallon drum. The surging process was repeated at each well until the water removed from the well was clear and/or further redevelopment was deemed not practicable due to the presence of apparent obstructions in the well. Due to its low recharge rate, potable water was added to BW-6 to assist with the surging process. The water removed from the wells was placed into six 55-gallon drums and was sampled for the waste characterization parameters required by the intended disposal facility. The drums are currently staged on-site pending proper off-site disposal.

GHD measured both well depths and water levels in the wells before and after redevelopment. These measurements are presented in Table 1 below. The measured pre- and post-redevelopment well depths were compared to each other and compared to the reported installed well depths to assess the efficacy of the redevelopment in removing sediment/debris buildup. This efficacy is briefly discussed for each well following the table. Based on a comparison of the pre- and post- redevelopment water levels, all wells



except for BW-1 had fully recovered by the end of the redevelopment event. A summary of additional observations made by GHD during the redevelopment event follows the table.

Table 1. Water Levels and Well Depths Before and After Redevelopment

Well	Water Level (feet BTOR)		Well Depth (feet BTOR)		
	Before Redevelopment	After Redevelopment	Before Redevelopment	After Redevelopment	Installed Depth (Reported)
BW-1	11.90	12.29	26.78	29.00	35.92
BW-2	9.22	9.15	26.45	27.63	37.13
BW-3	5.14	5.18	24.91	25.00	24.72
BW-4	6.47	6.49	22.82	27.10	27.48
BW-5	3.51	3.54	28.61	28.75	28.23
BW-6	9.94	8.65	25.37	30.40	36.54

BTOR = Below top of riser

#### *Well Redevelopment Details*

**BW-1:** Approximately 55 gallons of water (roughly 5 well volumes), which was black in color initially but cleared with time, were pumped from the well during redevelopment. A review of the Table 1 indicates that the sounded well depth after redevelopment was 29.00 feet BTOR while the reported installed well depth was 35.92 feet BTOR. The reason for the discrepancy between the sounded well depth (29.00 feet BTOR) and the reported installed well depth (35.92 feet BTOR) could not be ascertained in the field.

**BW-2:** Approximately 70 gallons of water (roughly 5.8 well volumes), which was cloudy and brown in color, with a few pieces of fine gravel present, were pumped from the well during redevelopment. A review of the Table 1 indicates that the sounded well depth after redevelopment was 27.63 feet BTOR while the reported installed well depth was 37.13 feet BTOR. Field observations noted during the redevelopment activities could not ascertain why there was an approximately 10 foot disparity between the measured and reported well depths.

**BW-3:** Approximately 40 gallons of water (roughly 3 well volumes), which was cloudy and grayish-brown in color initially but cleared quickly, were pumped from the well during redevelopment. An approximate 8-inch long piece of wood was recovered from the bottom of the well. The sounded well depth following redevelopment was comparable to the reported installed well depth.

**BW-4:** Approximately 40 gallons of water (roughly 3 well volumes) were removed from the well during redevelopment activities. The water was initially cloudy with a black to brown color that began to clear



after approximately 18 gallons was removed and continued to clear over time. The sounded well depth following redevelopment was comparable to the reported installed well depth.

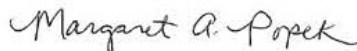
**BW-5:** Approximately 40 gallons of water (roughly 2.4 well volumes), which was cloudy and brownish-orange in color initially but cleared quickly, were pumped from the well during redevelopment. The sounded well depth following redevelopment was comparable to the reported installed well depth.

**BW-6:** Approximately 17 gallons of water (roughly 1.3 well volumes) were removed from the well during redevelopment. The purged water was brown in color, very silty, and contained fine gravel. After surging the well with air and removing the initial 17 gallons, the bottom of the well was probed with the compressed air PVC pipe and silty/clayey/gravelly soil was observed in the bottom of the PVC pipe. Based on the probing, it was concluded that there was a partial obstruction in the well at approximately 25 feet BTOR and a solid blockage at approximately 30 feet BTOR. Surging of the well continued until all groundwater was removed from the well and the well was dry. Prior to going dry, the purged groundwater was observed to be very silty with sand and fine gravel present. The well was left to recover overnight. The following day, the water level in the well had fully recovered and the well was surged again. Potable water was added to the well to assist with the surging. Upon completion of redevelopment, the water removed from the well was again observed to be very silty with some fine gravel present. Approximately 70 gallons of water in total (roughly 5.3 well volumes) were removed during redevelopment. It appears that the discrepancy between the sounded well depth of 30.40 feet BTOR following redevelopment and the reported installed well depth of 36.54 feet BTOR is likely due to an obstruction of some type (heavy silting).

Thank you for the opportunity to perform this work for GrafTech. If you have any questions regarding this summary letter, please contact us at 716-205-1973.

Sincerely,

GHD

  
Margaret A. Popek  
Project Manager/Geologist

MAP/eew

Encl.

cc: Dennis Hoyt

---

## Appendix E

Copy of Signed Institutional and Engineering Controls Certification Form





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.** 932035

**Site Name** GrafTech Intl. Hlds. Inc. (formerly Union Carbide)

**Site Address:** Hyde Park Boulevard **Zip Code:** 14303

**City/Town:** Niagara

**County:** Niagara

**Site Acreage:** 61.800

**Reporting Period:** December 31, 2018 to December 31, 2019

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))?

☐ ☒

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?  
Industrial

☒ ☐

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.**

N/A

Signature of Owner, Remedial Party or Designated Representative

Date

**SITE NO. 932035**

**Box 3**

**Description of Institutional Controls**

Parcel

Owner

Institutional Control

**130.20-1-1**

GrafTech International Holdings Inc.

Site Management Plan

Monitoring Plan

Per the Site Management Plan dated December 17, 2013; groundwater monitoring and landfill cap maintenance is required.

**Box 4**

**Description of Engineering Controls**

Parcel

Engineering Control

**130.20-1-1**

Monitoring Wells

Fencing/Access Control

Cover System

Constructed cover system and closed under Division of Materials Management Part 360 in 1987.

### 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 complete.

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.**

N/A

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. 932035

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 Thomas R. Jacques at 982 Keynote Circle, Brooklyn Heights, Ohio  
print name print business address 44131

am certifying as Designated Representative of Owner (Owner or Remedial Party)

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

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

01/22/2020  
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 Julianne M. Snyder at 982 Keynote Circle, Brooklyn Heights, Ohio  
print name print business address 44131

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

Julianne M. Snyder  
Signature of Qualified Environmental Professional, for  
the Owner or Remedial Party, Rendering Certification

N/A  
Stamp  
(Required for PE)

1/22/2020  
Date

---

## Appendix F

Copies of Weekly General Landfill and Site Security Inspection Reports – 2019

# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
12-29-18	12:00	Edm. Smedley

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

PORTLAND ST.

SCALE IN FEET

225 450 675

PAUL ST.

PANAMA STREET

RHOKE ST.

ISLAND AVENUE

PETROLEUM ST.

DUQUESNE ST.

PRETORIA ST.

DULUTH ST.

SAVANNAH ST.

NORMAN ST.

LOCKING GATE #1

WATERMAIN BERM

CHAIN LINK FENCE

GRAVEL ROAD

PERCHED SURFACE WATER

LIGHT BRUSH

GRAVEL ROAD

LOCKING GATE #2

LOCKING GATE #3

NIAGARA MOHAWK

CHAIN LINK FENCE

RAISED LANDFILL

DECONTAMINATED WOOD LOT

CORNER MARKERS

NOTE: ALL ROW AND PROPERTY LINES ARE APPROXIMATE LOCATIONS FROM TAX MAPS DATED TO 1982, AND 1984. MAPS DATED 3/7/1993.

LEGEND

MONITORING WELL LOCATION

APPROXIMATE PROPERTY LINE

CHAIN-LINK FENCE

UNION CARBIDE SITE

UNION CARBIDE SITE



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
1-6-19	1:00	John Seaton

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G		frick damage from tree		
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1				
2				
3				

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

Tree fell damaged fence

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

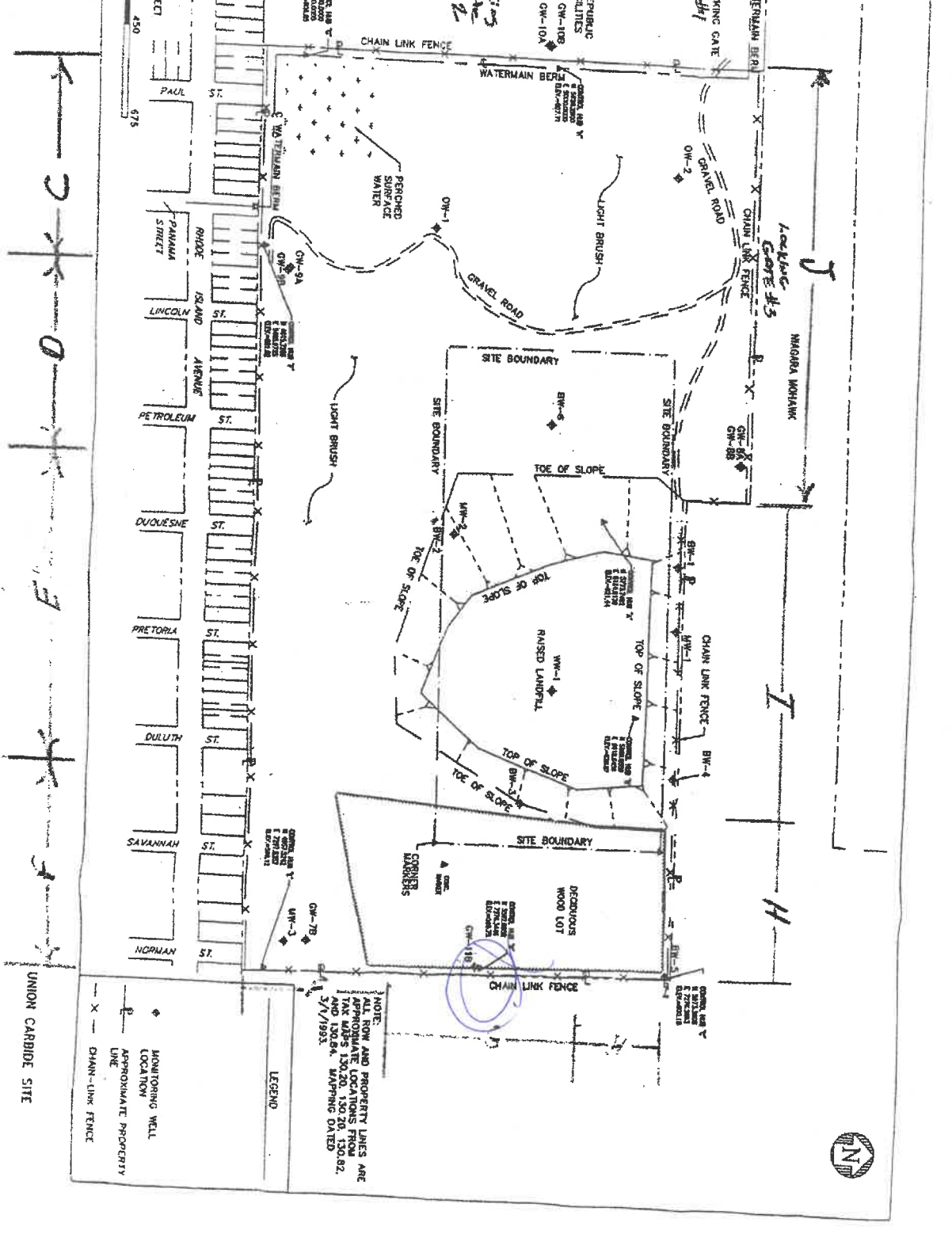
all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

Tree fell

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
1-13-19	2:00	John Sweeney

ENCE ARE.	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

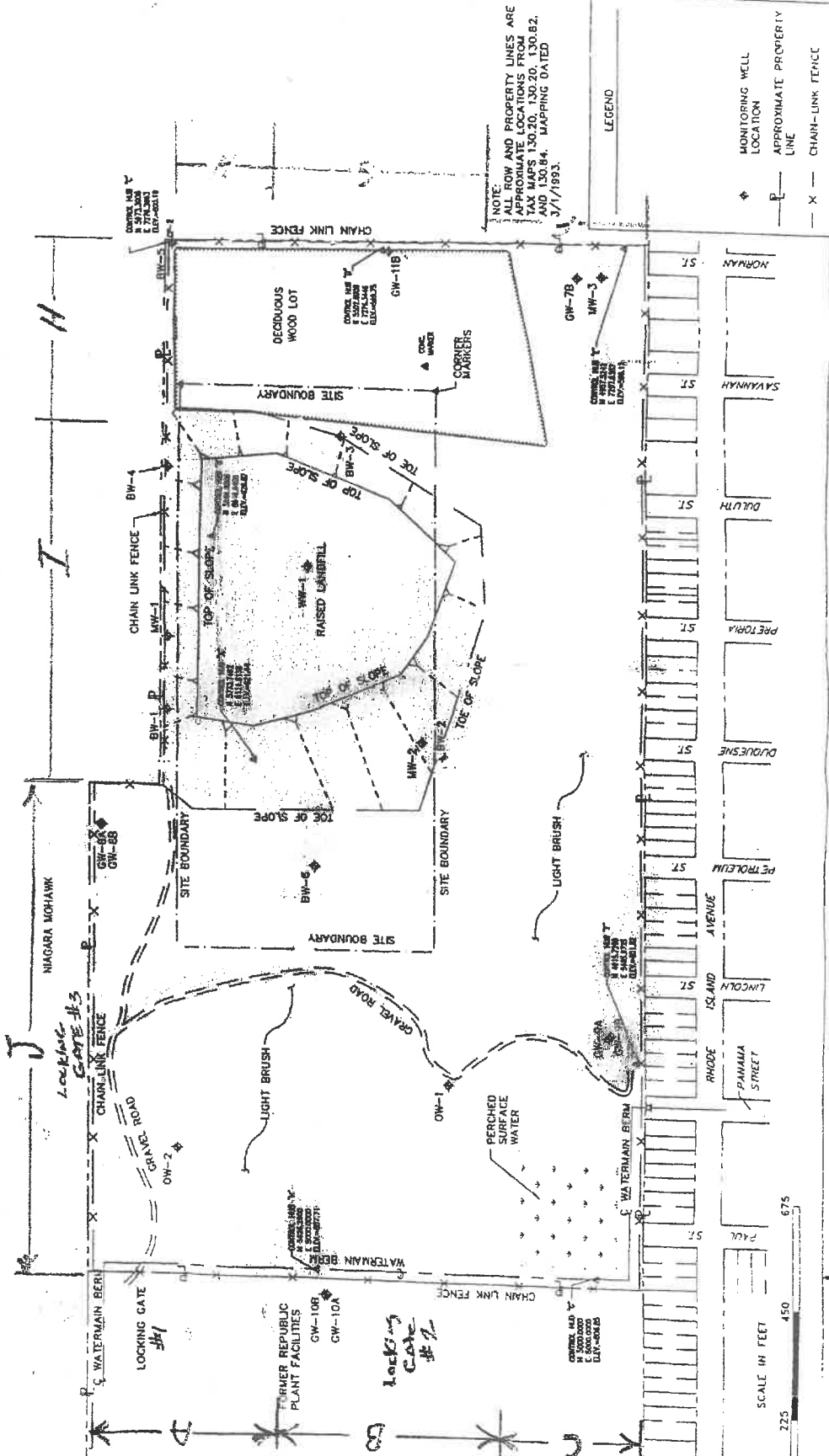
all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



UNION CARBIDE SITE

pa

# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
1-20-19	2:00	John S. [unclear]

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

cell good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

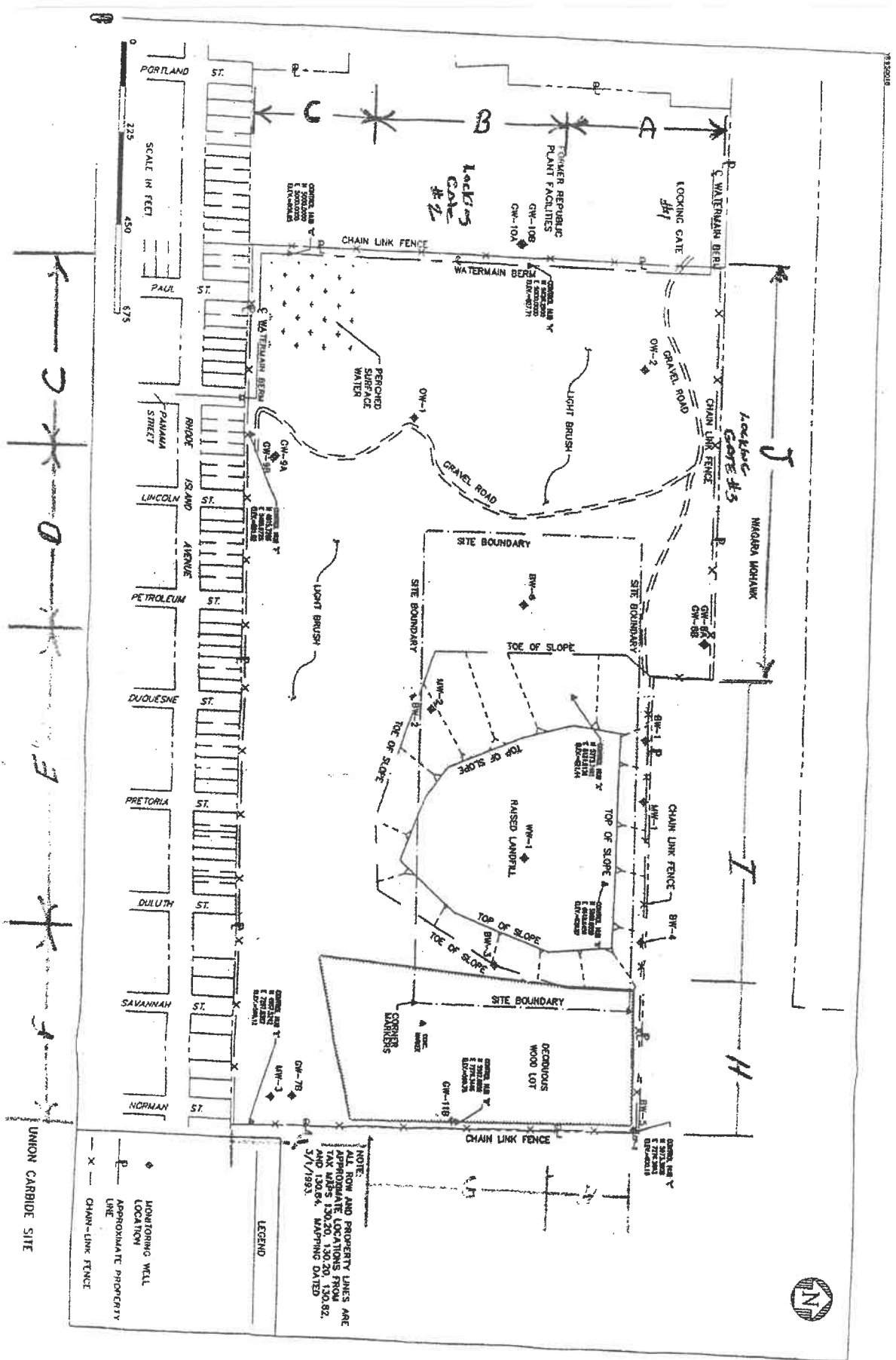
all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
1-27-11	12:00	Jim Sullivan

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.





**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
2/3/19	12:00	John Screenshot

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



pd

# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
2-9-19	12:00	John S. Sauer

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

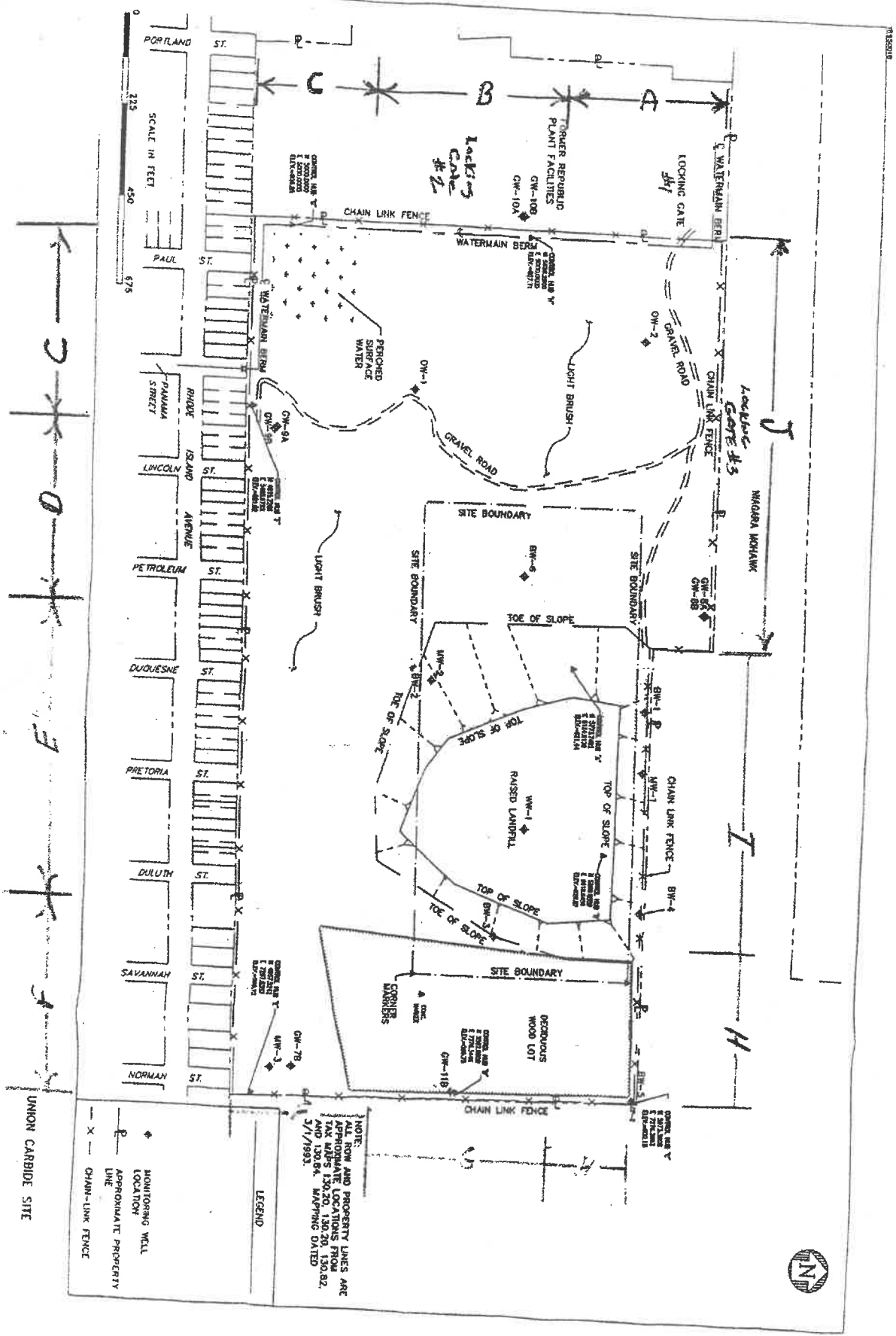
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

# LANDFILL SITE MANAGEMENT PLAN FOR SWMF #32N03 (REGISTRY NO. 932035)



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
2-17-19	12:30	John S. [unclear]

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

PORTLAND ST.

PAUL ST.

PANAMA STREET

LINCOLN ST.

PETROLEUM ST.

DUCUESNE ST.

PRETORIA ST.

DULUTH ST.

SAVANNAH ST.

NORMAN ST.

SCALE IN FEET

0 225 450 675

LEGEND

- MONITORING WELL
- APPROXIMATE PROPERTY LINE
- CHAIN-LINK FENCE

NOTE:

ALL ROW AND PROPERTY LINES ARE APPROXIMATE. MONITORING LOCATIONS FROM TAX MAPS 130.20, 130.26, 130.82, AND 130.84. MONITORING DATED 3/1/1993.

UNION CARBIDE SITE

MONITORING WELL  
LOCATION  
APPROXIMATE PROPERTY  
LINE  
CHAIN-LINK FENCE

ALL ROW AND PROPERTY LINES ARE APPROXIMATE LOCATIONS FROM TAX MAPS 130.20, 130.26, 130.82, AND 130.84. MAPING DATED 5/1/1993.

# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
2-25-19	4:00	John Swearengen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
3/3/19	12:00	John Smarag

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

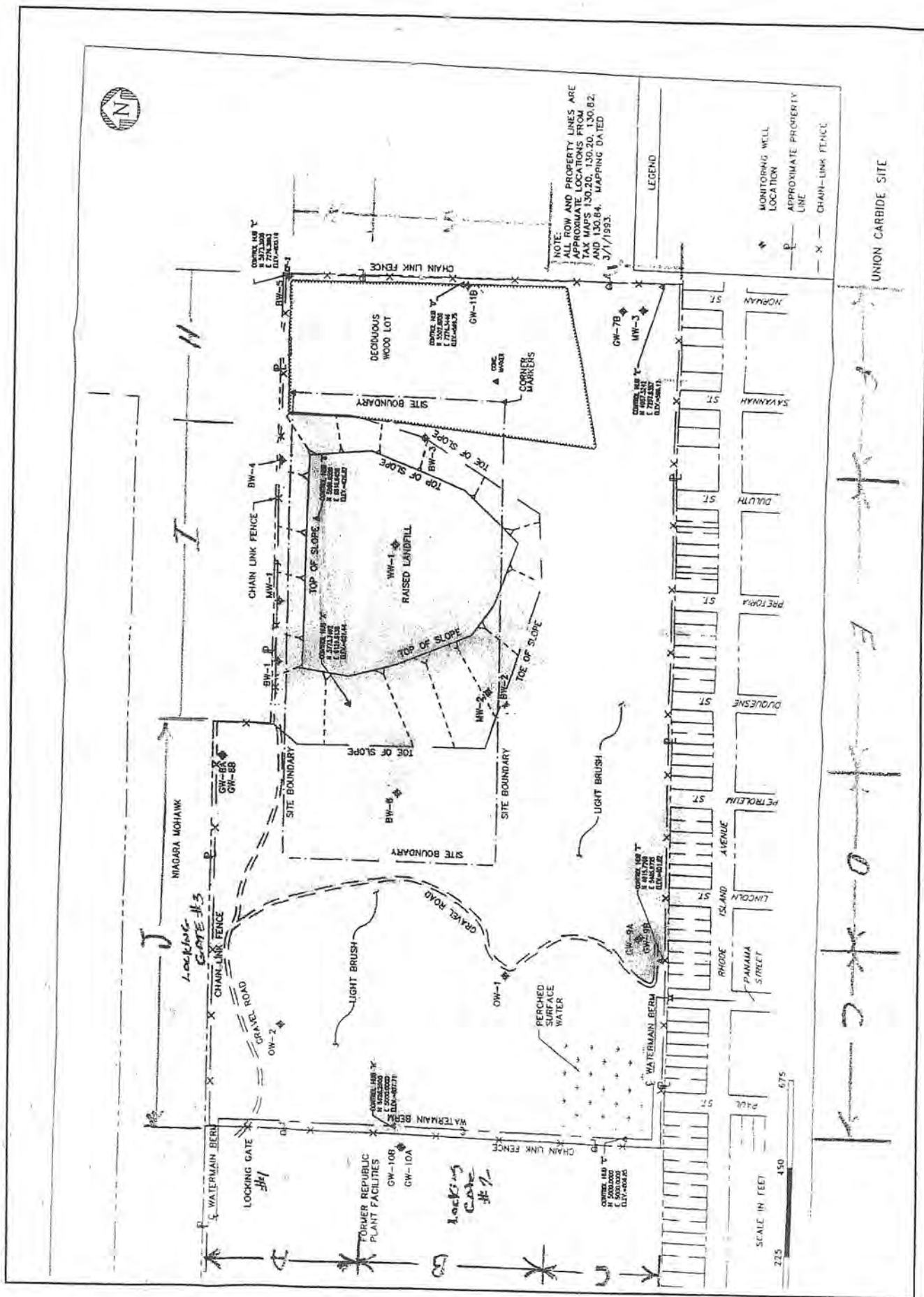
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

3/3/19





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
3/9/19	2:00	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

**LEGEND**

- MONITORING WELL LOCATION
- APPROXIMATE PROPERTY LINE
- CHAIN-LINK FENCE

**NOTE:**  
ALL ROW AND PROPERTY LINES ARE APPROXIMATE LOCATIONS FROM TAX MAPS 130.20, 130.20, 130.82, AND 130.84, MAPPING DATED 3/1/1993.

**SCALE IN FEET**  
225 450 675

**Streets:** NIAGARA MOHAWK, LOCKING GATE #3, LOCKING GATE #1, WATERMAIN BERM, GRAVEL ROAD, LIGHT BRUSH, PERCHED SURFACE WATER, WATERMAIN BERM, RHODE ISLAND AVENUE, PANAMA STREET, LINCOLN, PETROLEUM, DUBUESNE, PECTORIA, DULUTH, SAKYANAH, NORMAN.

**Monitoring Wells:** MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, MW-48, MW-49, MW-50, MW-51, MW-52, MW-53, MW-54, MW-55, MW-56, MW-57, MW-58, MW-59, MW-60, MW-61, MW-62, MW-63, MW-64, MW-65, MW-66, MW-67, MW-68, MW-69, MW-70, MW-71, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-85, MW-86, MW-87, MW-88, MW-89, MW-90, MW-91, MW-92, MW-93, MW-94, MW-95, MW-96, MW-97, MW-98, MW-99, MW-100, MW-101, MW-102, MW-103, MW-104, MW-105, MW-106, MW-107, MW-108, MW-109, MW-110, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116, MW-117, MW-118, MW-119, MW-120, MW-121, MW-122, MW-123, MW-124, MW-125, MW-126, MW-127, MW-128, MW-129, MW-130, MW-131, MW-132, MW-133, MW-134, MW-135, MW-136, MW-137, MW-138, MW-139, MW-140, MW-141, MW-142, MW-143, MW-144, MW-145, MW-146, MW-147, MW-148, MW-149, MW-150, MW-151, MW-152, MW-153, MW-154, MW-155, MW-156, MW-157, MW-158, MW-159, MW-160, MW-161, MW-162, MW-163, MW-164, MW-165, MW-166, MW-167, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, MW-174, MW-175, MW-176, MW-177, MW-178, MW-179, MW-180, MW-181, MW-182, MW-183, MW-184, MW-185, MW-186, MW-187, MW-188, MW-189, MW-190, MW-191, MW-192, MW-193, MW-194, MW-195, MW-196, MW-197, MW-198, MW-199, MW-200, MW-201, MW-202, MW-203, MW-204, MW-205, MW-206, MW-207, MW-208, MW-209, MW-210, MW-211, MW-212, MW-213, MW-214, MW-215, MW-216, MW-217, MW-218, MW-219, MW-220, MW-221, MW-222, MW-223, MW-224, MW-225, MW-226, MW-227, MW-228, MW-229, MW-230, MW-231, MW-232, MW-233, MW-234, MW-235, MW-236, MW-237, MW-238, MW-239, MW-240, MW-241, MW-242, MW-243, MW-244, MW-245, MW-246, MW-247, MW-248, MW-249, MW-250, MW-251, MW-252, MW-253, MW-254, MW-255, MW-256, MW-257, MW-258, MW-259, MW-260, MW-261, MW-262, MW-263, MW-264, MW-265, MW-266, MW-267, MW-268, MW-269, MW-270, MW-271, MW-272, MW-273, MW-274, MW-275, MW-276, MW-277, MW-278, MW-279, MW-280, MW-281, MW-282, MW-283, MW-284, MW-285, MW-286, MW-287, MW-288, MW-289, MW-290, MW-291, MW-292, MW-293, MW-294, MW-295, MW-296, MW-297, MW-298, MW-299, MW-300, MW-301, MW-302, MW-303, MW-304, MW-305, MW-306, MW-307, MW-308, MW-309, MW-310, MW-311, MW-312, MW-313, MW-314, MW-315, MW-316, MW-317, MW-318, MW-319, MW-320, MW-321, MW-322, MW-323, MW-324, MW-325, MW-326, MW-327, MW-328, MW-329, MW-330, MW-331, MW-332, MW-333, MW-334, MW-335, MW-336, MW-337, MW-338, MW-339, MW-340, MW-341, MW-342, MW-343, MW-344, MW-345, MW-346, MW-347, MW-348, MW-349, MW-350, MW-351, MW-352, MW-353, MW-354, MW-355, MW-356, MW-357, MW-358, MW-359, MW-360, MW-361, MW-362, MW-363, MW-364, MW-365, MW-366, MW-367, MW-368, MW-369, MW-370, MW-371, MW-372, MW-373, MW-374, MW-375, MW-376, MW-377, MW-378, MW-379, MW-380, MW-381, MW-382, MW-383, MW-384, MW-385, MW-386, MW-387, MW-388, MW-389, MW-390, MW-391, MW-392, MW-393, MW-394, MW-395, MW-396, MW-397, MW-398, MW-399, MW-400, MW-401, MW-402, MW-403, MW-404, MW-405, MW-406, MW-407, MW-408, MW-409, MW-410, MW-411, MW-412, MW-413, MW-414, MW-415, MW-416, MW-417, MW-418, MW-419, MW-420, MW-421, MW-422, MW-423, MW-424, MW-425, MW-426, MW-427, MW-428, MW-429, MW-430, MW-431, MW-432, MW-433, MW-434, MW-435, MW-436, MW-437, MW-438, MW-439, MW-440, MW-441, MW-442, MW-443, MW-444, MW-445, MW-446, MW-447, MW-448, MW-449, MW-450, MW-451, MW-452, MW-453, MW-454, MW-455, MW-456, MW-457, MW-458, MW-459, MW-460, MW-461, MW-462, MW-463, MW-464, MW-465, MW-466, MW-467, MW-468, MW-469, MW-470, MW-471, MW-472, MW-473, MW-474, MW-475, MW-476, MW-477, MW-478, MW-479, MW-480, MW-481, MW-482, MW-483, MW-484, MW-485, MW-486, MW-487, MW-488, MW-489, MW-490, MW-491, MW-492, MW-493, MW-494, MW-495, MW-496, MW-497, MW-498, MW-499, MW-500, MW-501, MW-502, MW-503, MW-504, MW-505, MW-506, MW-507, MW-508, MW-509, MW-510, MW-511, MW-512, MW-513, MW-514, MW-515, MW-516, MW-517, MW-518, MW-519, MW-520, MW-521, MW-522, MW-523, MW-524, MW-525, MW-526, MW-527, MW-528, MW-529, MW-530, MW-531, MW-532, MW-533, MW-534, MW-535, MW-536, MW-537, MW-538, MW-539, MW-540, MW-541, MW-542, MW-543, MW-544, MW-545, MW-546, MW-547, MW-548, MW-549, MW-550, MW-551, MW-552, MW-553, MW-554, MW-555, MW-556, MW-557, MW-558, MW-559, MW-560, MW-561, MW-562, MW-563, MW-564, MW-565, MW-566, MW-567, MW-568, MW-569, MW-570, MW-571, MW-572, MW-573, MW-574, MW-575, MW-576, MW-577, MW-578, MW-579, MW-580, MW-581, MW-582, MW-583, MW-584, MW-585, MW-586, MW-587, MW-588, MW-589, MW-590, MW-591, MW-592, MW-593, MW-594, MW-595, MW-596, MW-597, MW-598, MW-599, MW-600, MW-601, MW-602, MW-603, MW-604, MW-605, MW-606, MW-607, MW-608, MW-609, MW-610, MW-611, MW-612, MW-613, MW-614, MW-615, MW-616, MW-617, MW-618, MW-619, MW-620, MW-621, MW-622, MW-623, MW-624, MW-625, MW-626, MW-627, MW-628, MW-629, MW-630, MW-631, MW-632, MW-633, MW-634, MW-635, MW-636, MW-637, MW-638, MW-639, MW-640, MW-641, MW-642, MW-643, MW-644, MW-645, MW-646, MW-647, MW-648, MW-649, MW-650, MW-651, MW-652, MW-6



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
3/17/19	1:00	John S. Seargent

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

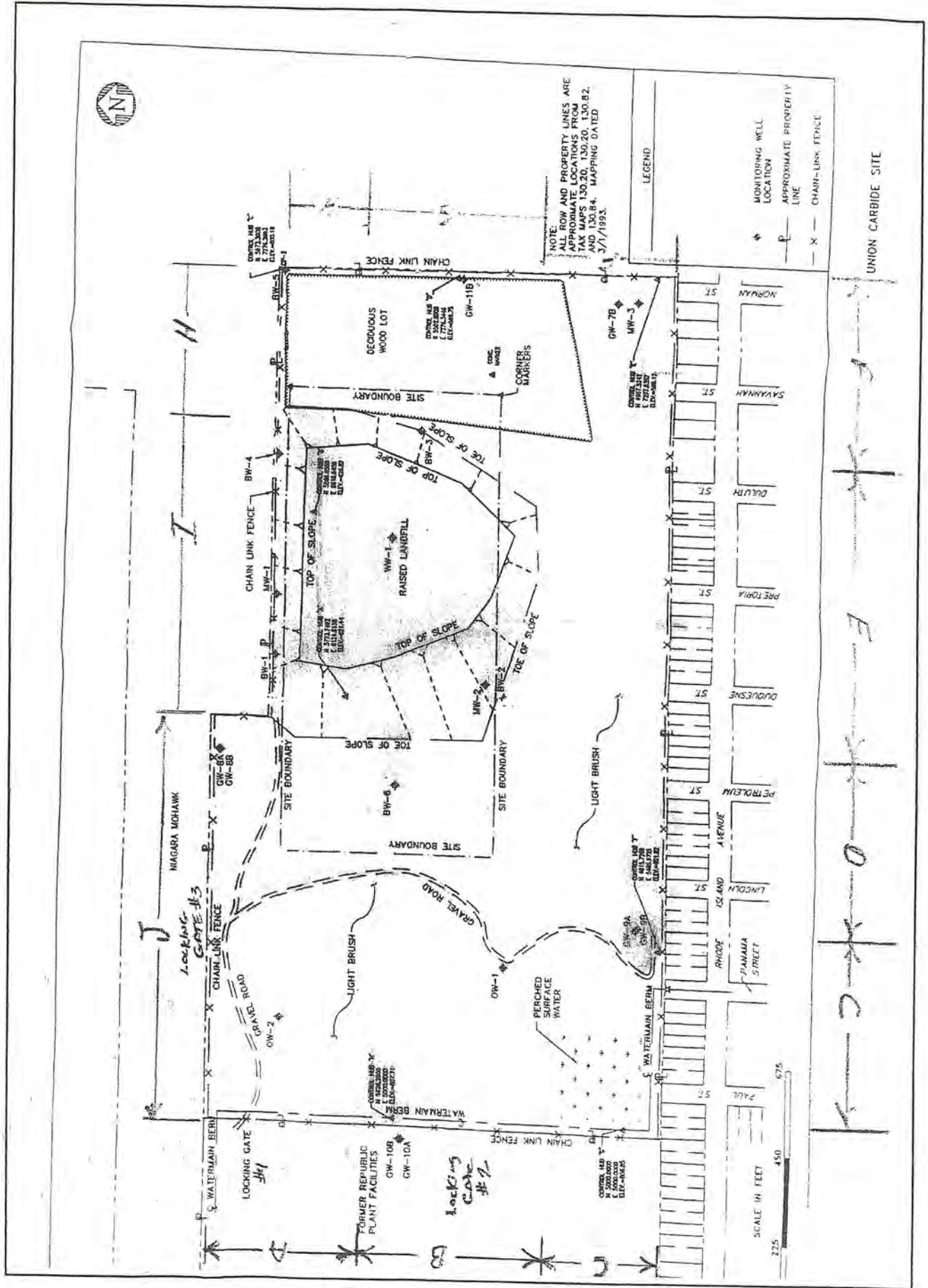
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

3/17/19



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
3/24/19	10:00	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

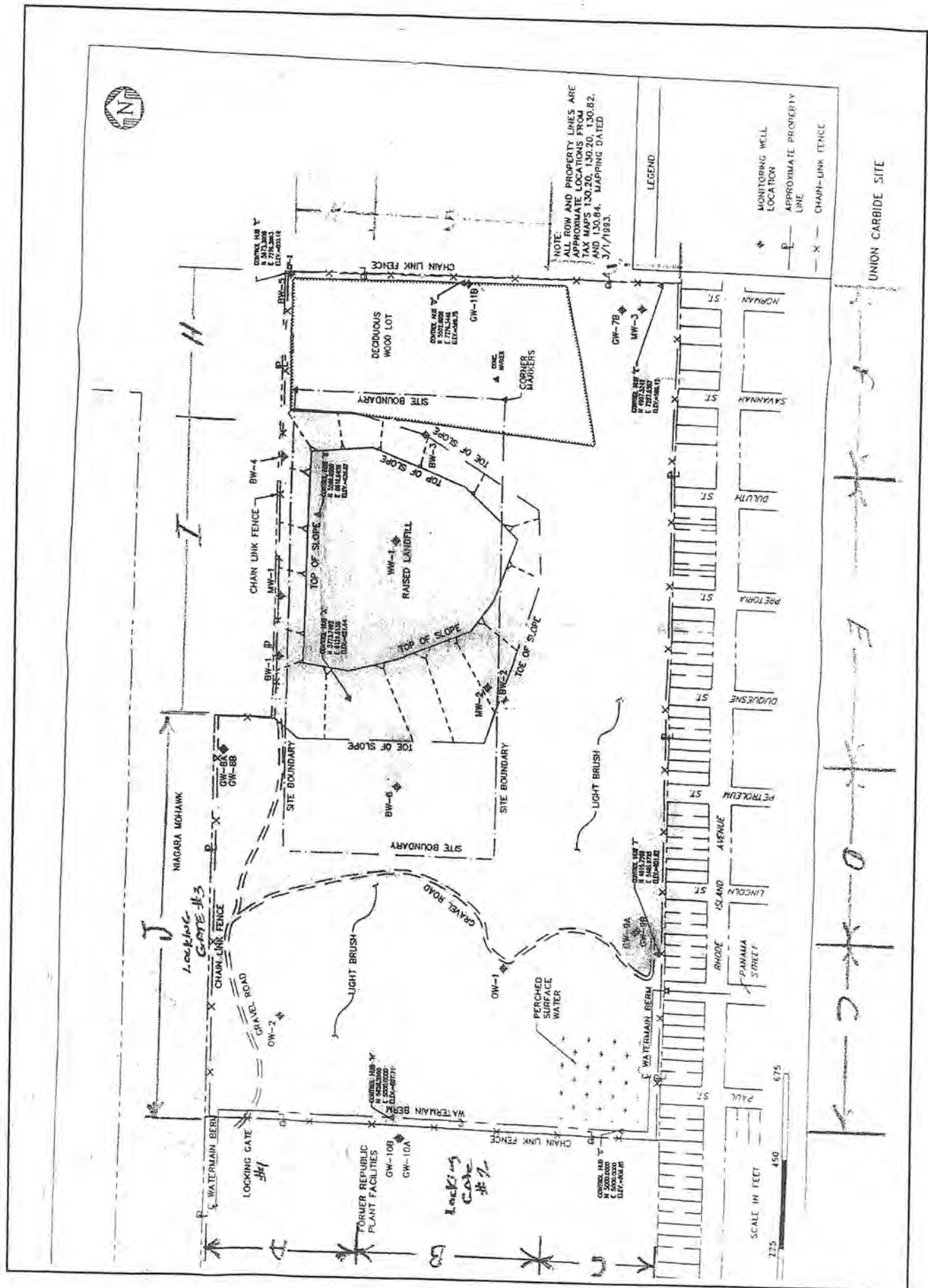
all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



3/24/19





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
3/31/19	2:00	John Screalengon

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			fallen tree no fence damage
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*fallen tree*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
9/7/19	12:00	John Sweating

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

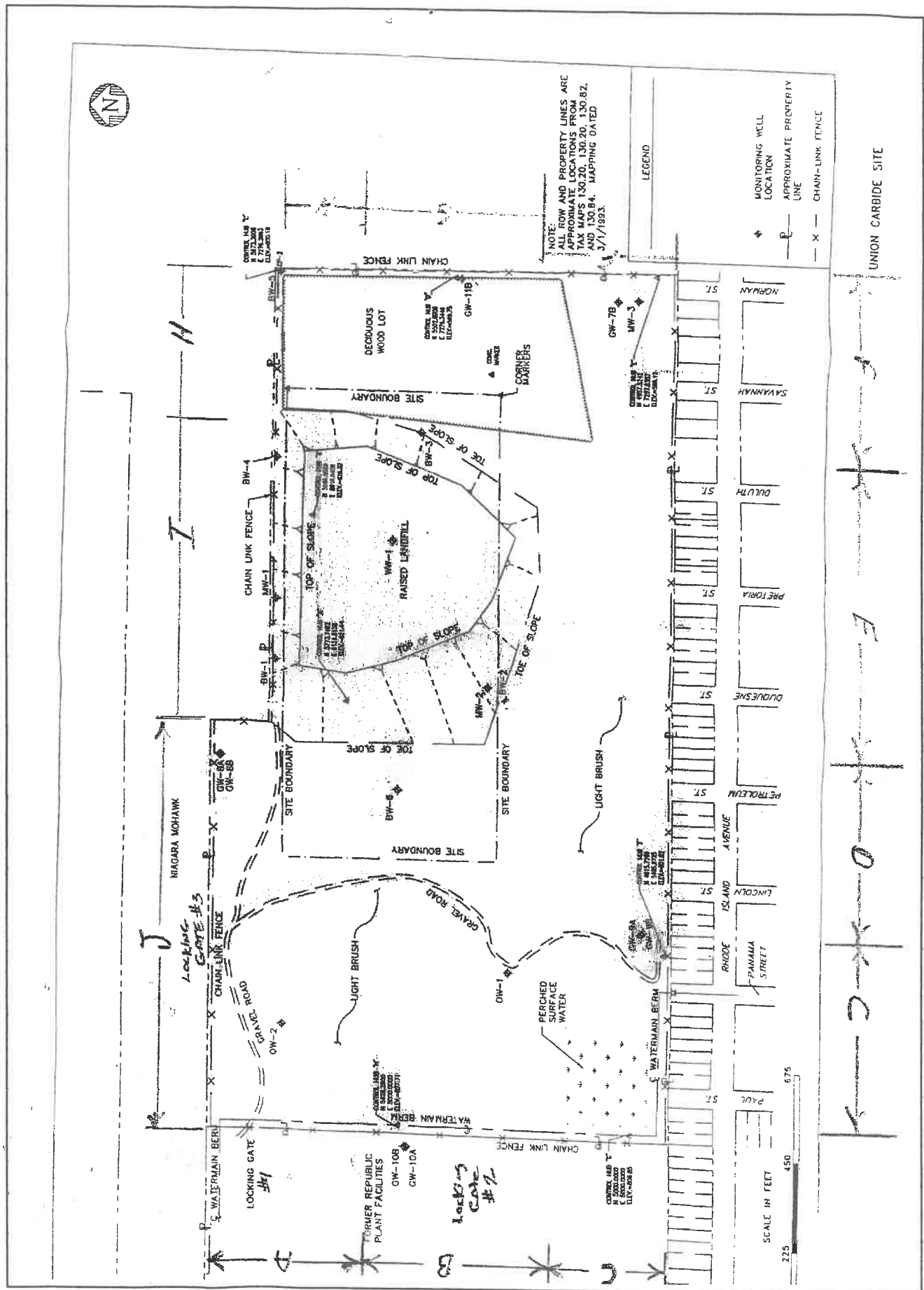
*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
4/14/89	4:30	John Seearanga

ENCE ARE.	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

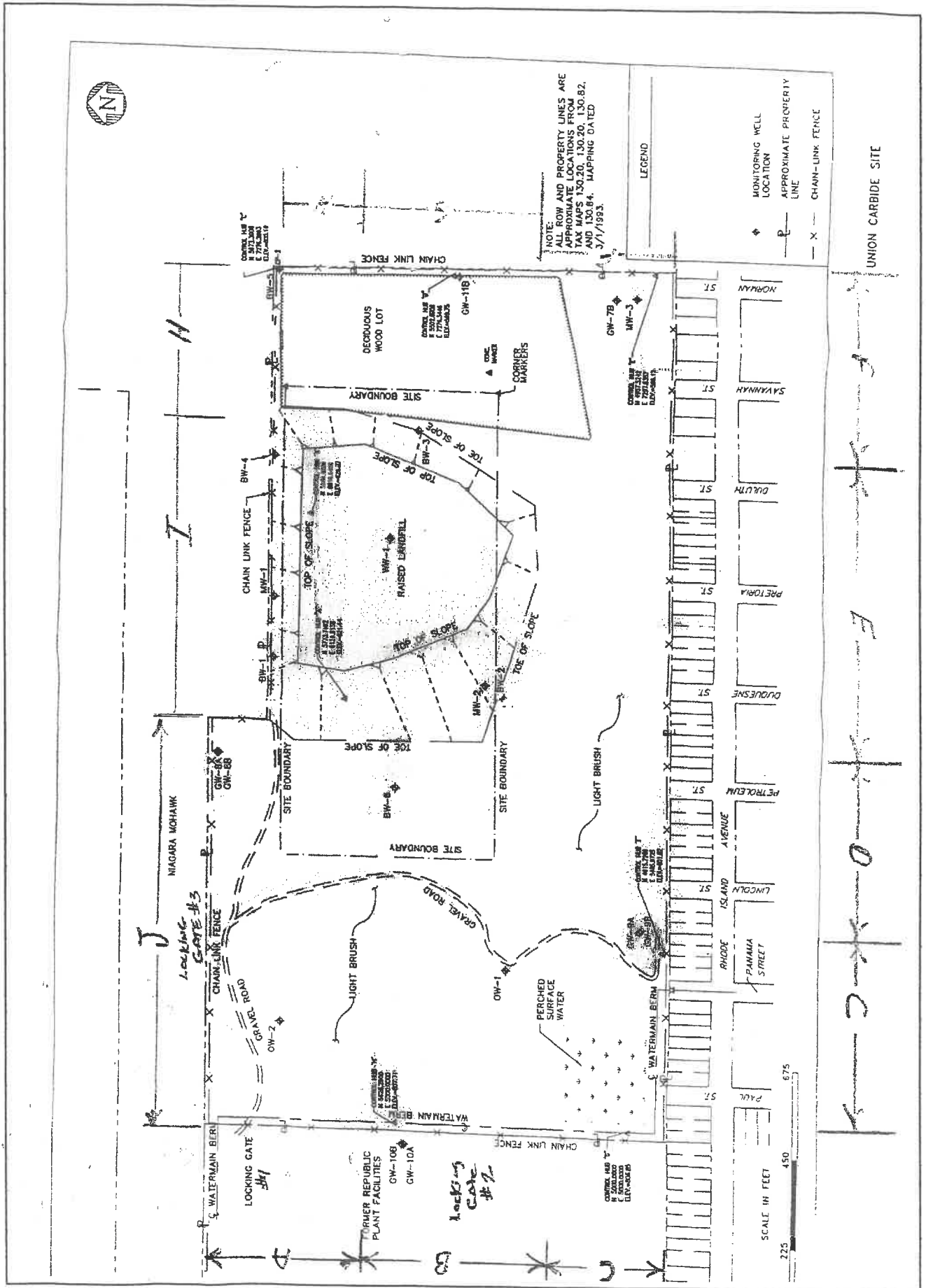
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

4/14/19 Johns





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
4/19/19	6:30	John Scaramanga

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

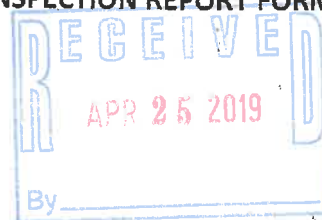
all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



**NOTE:** ALL ROW AND PROPERTY LINES ARE BASED ON THE 1983 AERIAL PHOTO TAX MAPS 130.20, 130.30, 130.82, AND 130.84. MAPPING DATED 3/1/1993.

**LEGEND**

- MONITORING WELL LOCATION
- APPROXIMATE PROPERTY LINE
- CHAIN-LINK FENCE

**SCALE IN FEET**

225 450 675

**STREETS:** NIAGARA MOHAWK, LOCKING GATE #3, LOCKING GATE #1, WATERMAN BERN, GRAVEL ROAD, PERCHED SURFACE WATER, WATERMANN BERN, RHODE ISLAND AVENUE, PANAMA STREET, LINCOLN, PETROLEUM, DUCUESNE, PRETORIA, DULUTH, SAYANNAH, NORMAN.

**FEATURES:** DECIDUOUS WOOD LOT, RAISED LANDFILL, LIGHT BRUSH, CHAIN LINK FENCE, SITE BOUNDARY, TOP OF SLOPE, TOE OF SLOPE, CORNER MARKERS, CONIC MARKER, MONITORING WELLS (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-30, MW-31, MW-32, MW-33, MW-34, MW-35, MW-36, MW-37, MW-38, MW-39, MW-40, MW-41, MW-42, MW-43, MW-44, MW-45, MW-46, MW-47, MW-48, MW-49, MW-50, MW-51, MW-52, MW-53, MW-54, MW-55, MW-56, MW-57, MW-58, MW-59, MW-60, MW-61, MW-62, MW-63, MW-64, MW-65, MW-66, MW-67, MW-68, MW-69, MW-70, MW-71, MW-72, MW-73, MW-74, MW-75, MW-76, MW-77, MW-78, MW-79, MW-80, MW-81, MW-82, MW-83, MW-84, MW-85, MW-86, MW-87, MW-88, MW-89, MW-90, MW-91, MW-92, MW-93, MW-94, MW-95, MW-96, MW-97, MW-98, MW-99, MW-100, MW-101, MW-102, MW-103, MW-104, MW-105, MW-106, MW-107, MW-108, MW-109, MW-110, MW-111, MW-112, MW-113, MW-114, MW-115, MW-116, MW-117, MW-118, MW-119, MW-120, MW-121, MW-122, MW-123, MW-124, MW-125, MW-126, MW-127, MW-128, MW-129, MW-130, MW-131, MW-132, MW-133, MW-134, MW-135, MW-136, MW-137, MW-138, MW-139, MW-140, MW-141, MW-142, MW-143, MW-144, MW-145, MW-146, MW-147, MW-148, MW-149, MW-150, MW-151, MW-152, MW-153, MW-154, MW-155, MW-156, MW-157, MW-158, MW-159, MW-160, MW-161, MW-162, MW-163, MW-164, MW-165, MW-166, MW-167, MW-168, MW-169, MW-170, MW-171, MW-172, MW-173, MW-174, MW-175, MW-176, MW-177, MW-178, MW-179, MW-180, MW-181, MW-182, MW-183, MW-184, MW-185, MW-186, MW-187, MW-188, MW-189, MW-190, MW-191, MW-192, MW-193, MW-194, MW-195, MW-196, MW-197, MW-198, MW-199, MW-200, MW-201, MW-202, MW-203, MW-204, MW-205, MW-206, MW-207, MW-208, MW-209, MW-210, MW-211, MW-212, MW-213, MW-214, MW-215, MW-216, MW-217, MW-218, MW-219, MW-220, MW-221, MW-222, MW-223, MW-224, MW-225, MW-226, MW-227, MW-228, MW-229, MW-230, MW-231, MW-232, MW-233, MW-234, MW-235, MW-236, MW-237, MW-238, MW-239, MW-240, MW-241, MW-242, MW-243, MW-244, MW-245, MW-246, MW-247, MW-248, MW-249, MW-250, MW-251, MW-252, MW-253, MW-254, MW-255, MW-256, MW-257, MW-258, MW-259, MW-260, MW-261, MW-262, MW-263, MW-264, MW-265, MW-266, MW-267, MW-268, MW-269, MW-270, MW-271, MW-272, MW-273, MW-274, MW-275, MW-276, MW-277, MW-278, MW-279, MW-280, MW-281, MW-282, MW-283, MW-284, MW-285, MW-286, MW-287, MW-288, MW-289, MW-290, MW-291, MW-292, MW-293, MW-294, MW-295, MW-296, MW-297, MW-298, MW-299, MW-300, MW-301, MW-302, MW-303, MW-304, MW-305, MW-306, MW-307, MW-308, MW-309, MW-310, MW-311, MW-312, MW-313, MW-314, MW-315, MW-316, MW-317, MW-318, MW-319, MW-320, MW-321, MW-322, MW-323, MW-324, MW-325, MW-326, MW-327, MW-328, MW-329, MW-330, MW-331, MW-332, MW-333, MW-334, MW-335, MW-336, MW-337, MW-338, MW-339, MW-340, MW-341, MW-342, MW-343, MW-344, MW-345, MW-346, MW-347, MW-348, MW-349, MW-350, MW-351, MW-352, MW-353, MW-354, MW-355, MW-356, MW-357, MW-358, MW-359, MW-360, MW-361, MW-362, MW-363, MW-364, MW-365, MW-366, MW-367, MW-368, MW-369, MW-370, MW-371, MW-372, MW-373, MW-374, MW-375, MW-376, MW-377, MW-378, MW-379, MW-380, MW-381, MW-382, MW-383, MW-384, MW-385, MW-386, MW-387, MW-388, MW-389, MW-390, MW-391, MW-392, MW-393, MW-394, MW-395, MW-396, MW-397, MW-398, MW-399, MW-400, MW-401, MW-402, MW-403, MW-404, MW-405, MW-406, MW-407, MW-408, MW-409, MW-410, MW-411, MW-412, MW-413, MW-414, MW-415, MW-416, MW-417, MW-418, MW-419, MW-420, MW-421, MW-422, MW-423, MW-424, MW-425, MW-426, MW-427, MW-428, MW-429, MW-430, MW-431, MW-432, MW-433, MW-434, MW-435, MW-436, MW-437, MW-438, MW-439, MW-440, MW-441, MW-442, MW-443, MW-444, MW-445, MW-446, MW-447, MW-448, MW-449, MW-450, MW-451, MW-452, MW-453, MW-454, MW-455, MW-456, MW-457, MW-458, MW-459, MW-460, MW-461, MW-462, MW-463, MW-464, MW-465, MW-466, MW-467, MW-468, MW-469, MW-470, MW-471, MW-472, MW-473, MW-474, MW-475, MW-476, MW-477, MW-478, MW-479, MW-480, MW-481, MW-482, MW-483, MW-484, MW-485, MW-486, MW-487, MW-488, MW-489, MW-490, MW-491, MW-492, MW-493, MW-494, MW-495, MW-496, MW-497, MW-498, MW-499, MW-500, MW-501, MW-502, MW-503, MW-504, MW-505, MW-506, MW-507, MW-508, MW-509, MW-510, MW-511, MW-512, MW-513, MW-514, MW-515, MW-516, MW-517, MW-518, MW-519, MW-520, MW-521, MW-522, MW-523, MW-524, MW-525, MW-526, MW-527, MW-528, MW-529, MW-530, MW-531, MW-532, MW-533, MW-534, MW-535, MW-536, MW-537, MW-538, MW-539, MW-540, MW-541, MW-542, MW-543, MW-544, MW-545, MW-546, MW-547, MW-548, MW-549, MW-550, MW-551, MW-552, MW-553, MW-554, MW-555, MW-556, MW-557, MW-558, MW-559, MW-560, MW-561, MW-562, MW-563, MW-564, MW-565, MW-566, MW-567, MW-568, MW-569, MW-570, MW-571, MW-572, MW-573, MW-574, MW-575, MW-576, MW-577, MW-578, MW-579, MW-580, MW-581, MW-582, MW-583, MW-584, MW-585, MW-586, MW-587, MW-588, MW-589, MW-590, MW-591, MW-592, MW-593, MW-594, MW-595, MW-596, MW-597, MW-598, MW-599, MW-600, MW-601, MW-602, MW-603, MW-604, MW-605, MW-606, MW-607, MW-608, MW-609, MW-610, MW-611, MW-612, MW-613, MW-614, MW-615, MW-616, MW-617, MW-618, MW-619, MW-620, MW-621, MW-622, MW-623, MW-624, MW-625, MW-626, MW-627, MW-628, MW-629, MW-630, MW-631, MW-632, MW-633, MW-634, MW-635, MW-636, MW-637, MW-638, MW-639, MW-640, MW-641, MW-64



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
4/28/19	12:30	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
5/5/19	2:30	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

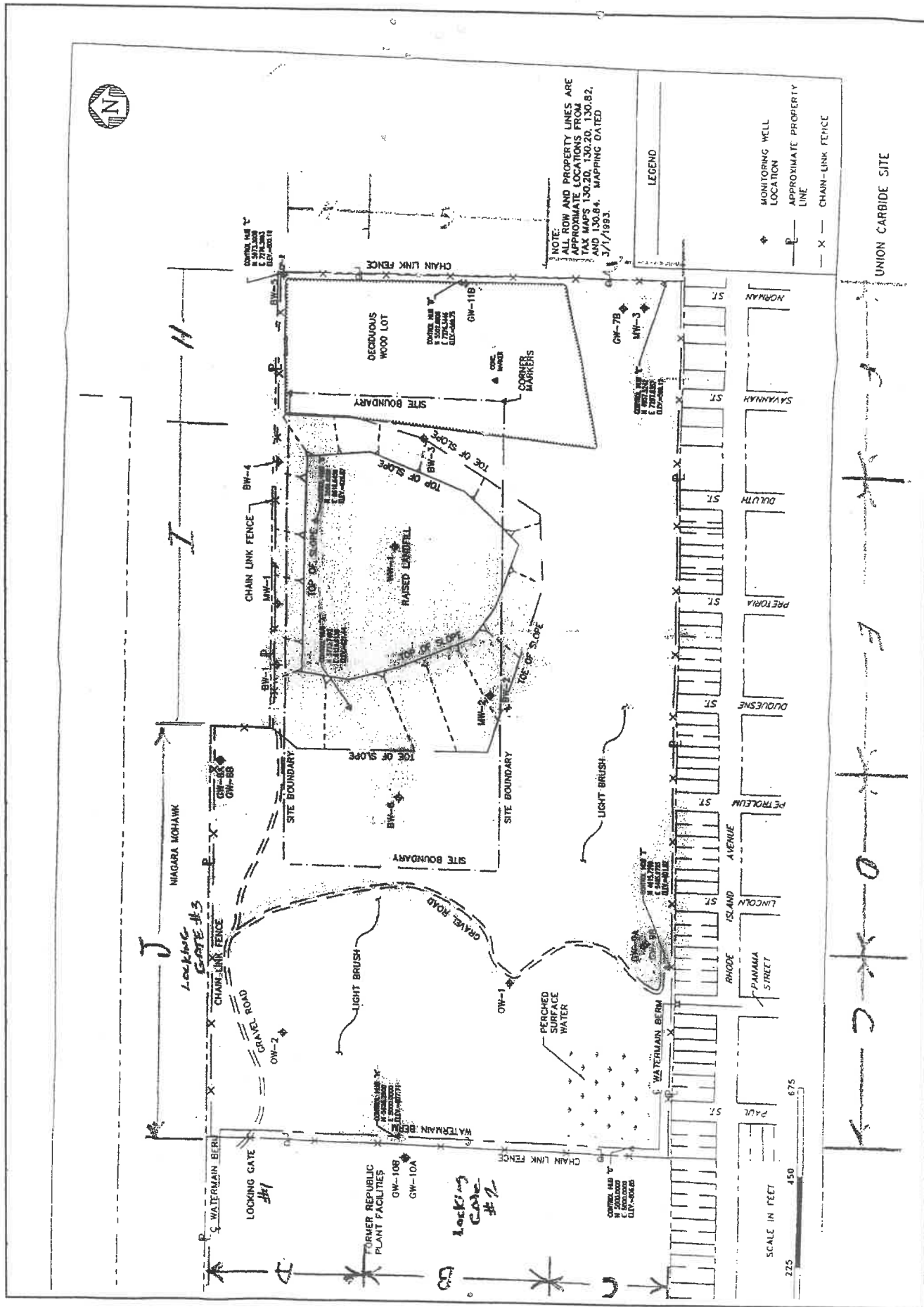
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

**IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.**

J Swearngen  
Employee

5/5/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
5/12/19	9:30	John Swackhamer

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

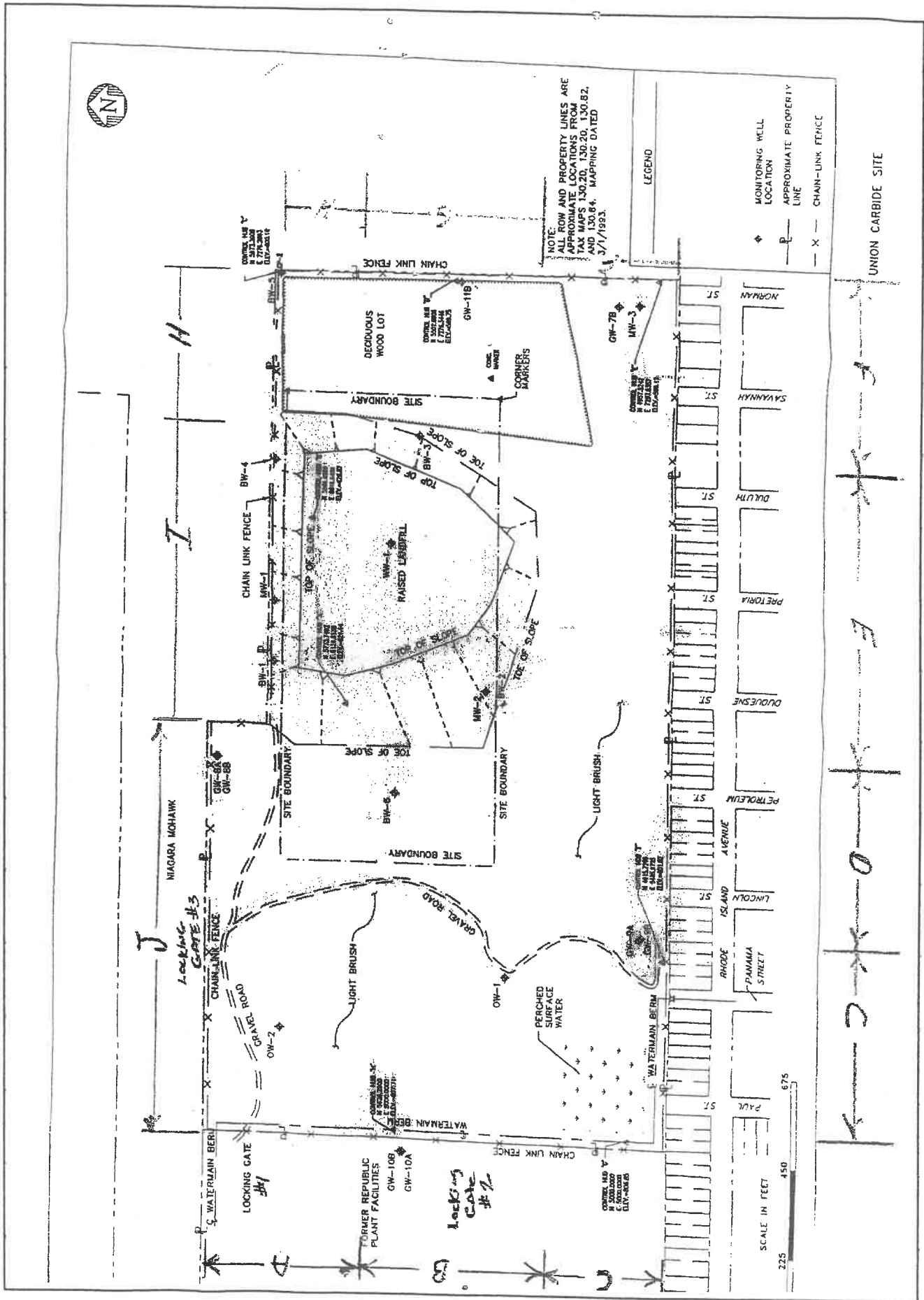
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Swearingen  
Employee

5/12/19  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
5/19/19	10:00	John Sweafengon

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

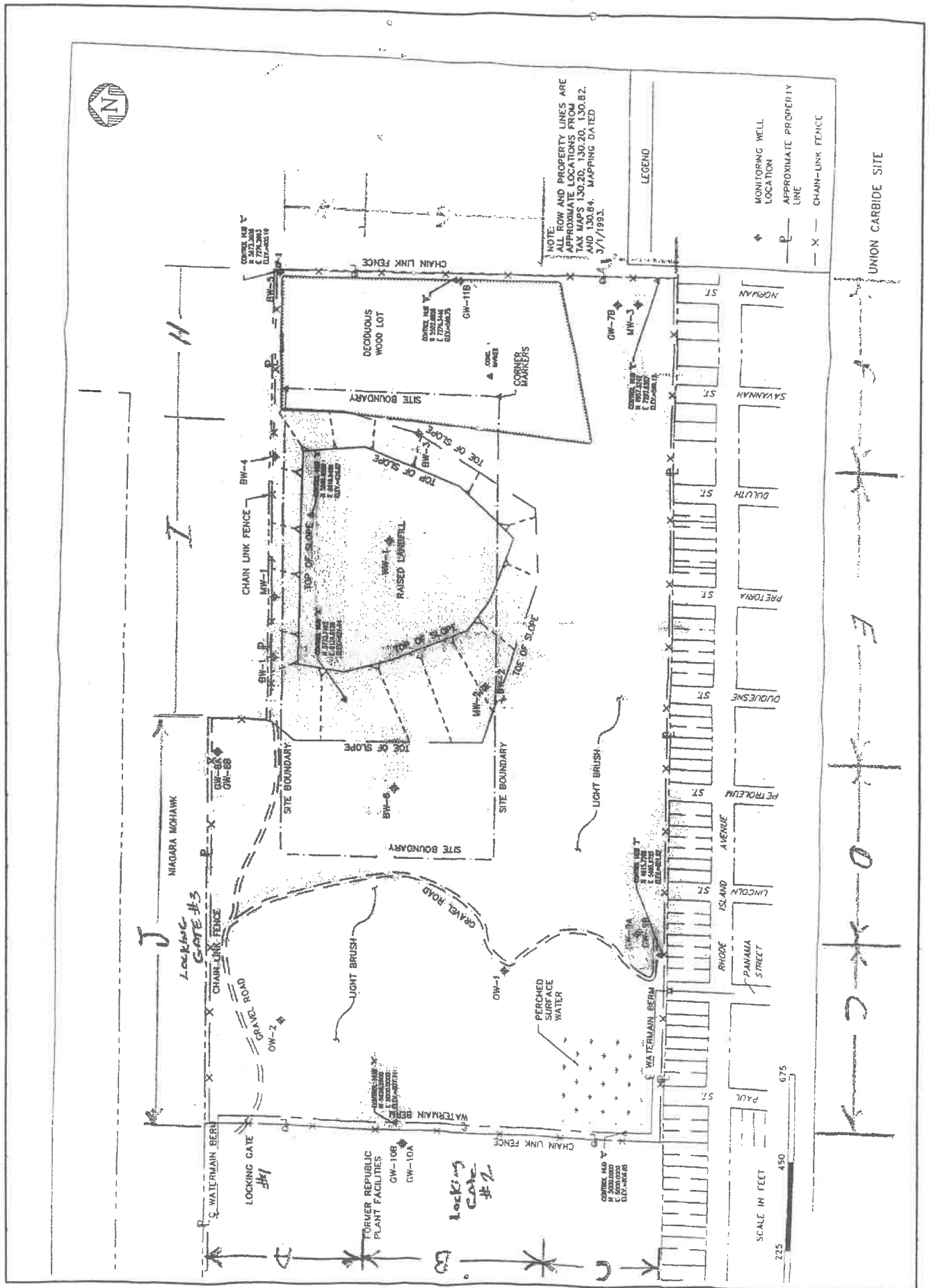
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

**IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.**



5/19/19  
Date





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
5/27/19	9:00	John S. [Signature]

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

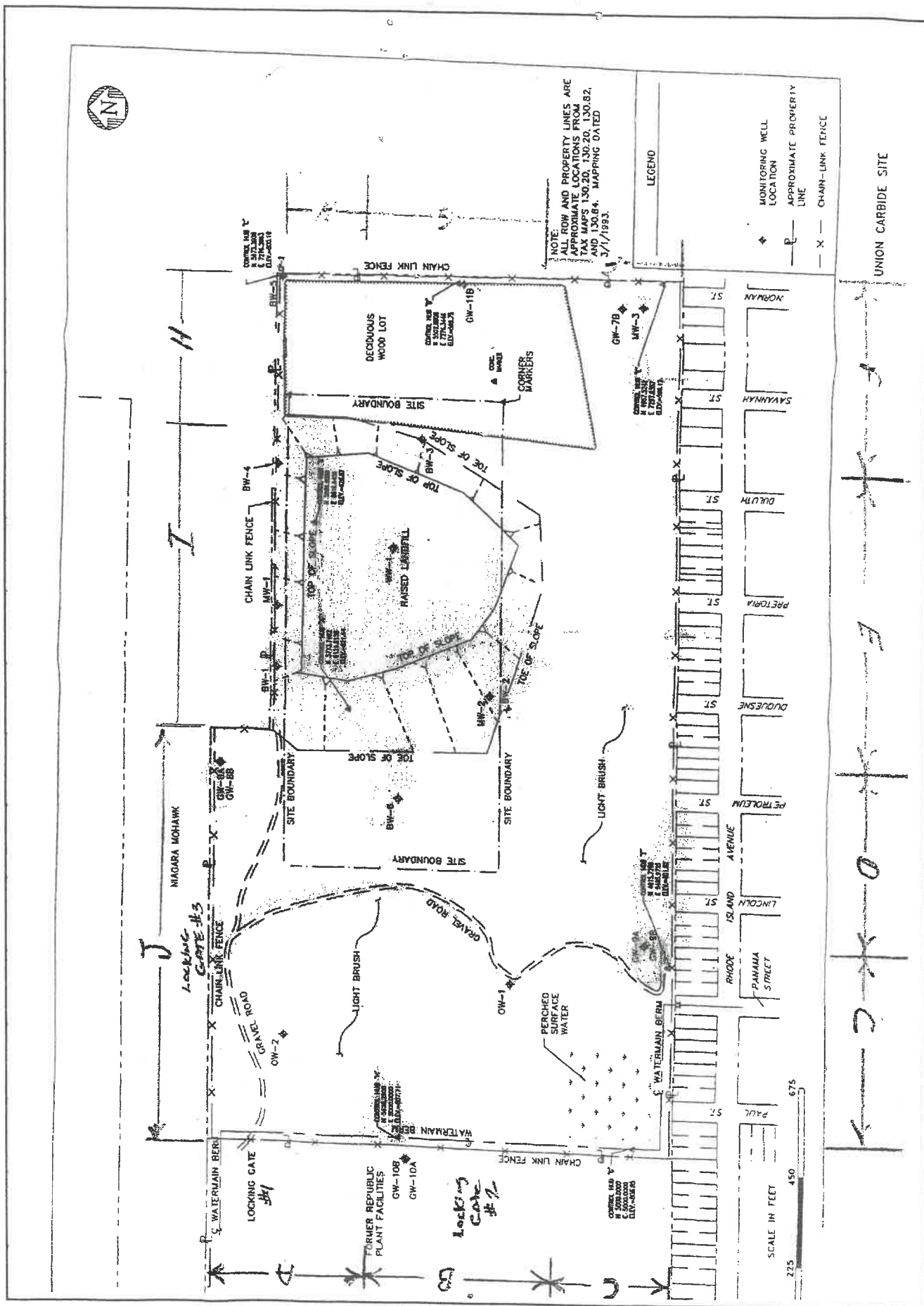
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Swearingen  
Employee

5/27/19  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
6/11/19	5:00	John Scaramanga

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

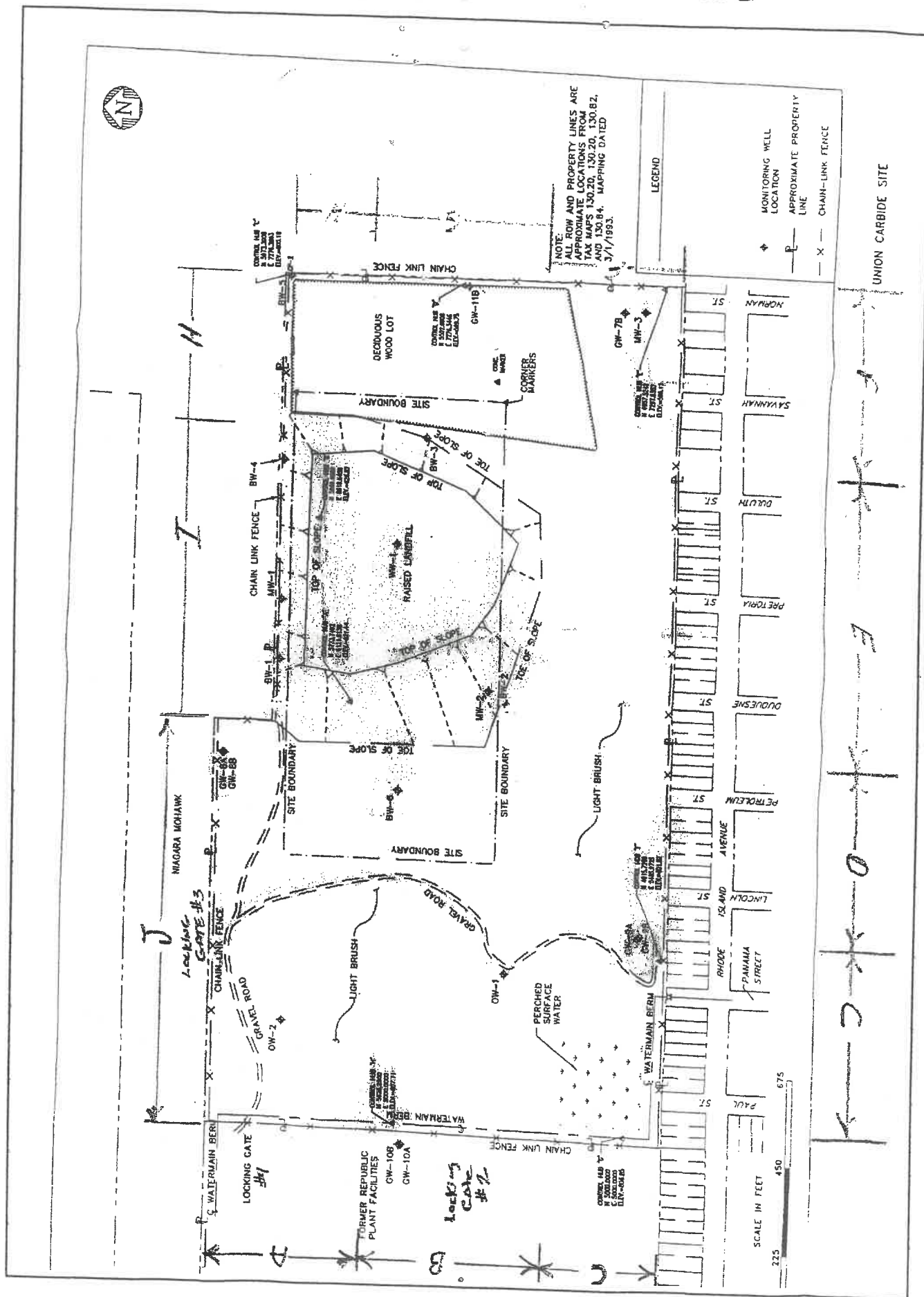
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Employee

Date \_\_\_\_\_



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
6/8/19	7:00 AM	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (check for condition, damage, signs of security breach)

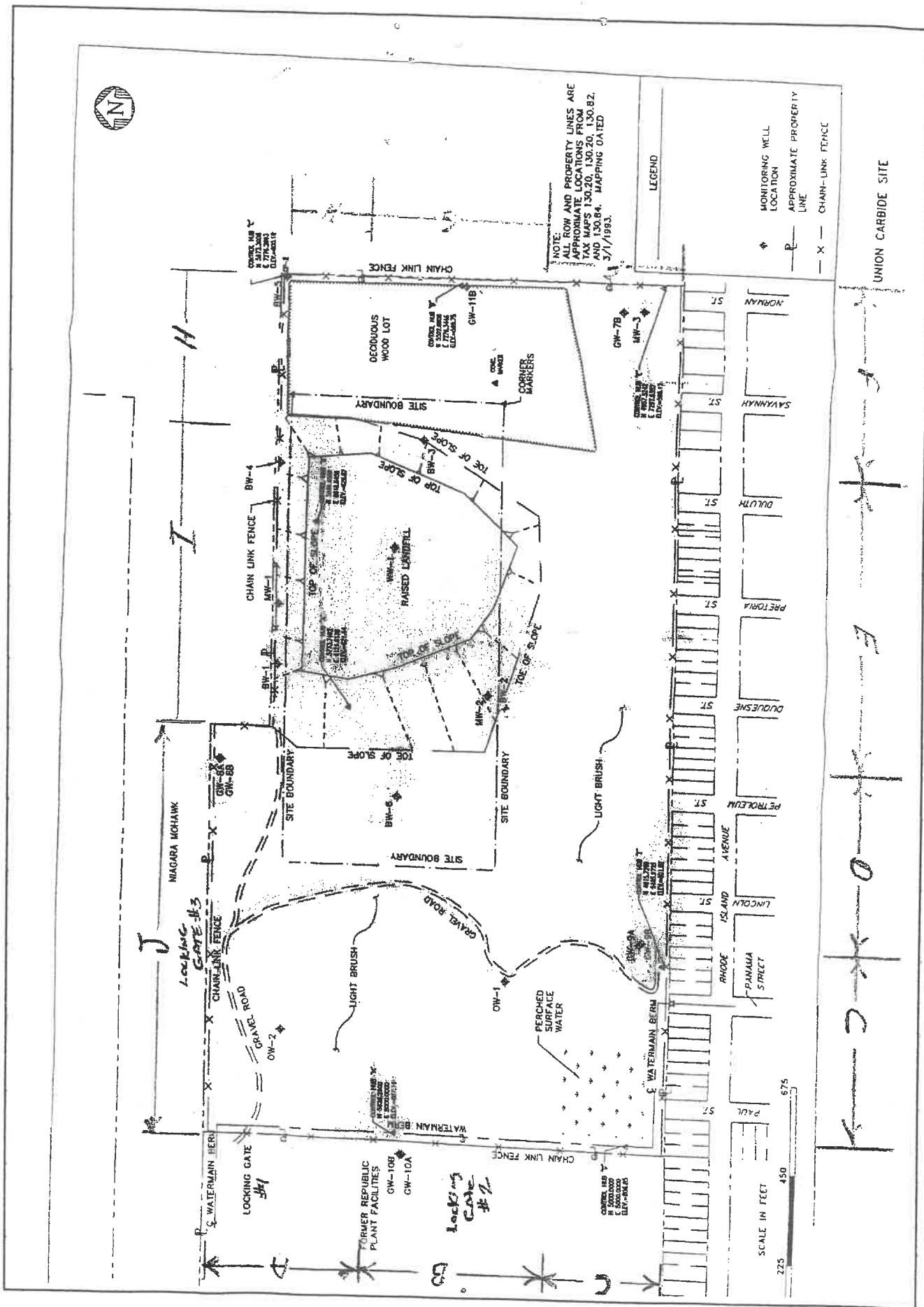
all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S.  
Employee

10/8/19  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
6/15/19	9:00	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

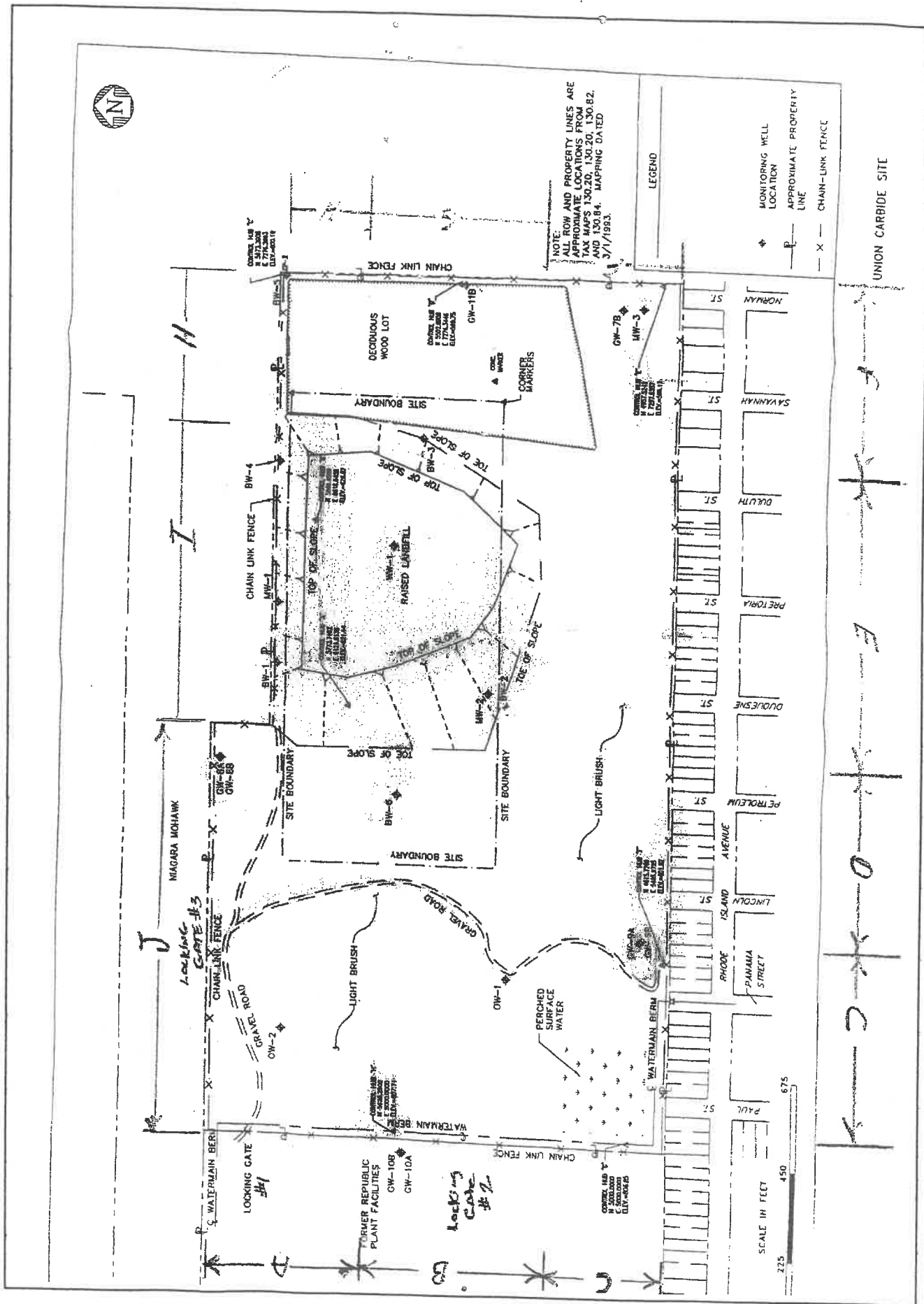
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



John S.  
Employee

6/15/19  
Date





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
6/22/19	5:30 pm	John Sewerleng

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

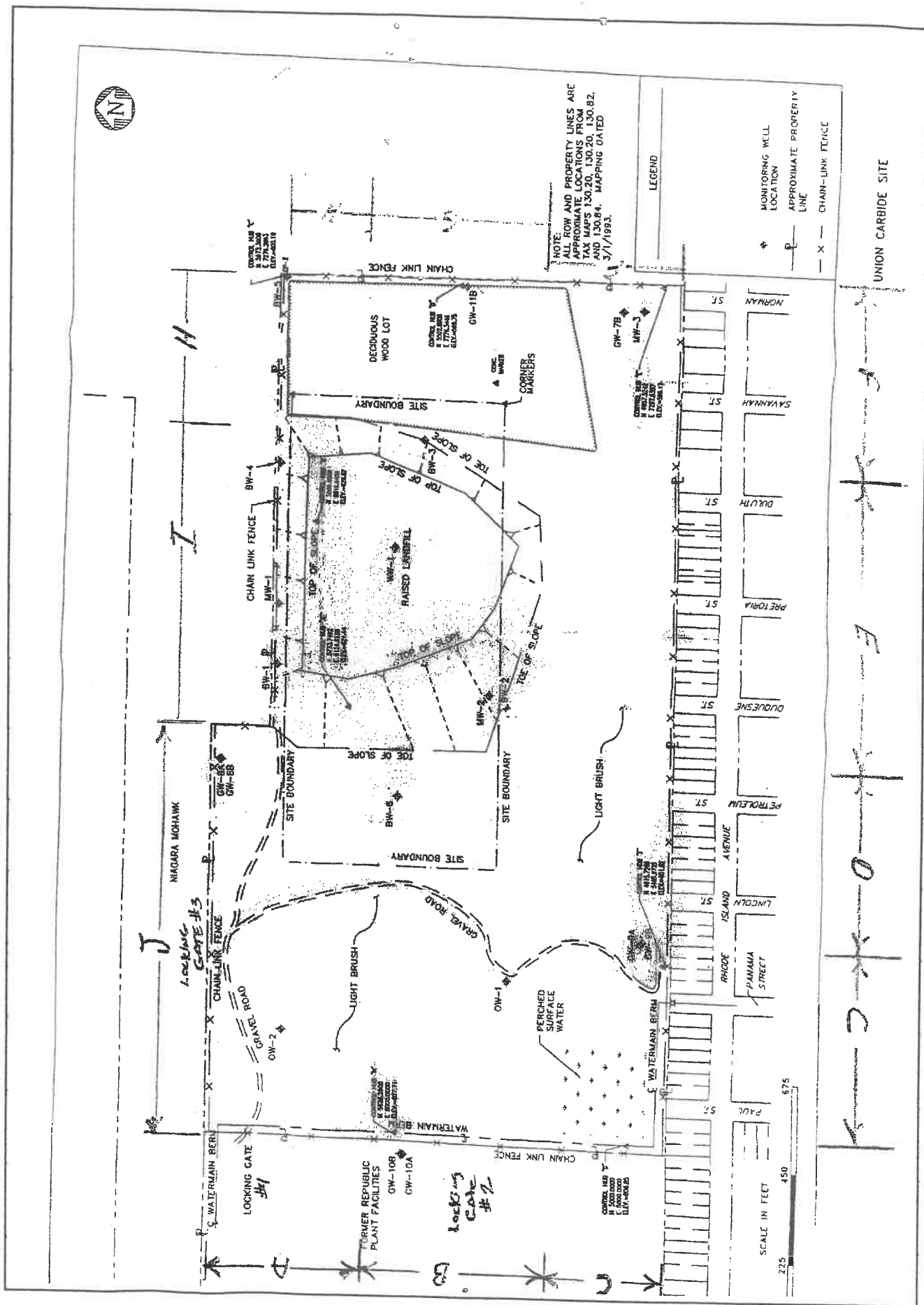
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S.  
Employee

6/22/19  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
6/31/19	10:00	John Scurry

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

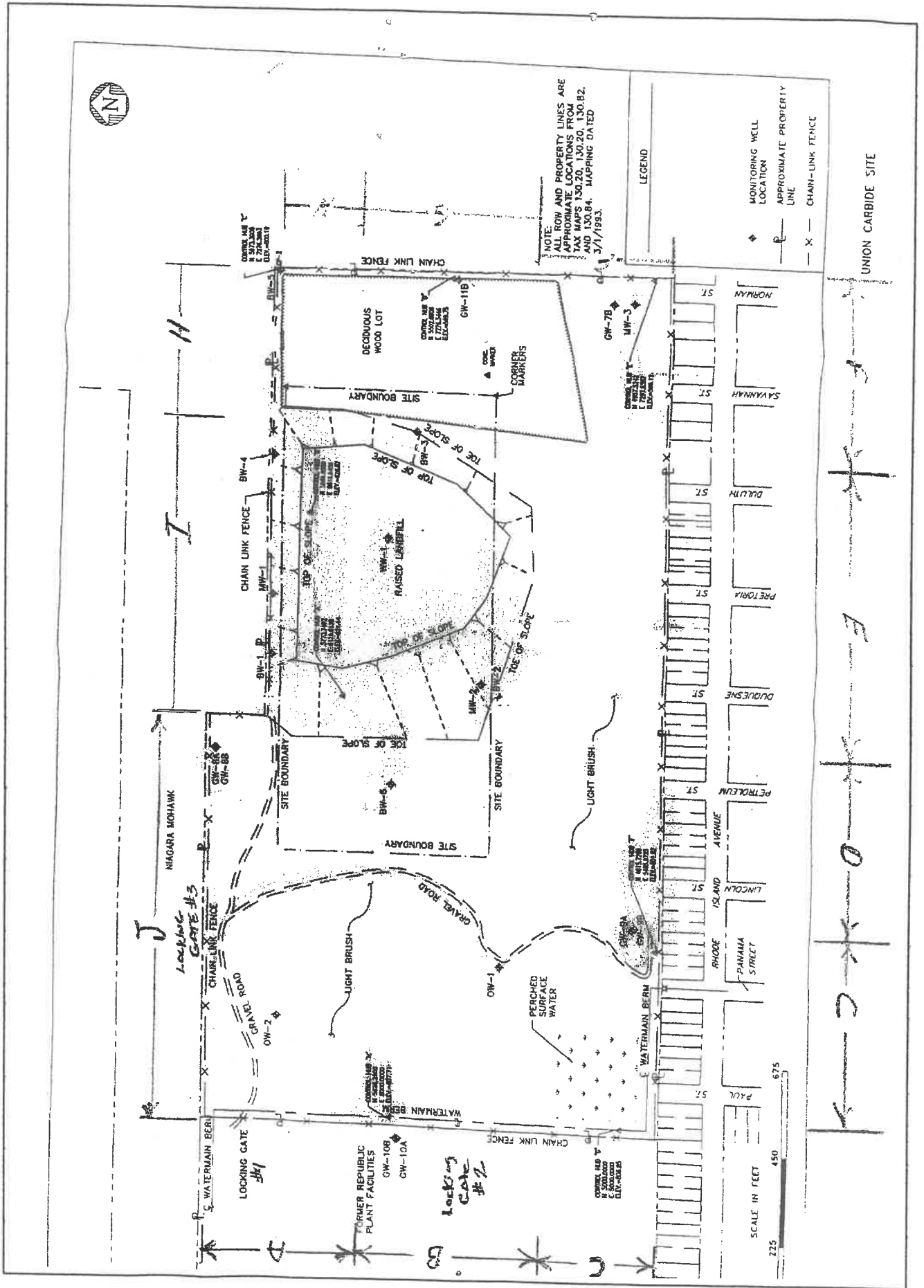
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Employee

Date \_\_\_\_\_



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
7/8/19	1:30	John Sweetenham

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Employee

Date \_\_\_\_\_



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
7/13/19	7:00	D. L. Simon

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

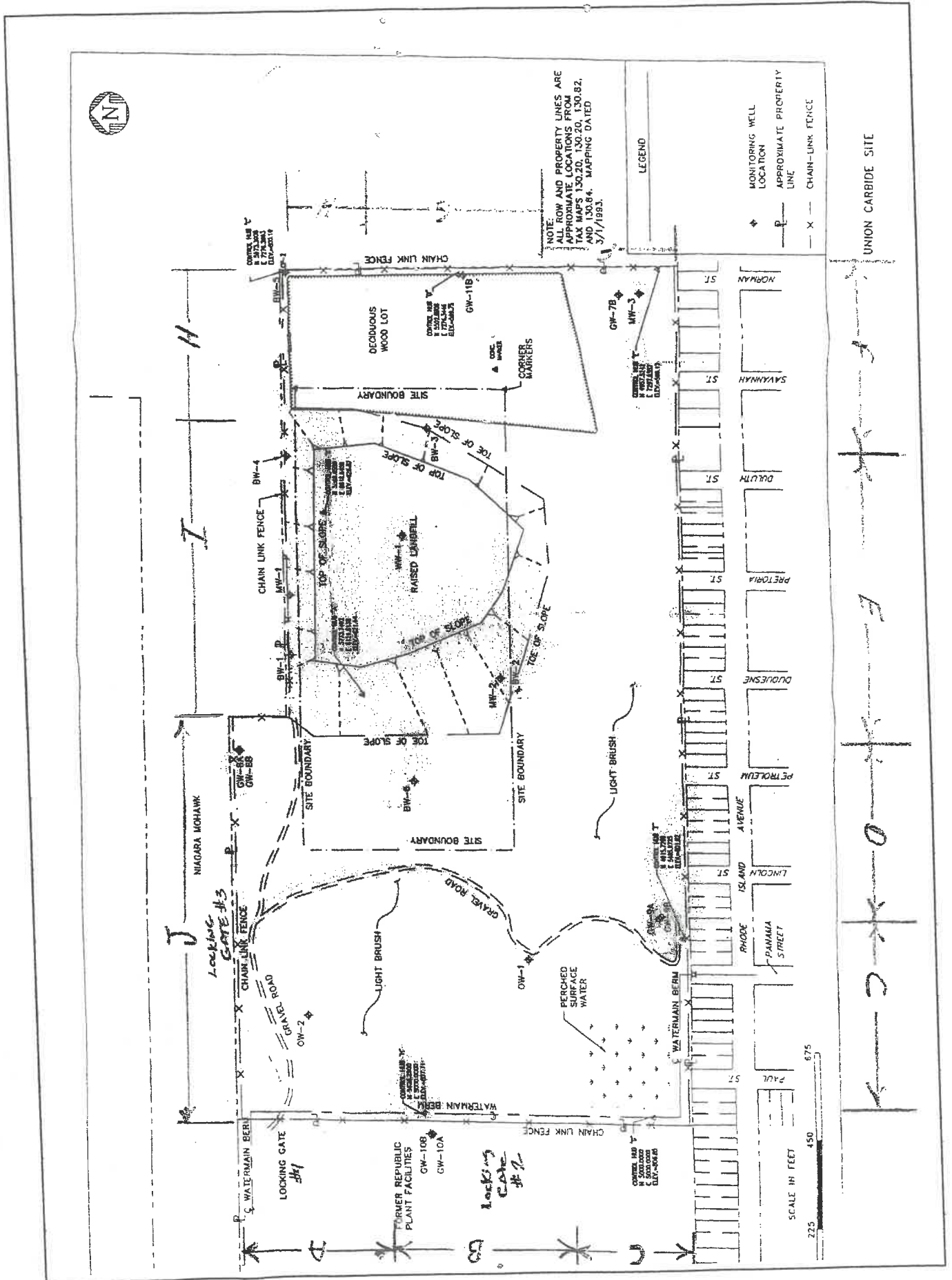
*all good*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



J. Swearingen  
Employee

7/13  
Date





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
7/22/19	8:00	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

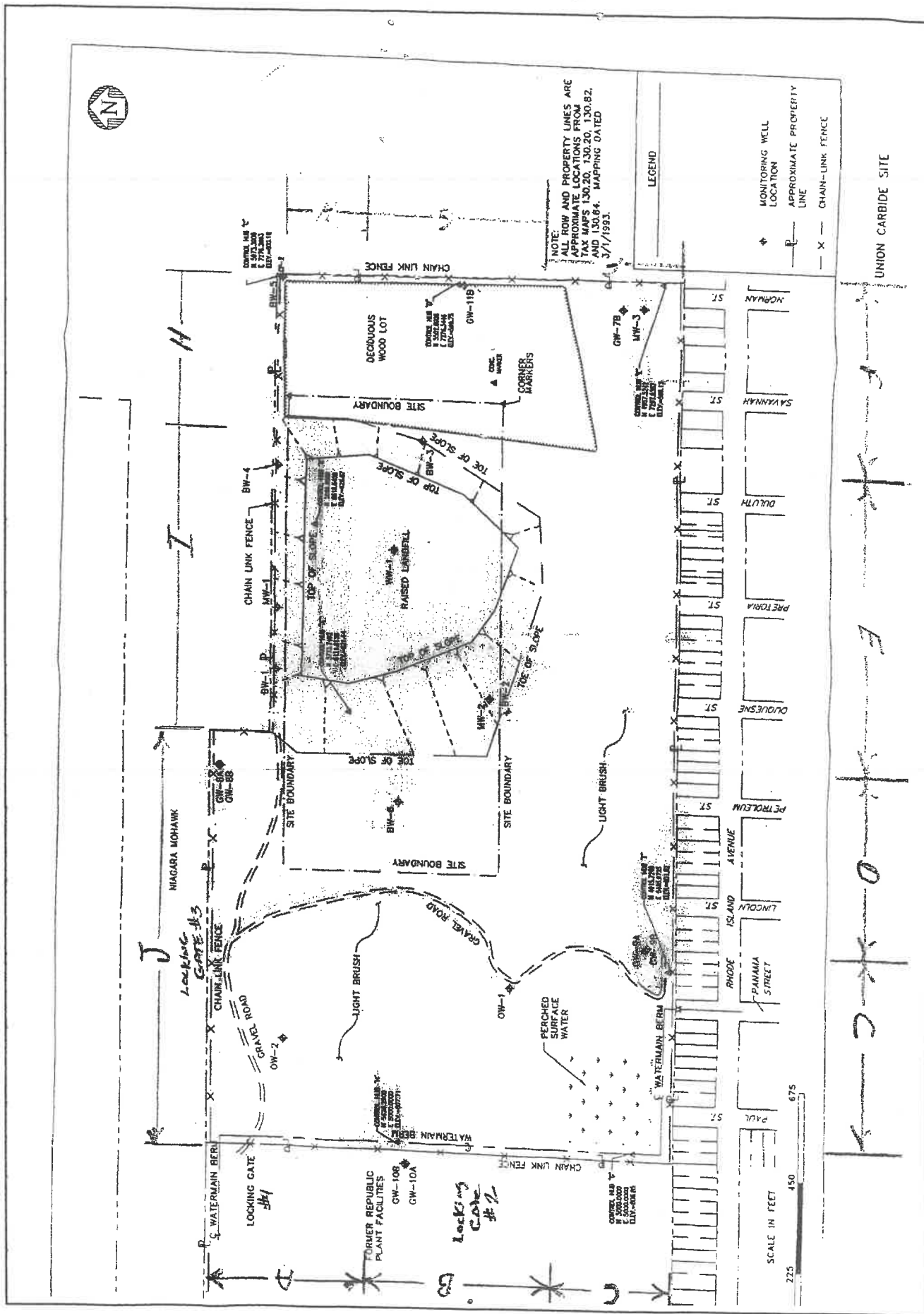
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

J. Swargen  
Employee

7/20/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
7/27/19	8:00	John Swanson

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

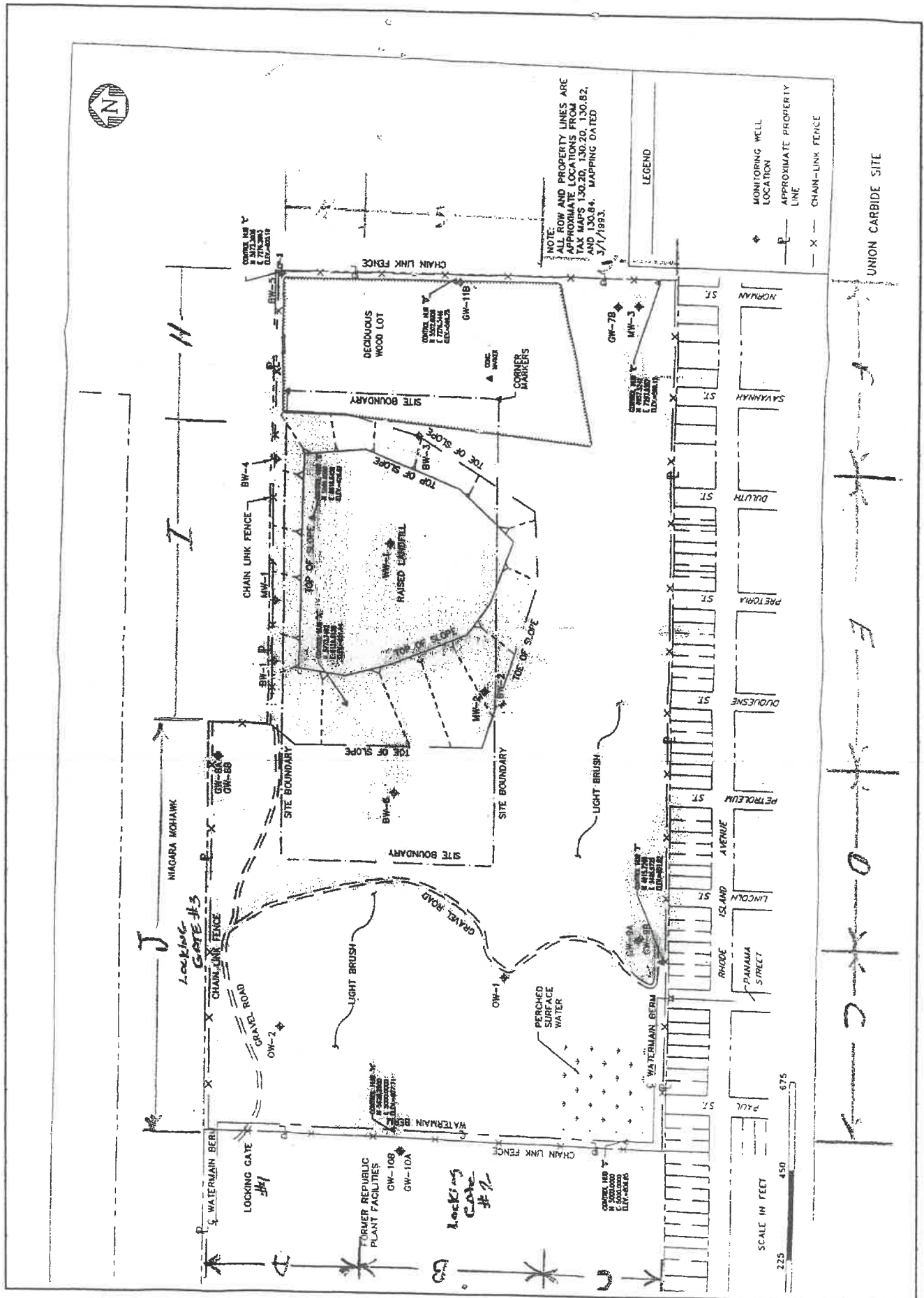
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

J. Swearengen  
Employee

7/27/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
8/24/19	8:00	John J. J. J.

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

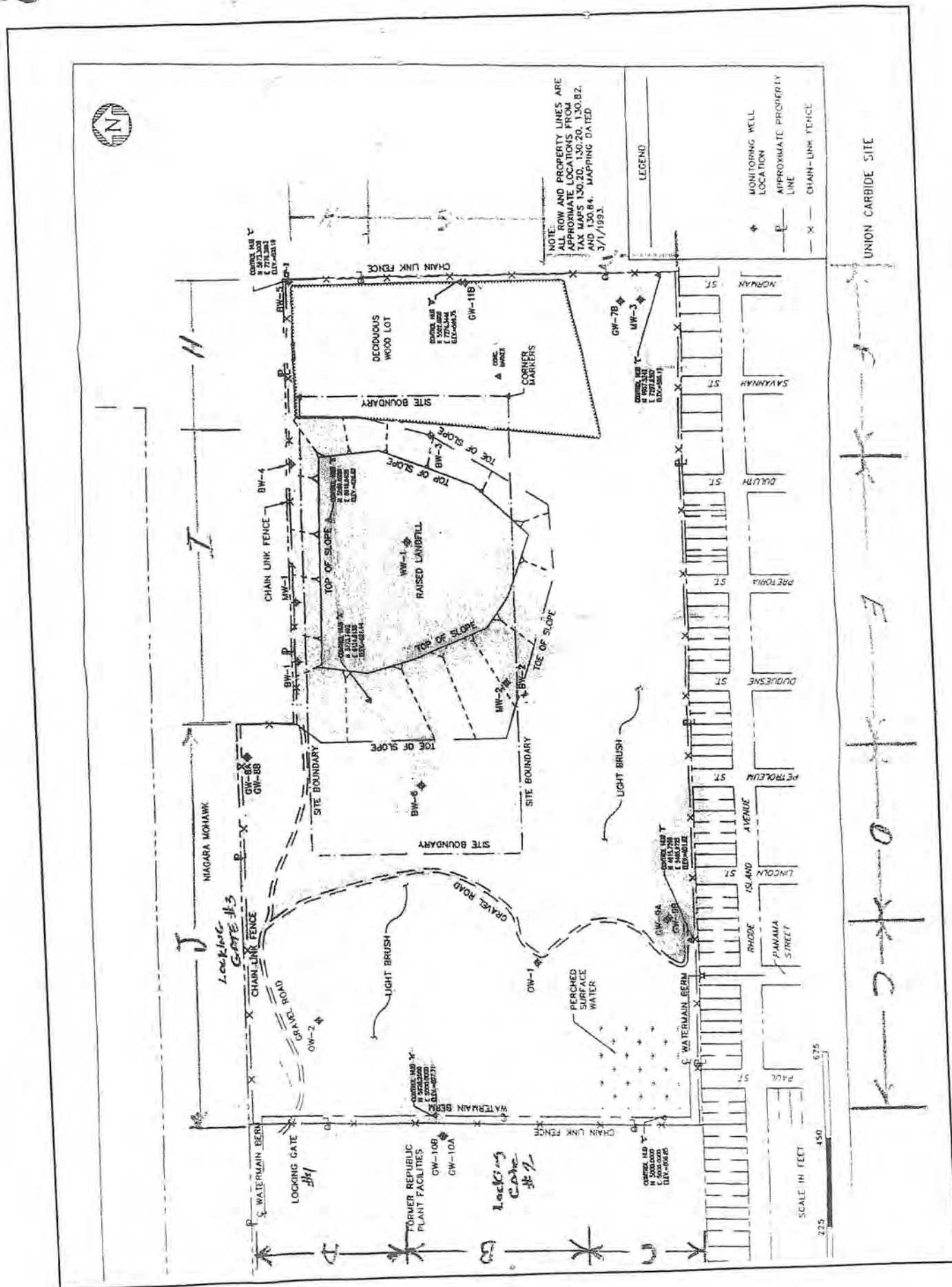
all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



8/24/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
8/19/19	4:30	John S. Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

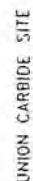
*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



Date \_\_\_\_\_





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
8/10/19	1:00	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

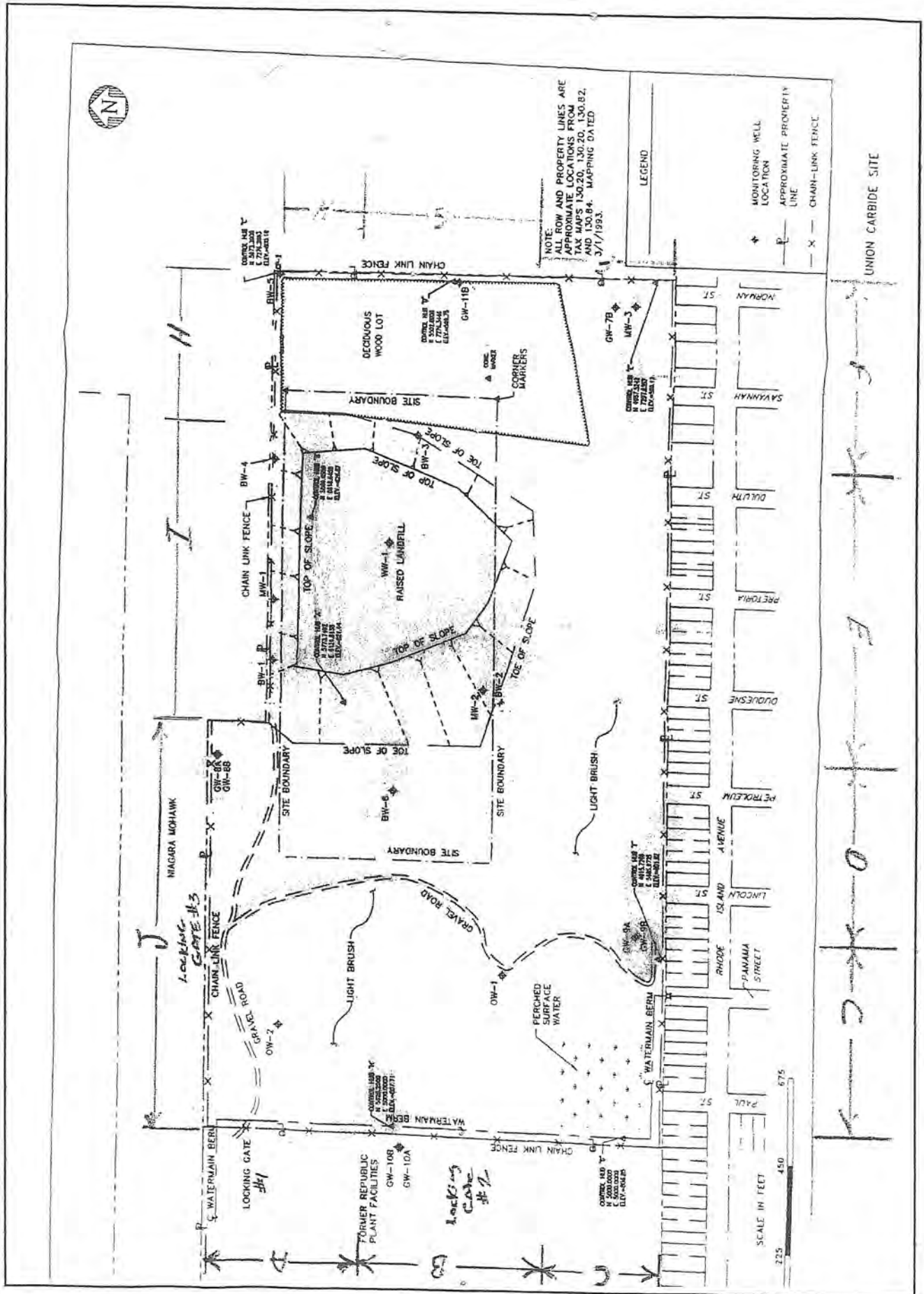
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

J. Swearingen  
Employee

8/9  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
8/3/19	9:30	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

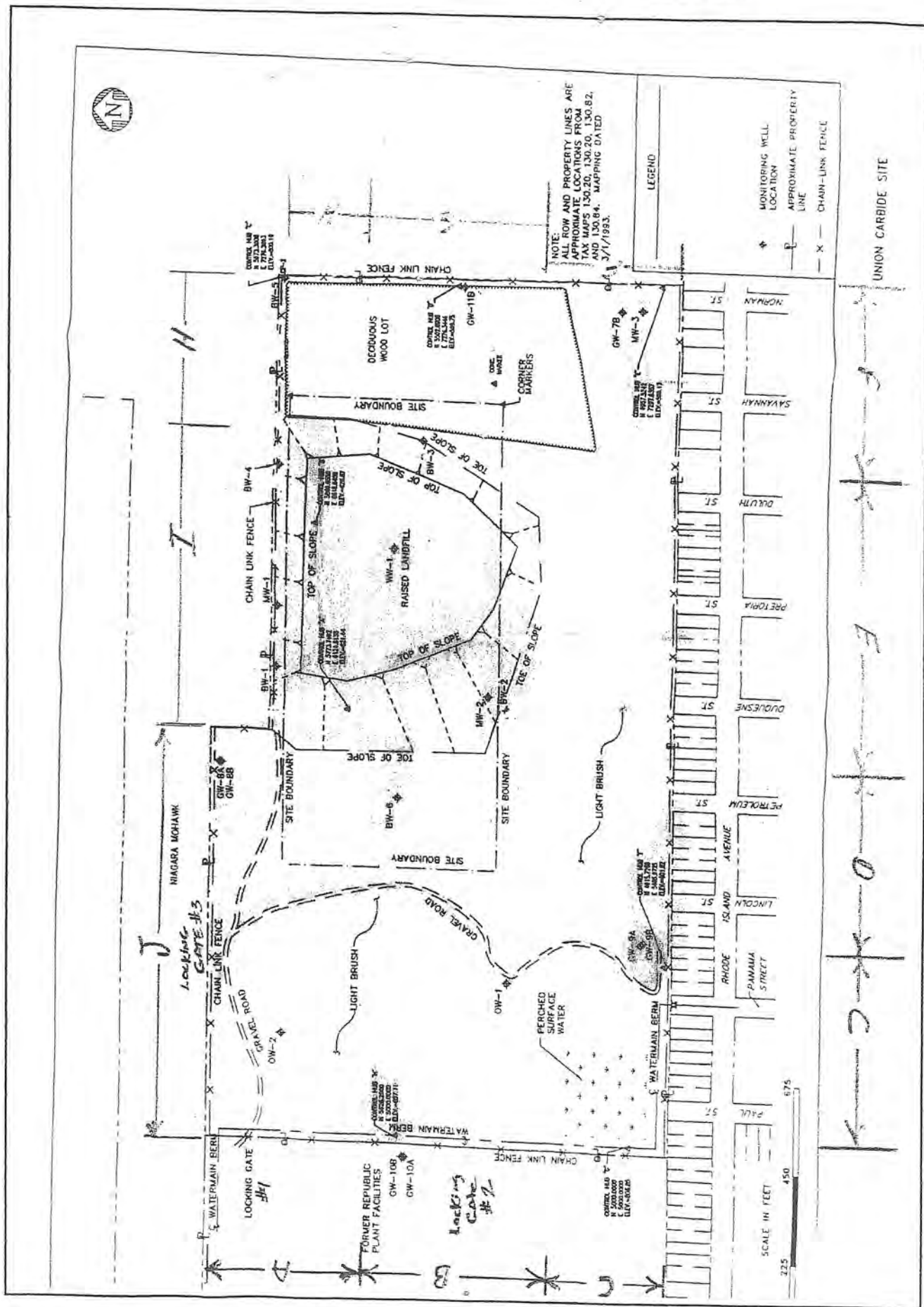
*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



8/3  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
9/1/19	3:00 pm	John Saredanga

ENCE ARE.	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

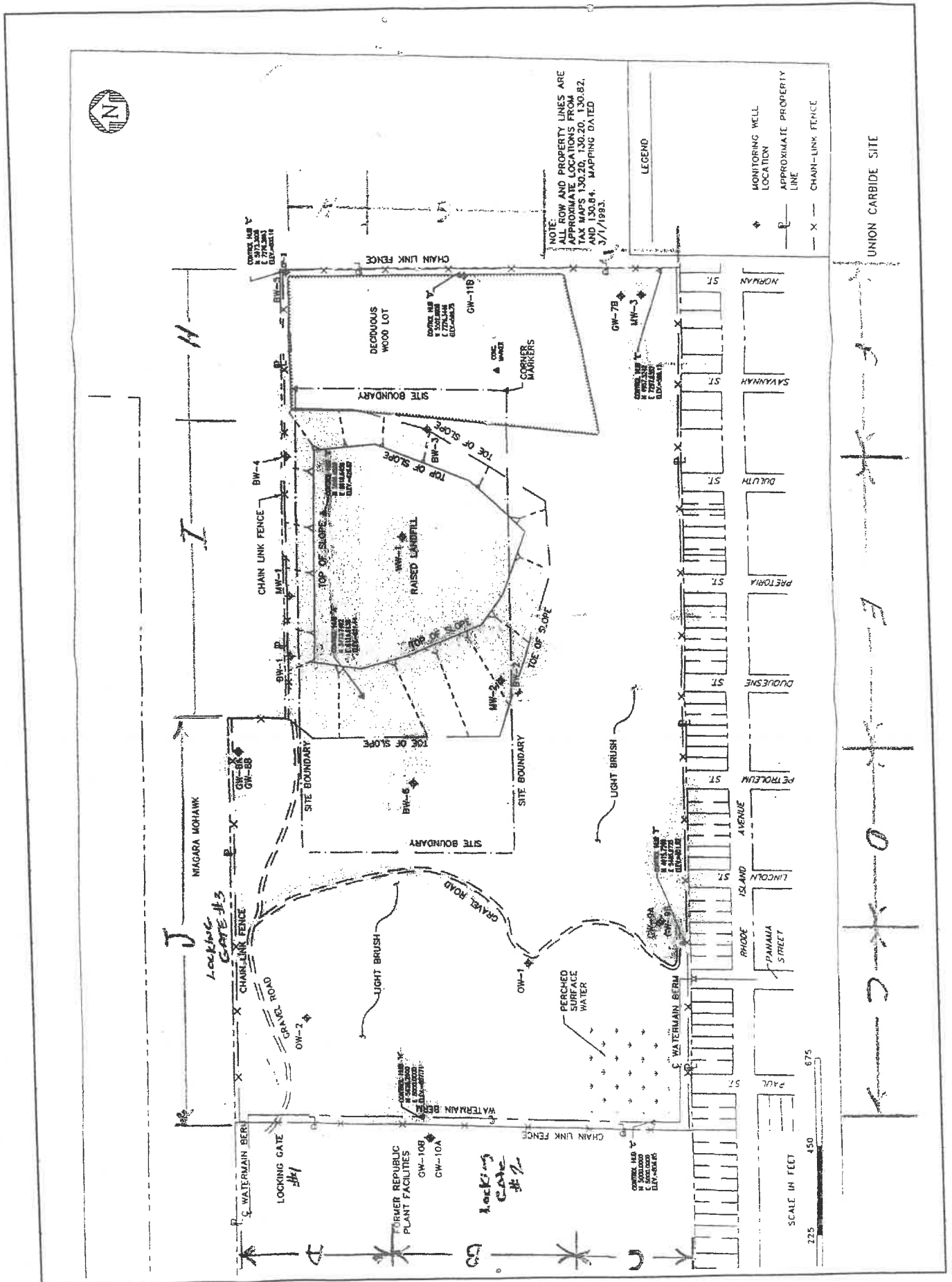
all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

JOHNS  
Employee

9/1/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
9/7/19	7:00	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

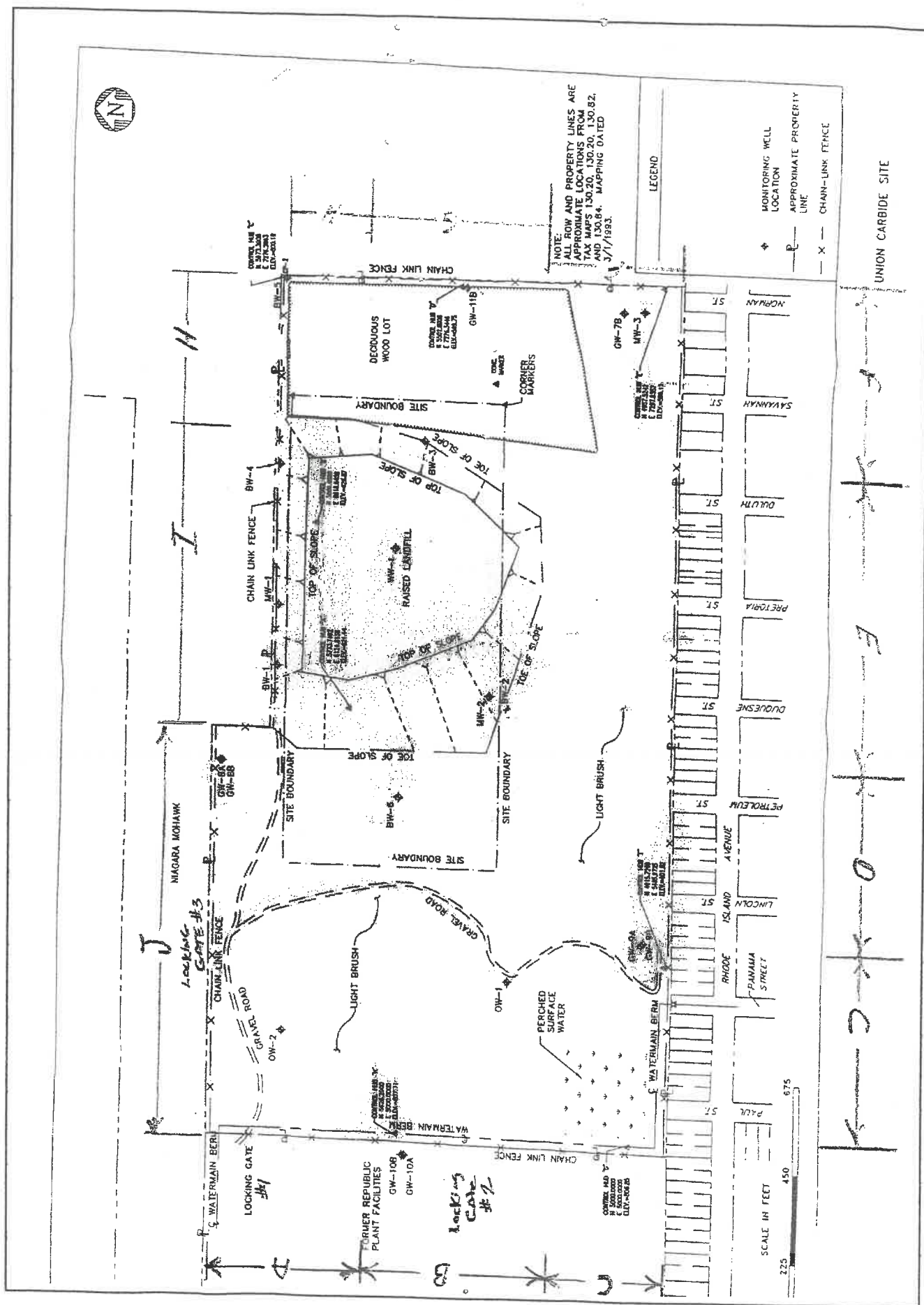
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



Employee

Date \_\_\_\_\_





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
4/14/19	7:30 Am	John Sencuf

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

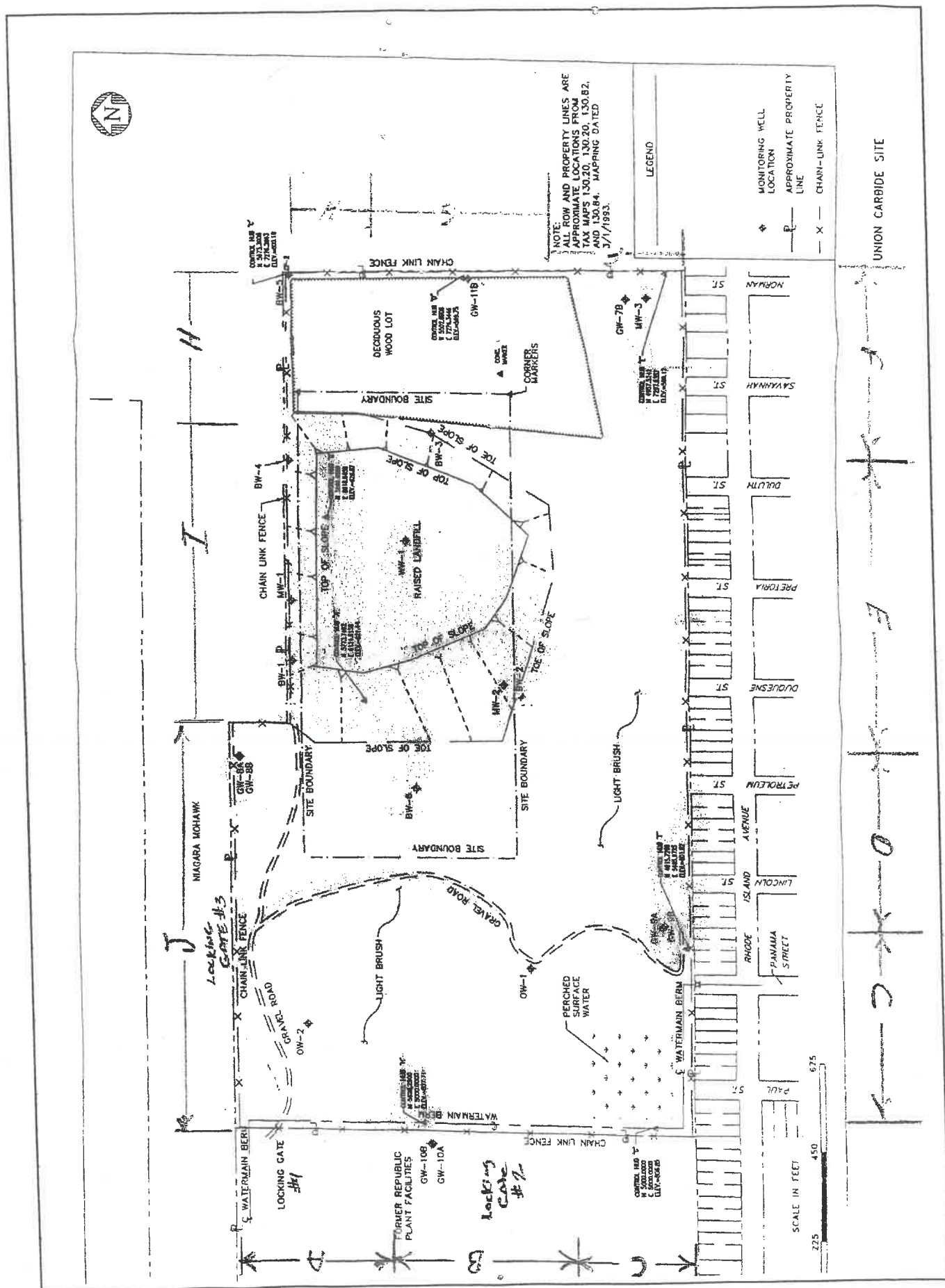
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

9/14  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
9/21/19	6:30	John Saucy

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

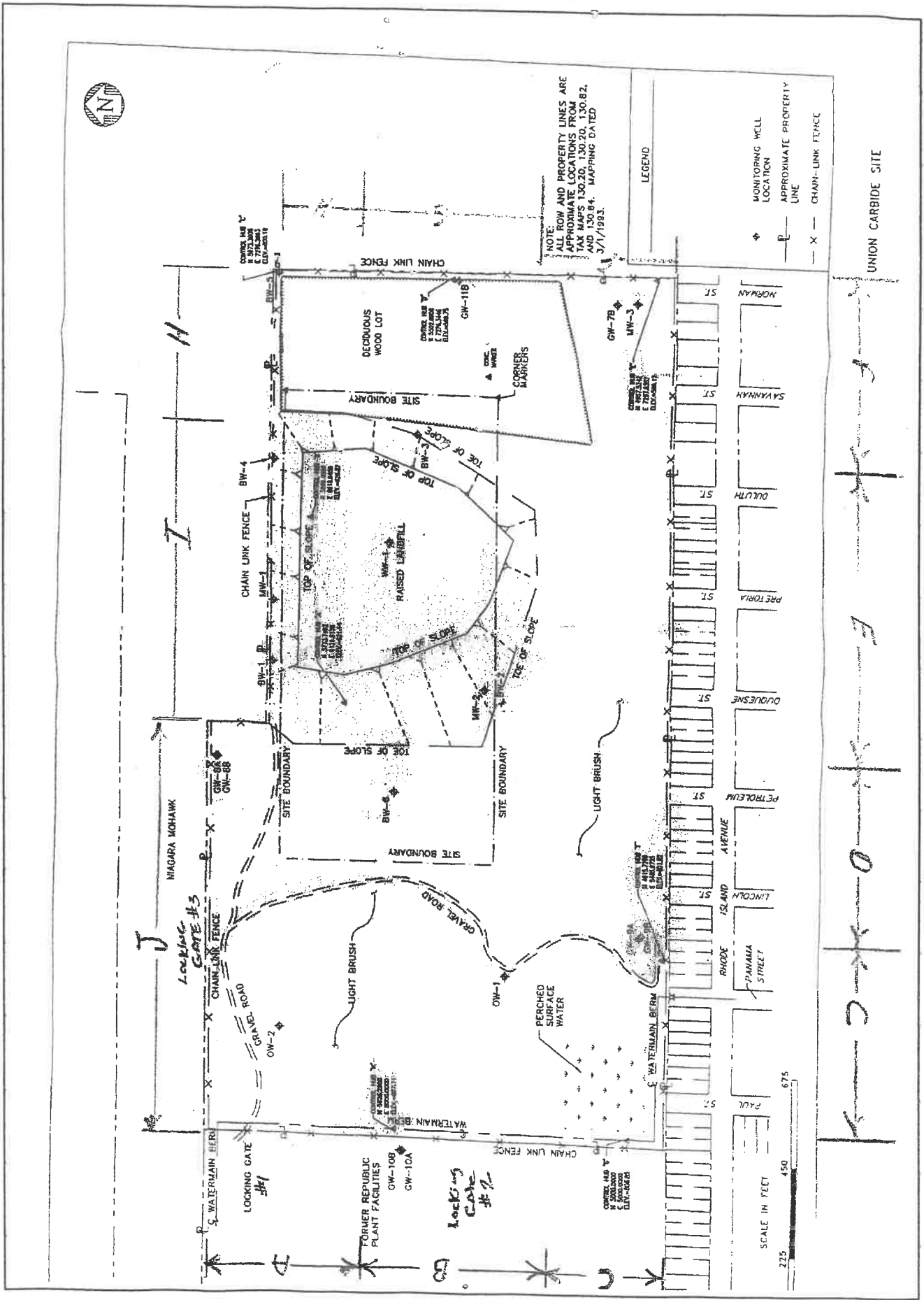
*all good*

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S  
Employee

9/21  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
9/27/19	3:30	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

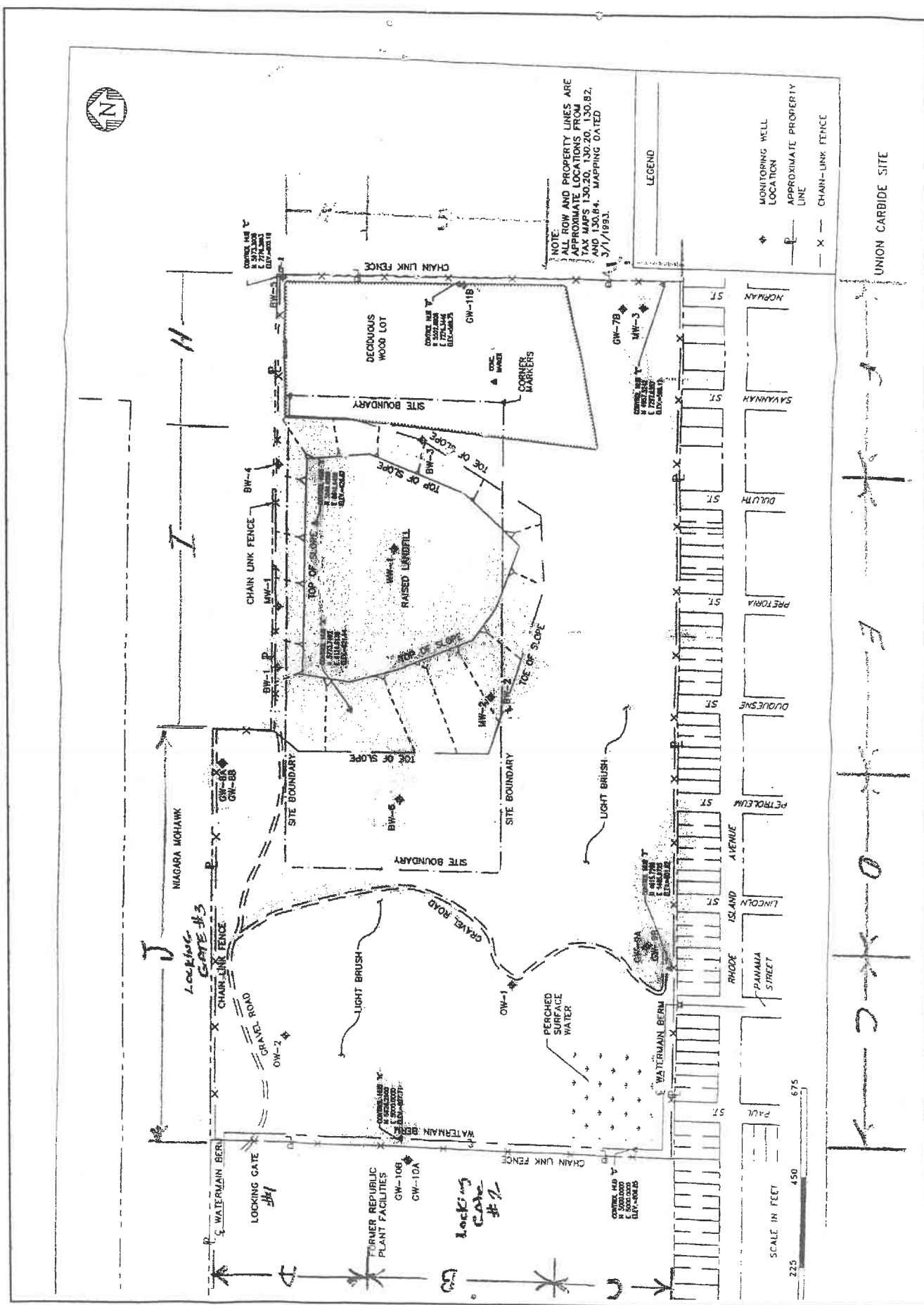
all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: 9/14/19

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Employee

Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
10/6/19	2:30	John Seecor

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

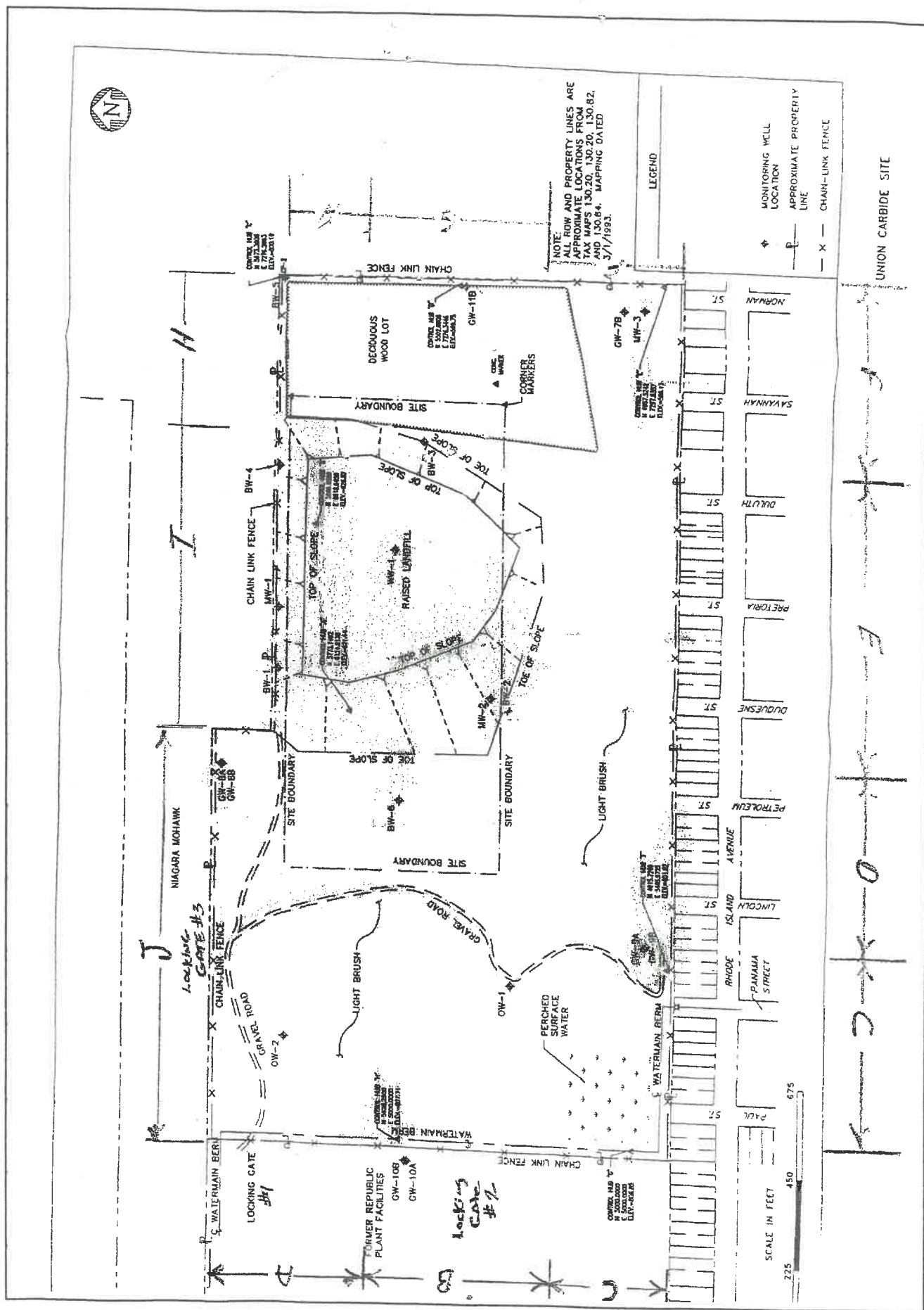
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



10/10  
Date





**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
10/11/19	7:00	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

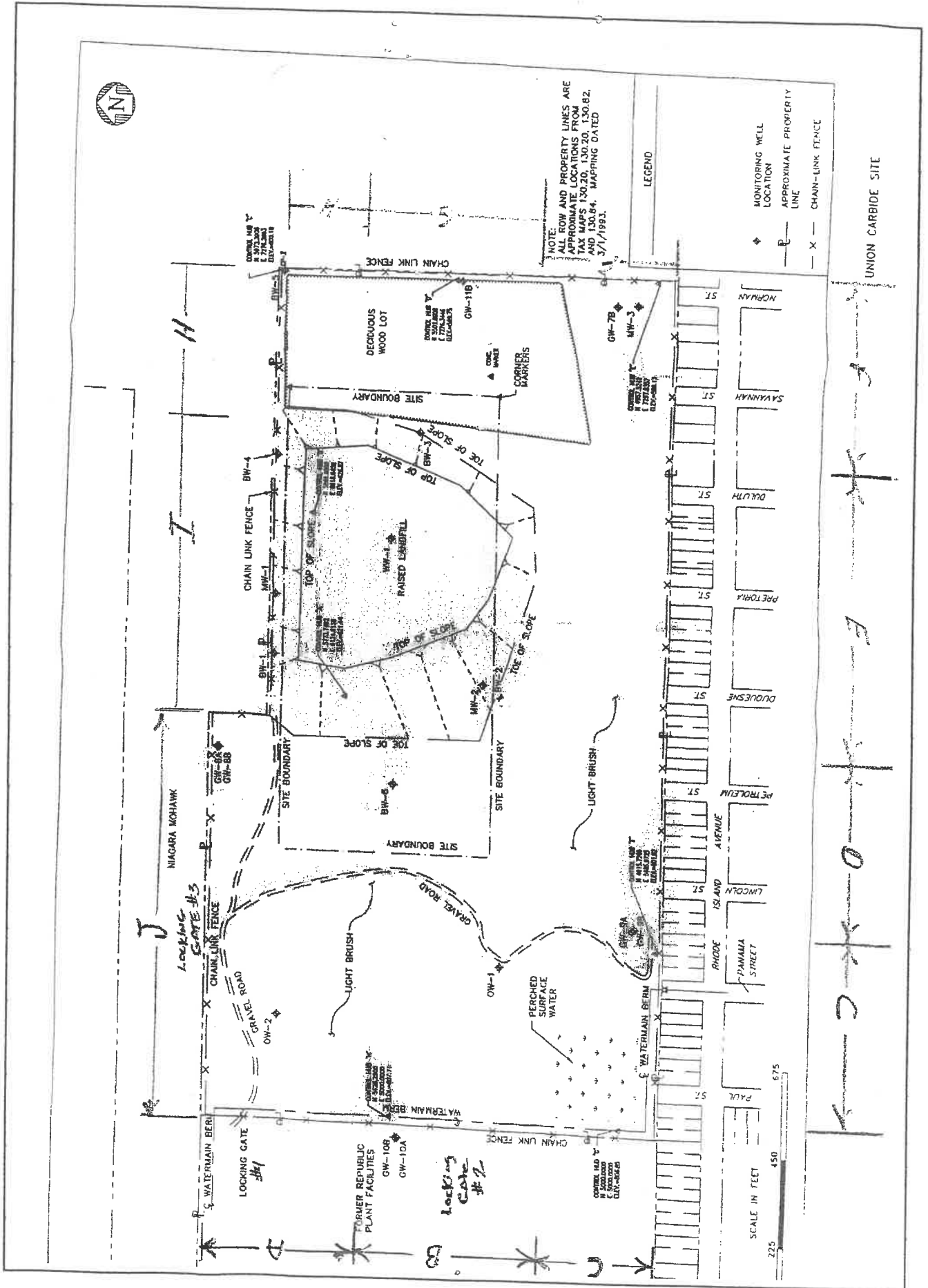
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S.  
Employee

10/11/19  
Date



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
10/19/19	11:00	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

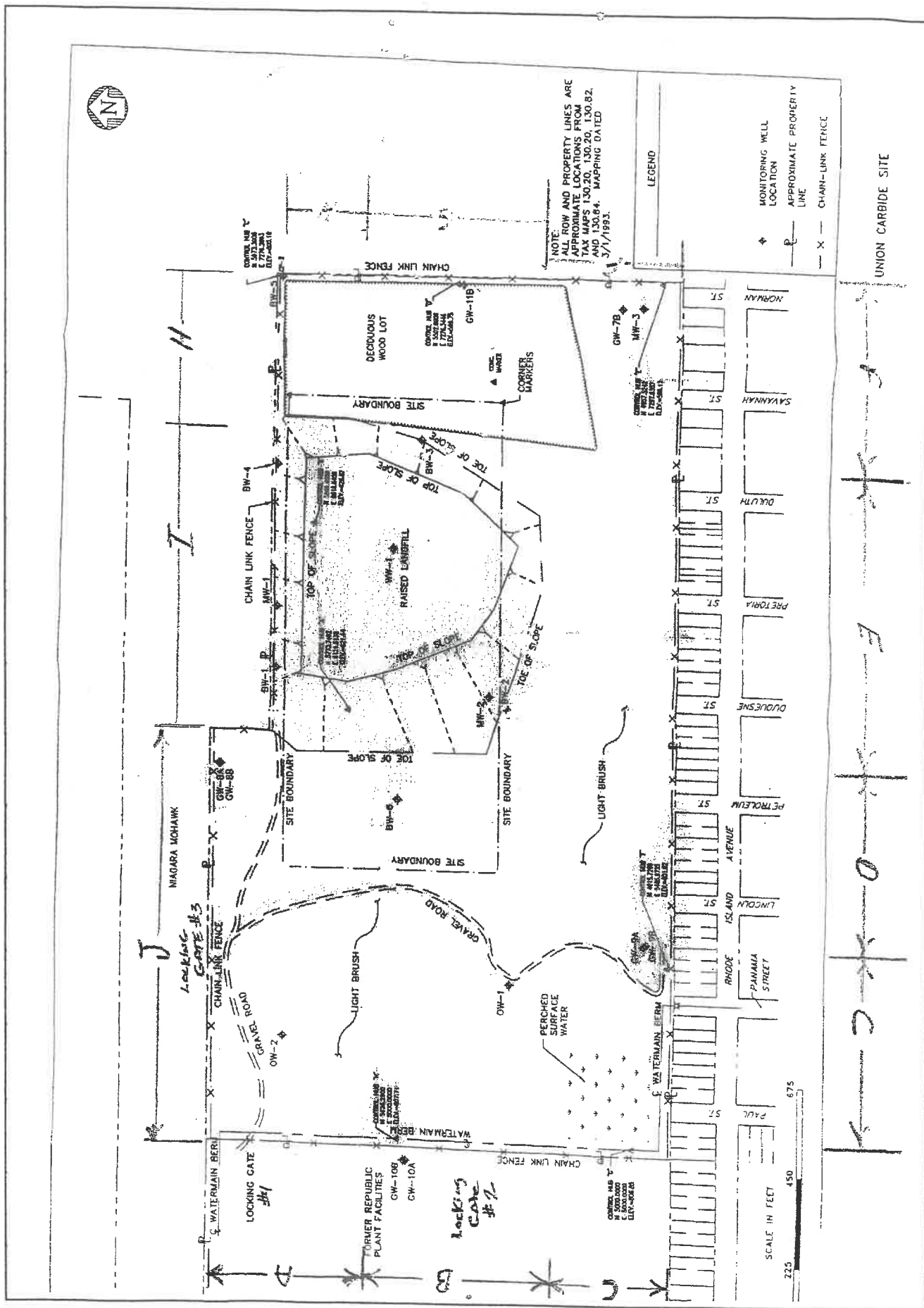
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S  
Employee

10/19  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
10/24/19	11:00	John Sweeney

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

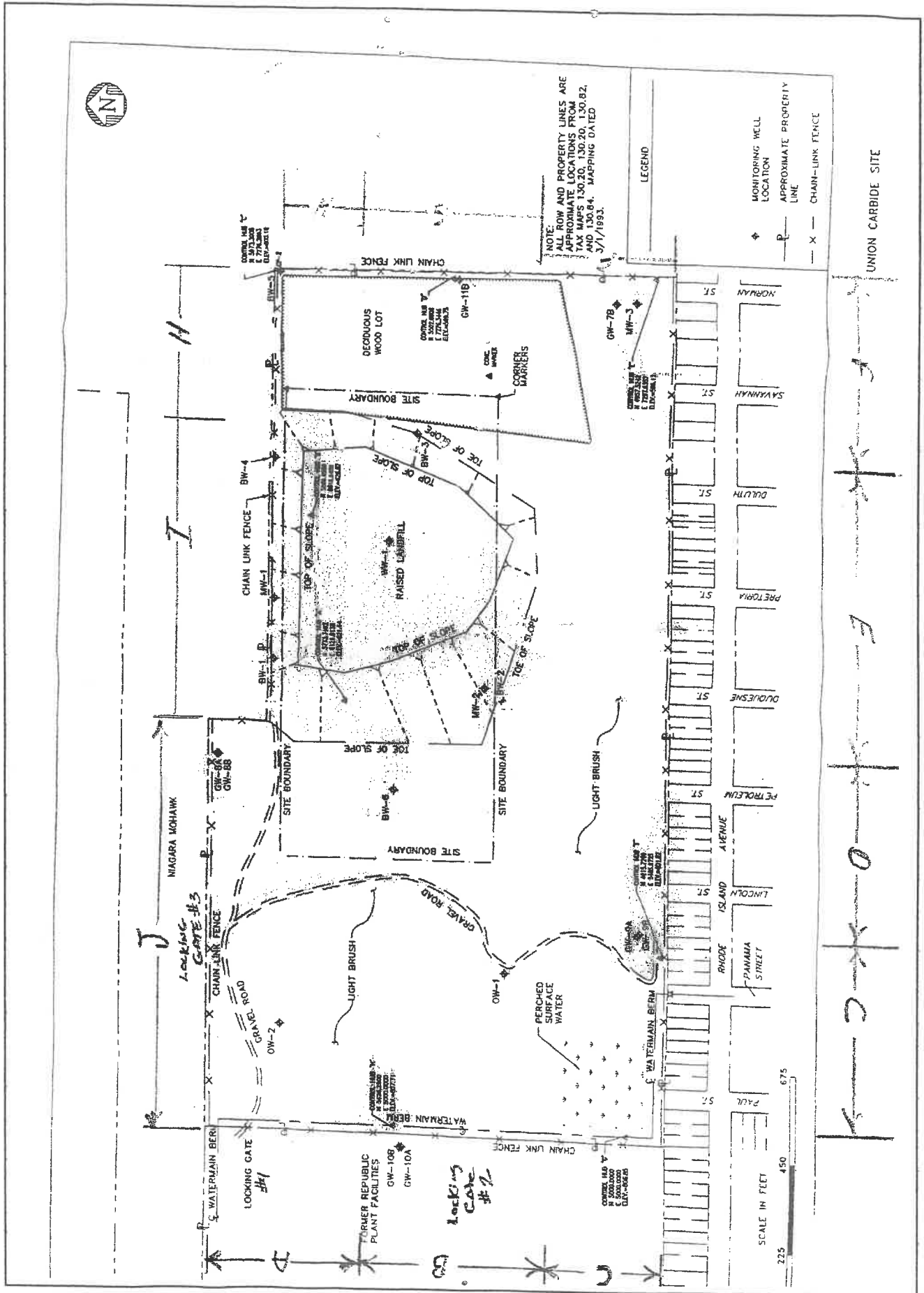
all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

John S.  
Employee

10/26  
Date





**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
11-1-19	9:00 Am	John Sreedhargan

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*Tree fell no fence damage*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
11-9-19	7:30	John Suckale

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
11/14/19	11:00 AM	John Savanoga

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*  
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*  
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
11/24/19	12:30 pm	John Svedengren

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

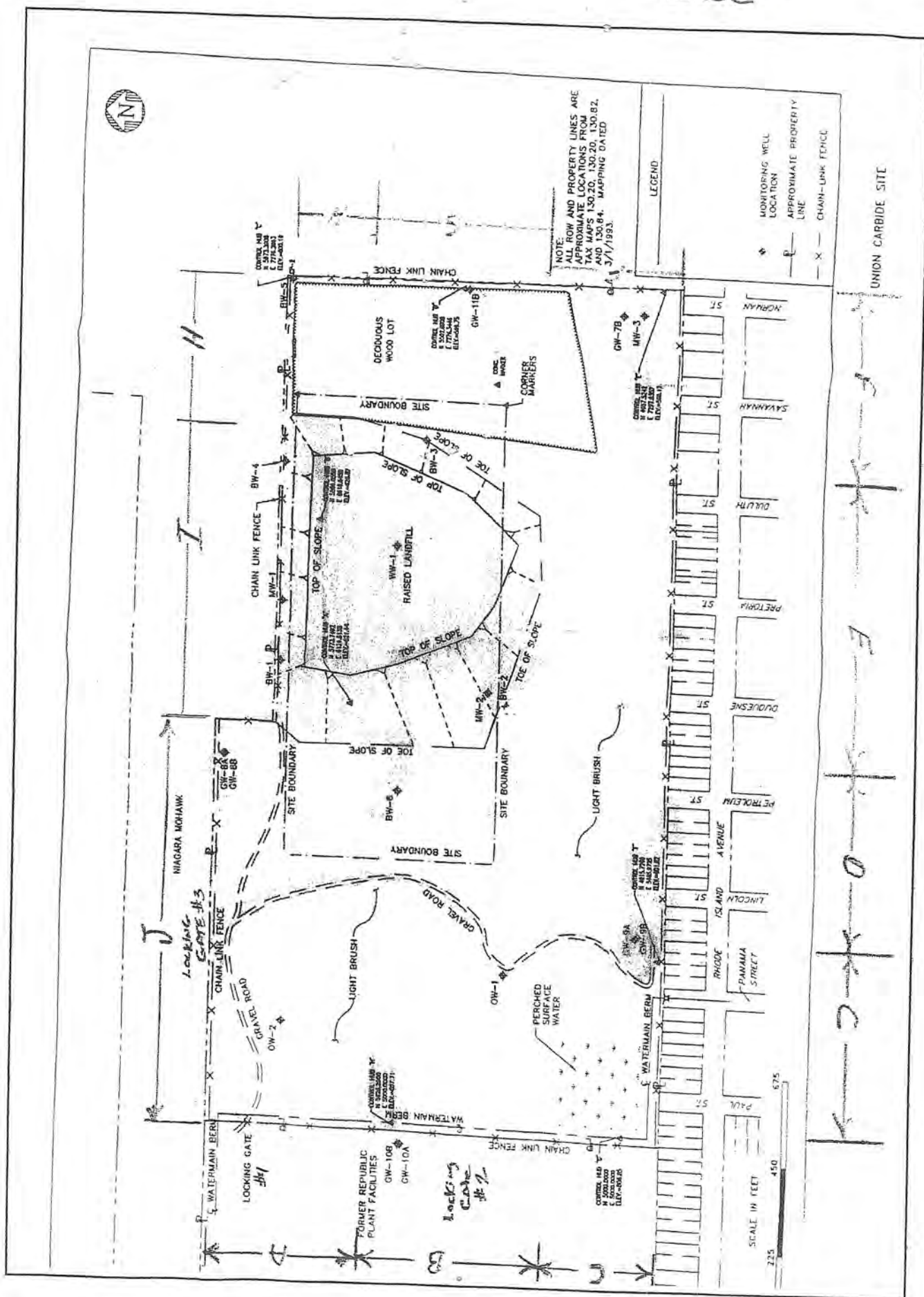
**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

11/24/19  
Date





APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
11-28-19	12:30	John Swearingen

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

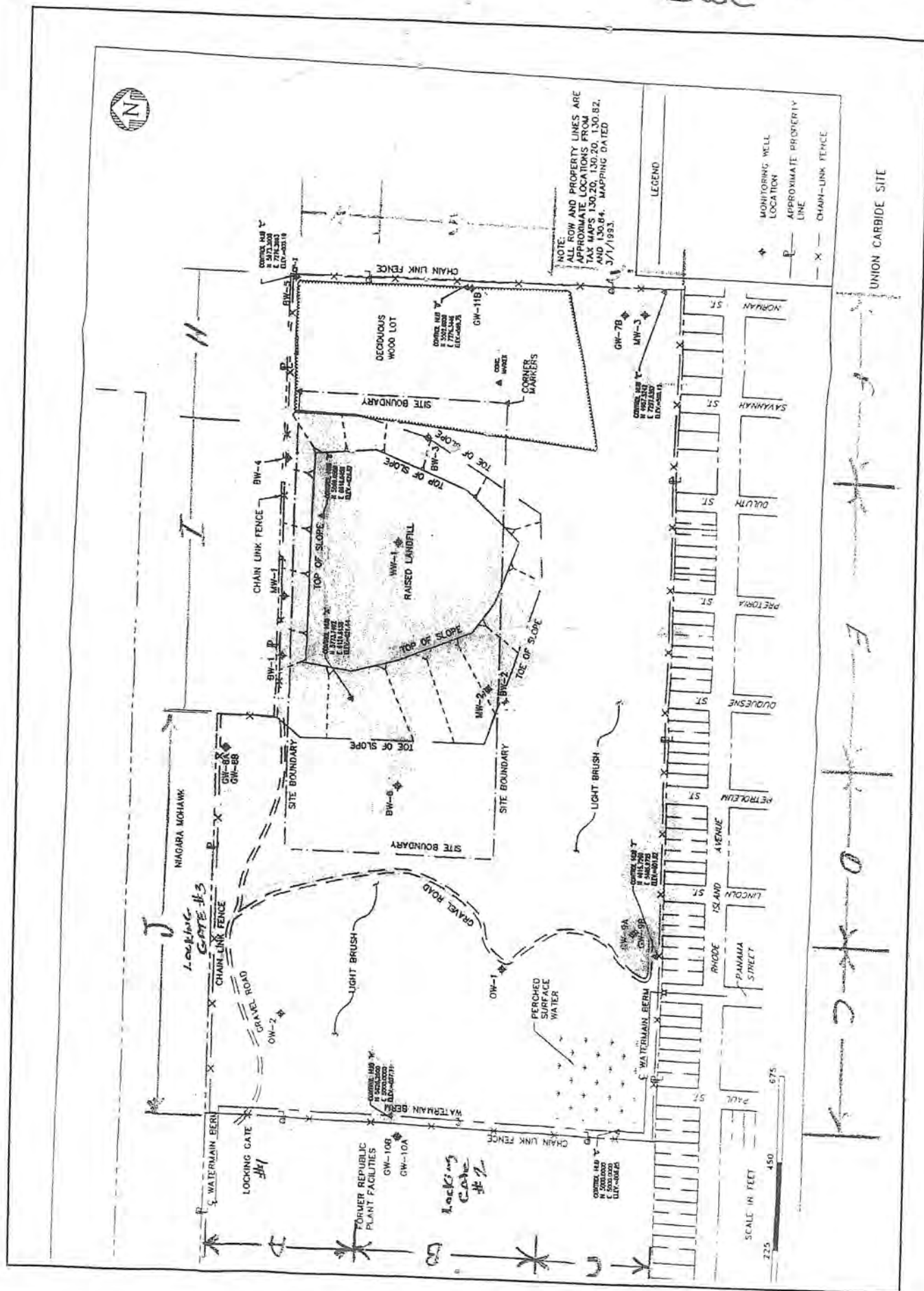
all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Date /

11/28/19



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
12-8-19	7:30 Am	John S. Santiago

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

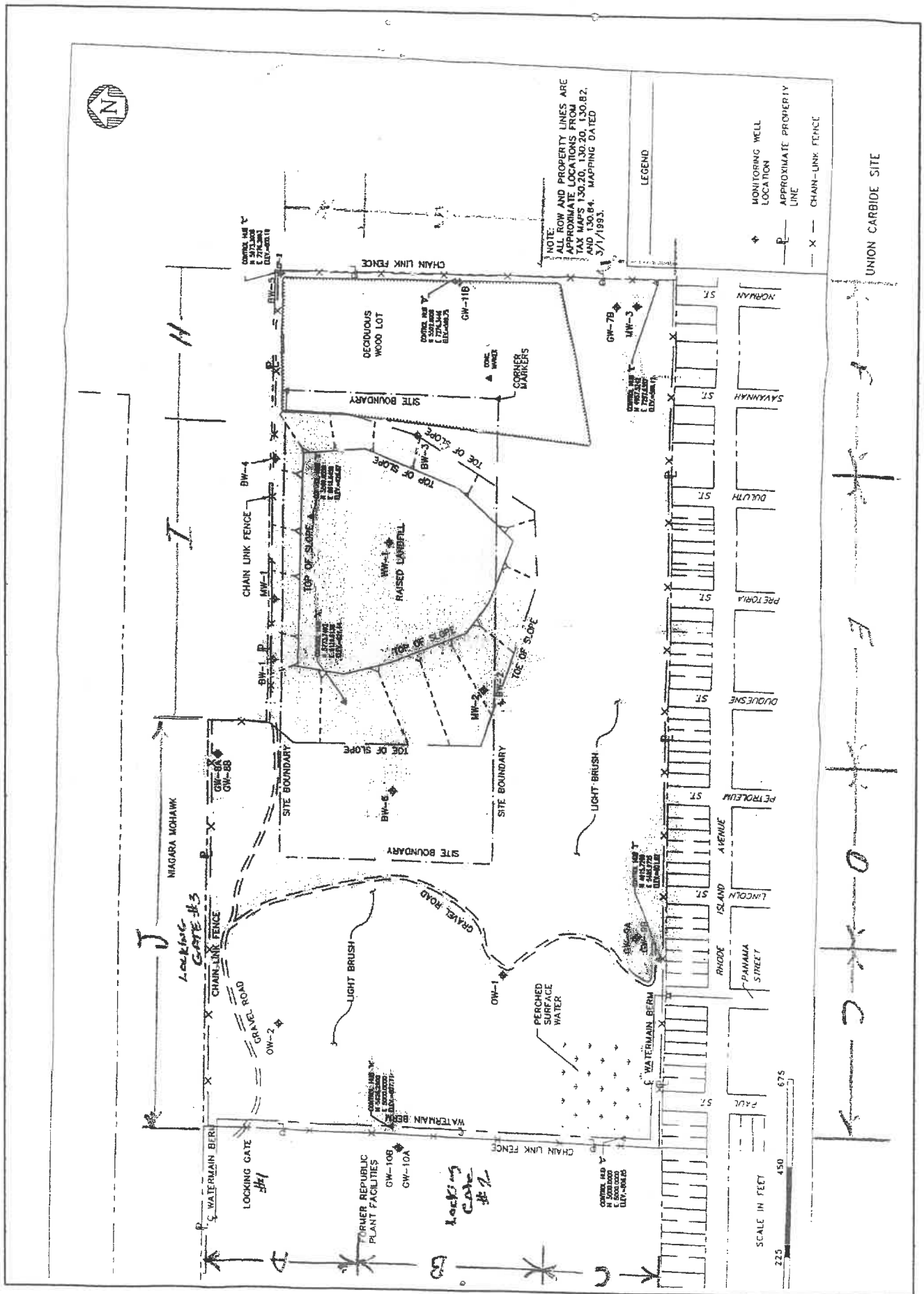
all good

RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED: \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Johns  
Employee

12/8.  
Date





# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
12/14/19	8:00	John J. [Signature]

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

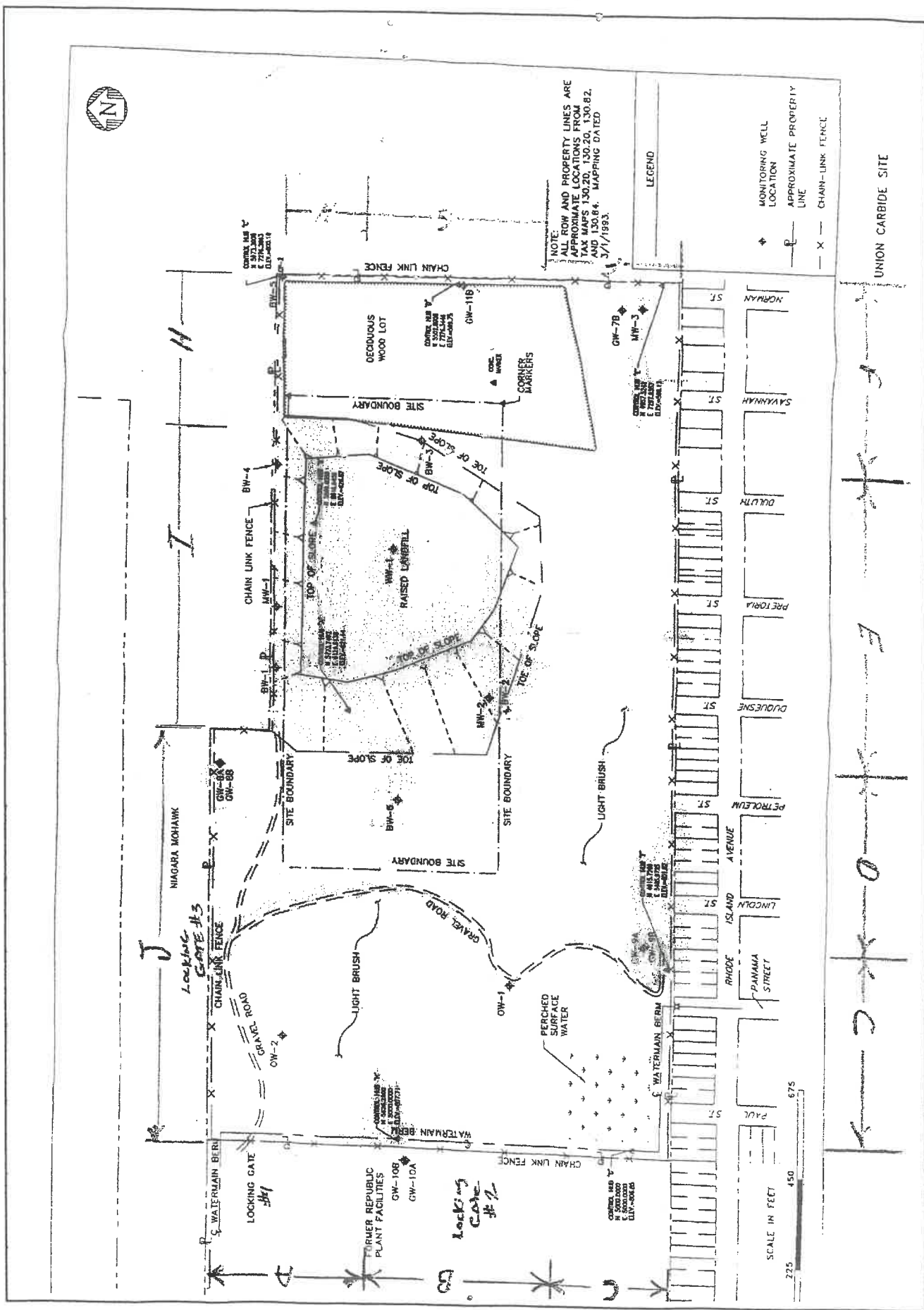
**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.



Employee

Date \_\_\_\_\_



**APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT**

Date	Time	Inspector Name
12-22-19	12:00	John Schepel-AGK

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	/			
B	/			
C	/			
D	/			
E	/			
F	/			
G	/			
H	/			
I	/			
J	/			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	/			
2	/			
3	/			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

*all good*

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

*all good*

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

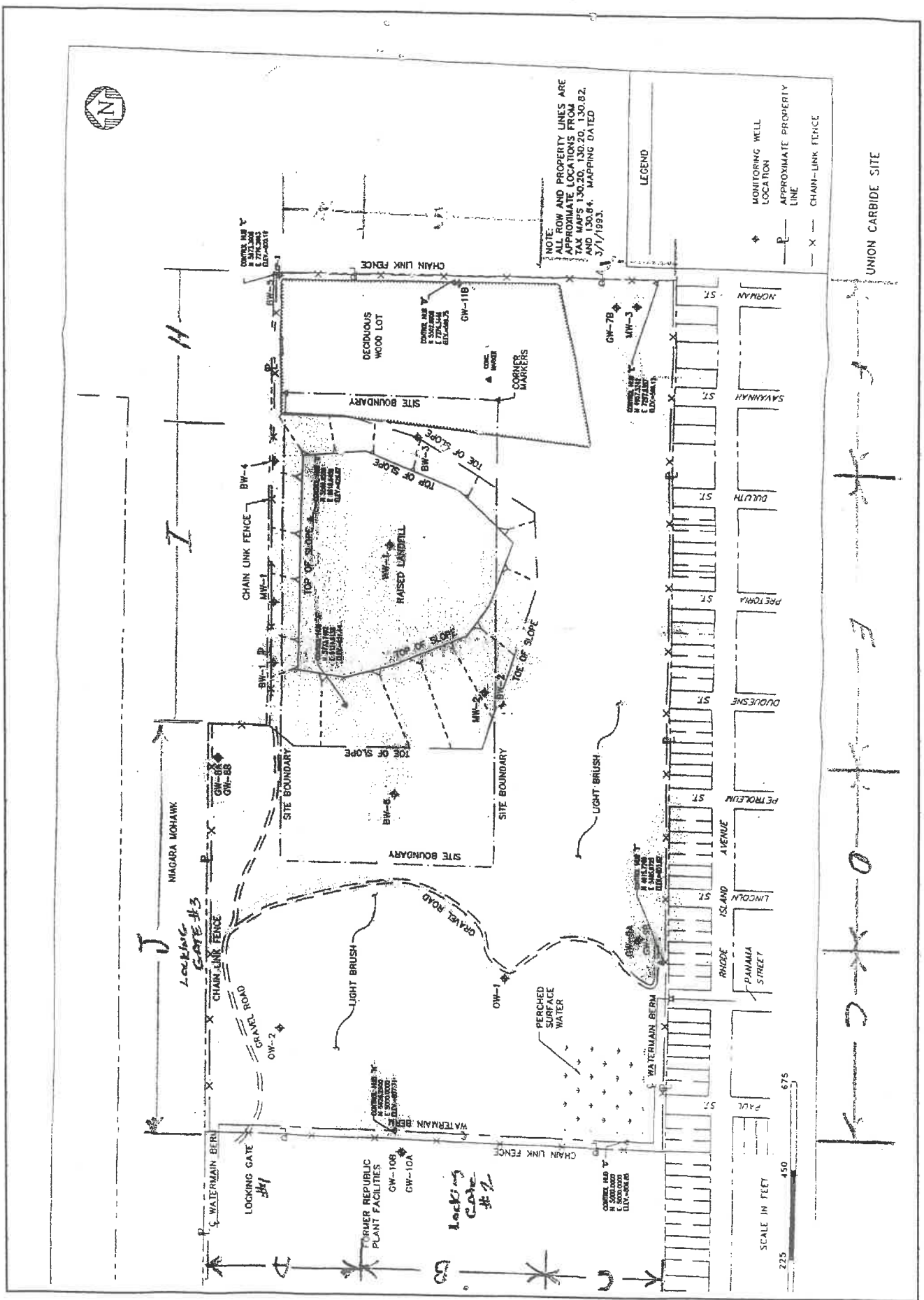
*all good*

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

**IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.**

John S  
Employee

12/22  
Date



# APPENDIX A - WEEKLY GENERAL LANDFILL AND SITE SECURITY INSPECTION REPORT

Date	Time	Inspector Name
12-29-19	12:00	John Screeminger

ENCE ARE	OK	DAMAGED	REPAIR DATE	REMARKS
A	✓			
B	✓			
C	✓			
D	✓			
E	✓			
F	✓			
G	✓			
H	✓			
I	✓			
J	✓			

GATE	OK	DAMAGED	REPAIR DATE	REMARKS
1	✓			
2	✓			
3	✓			

**SECURITY-RELATED ENGINEERED CONTROLS COMMENTS:** (Check for condition, damage, signs of security breach)

all good

**CAP COMMENTS:** (Check for erosion and adequate vegetation)

all good

**SURROUNDING AREA COMMENTS:** (Check for condition, damage, signs of security breach)

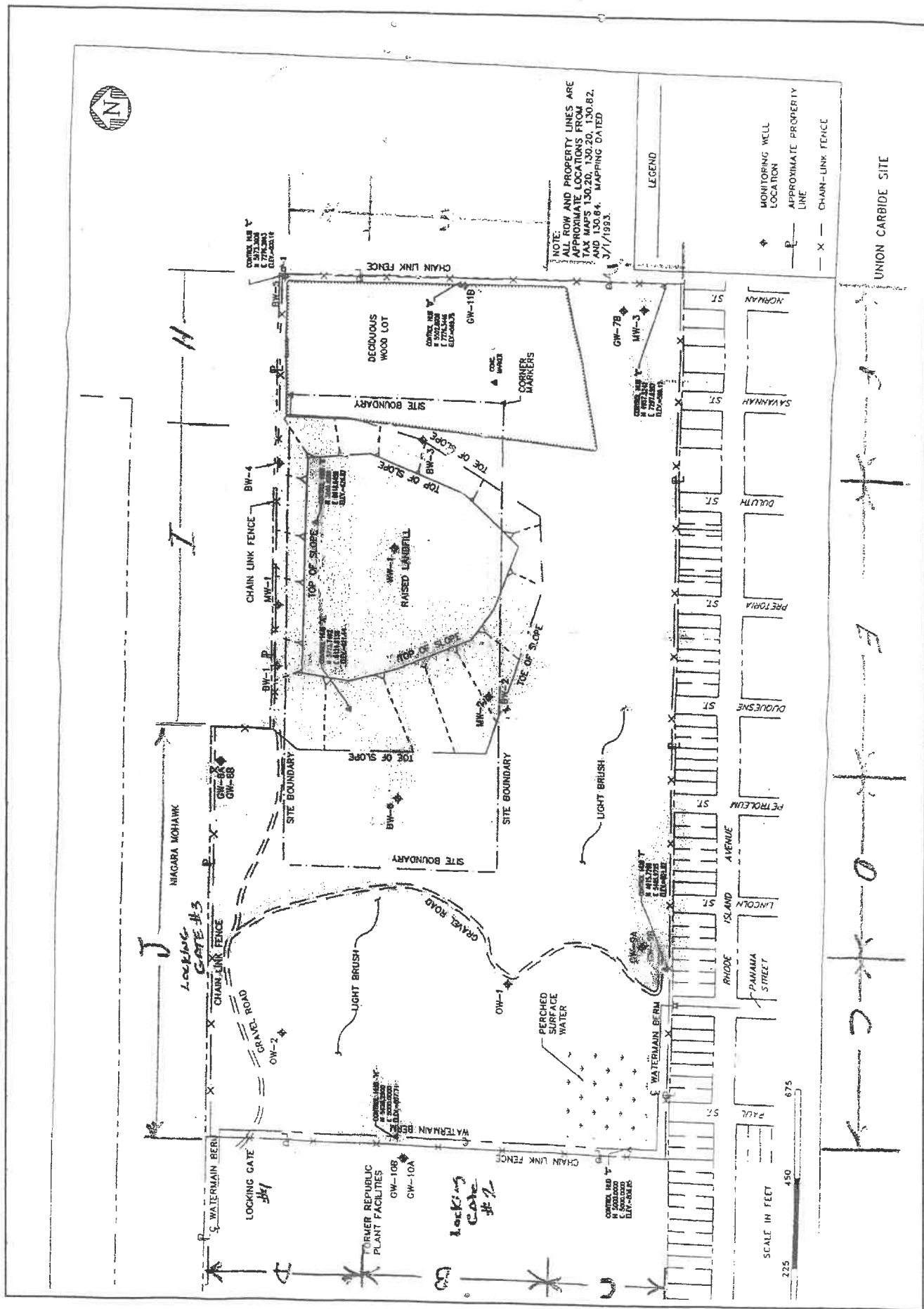
all good

**RECORD THE DATE(S) THAT THE ENTIRE CAP WAS MOWED:** \_\_\_\_\_

IN THE EVENT THAT ANY SIGN OF A SITE SECURITY BREACH IS IDENTIFIED DURING THE ABOVE SITE INSPECTIONS, COMPLETE A FULL GROUNDWATER MONITORING WELL INSPECTION AND DOCUMENT RESULTS USING THE QUARTERLY GROUNDWATER WELL INSPECTION REPORT FORM (APPENDIX B) AND ATTACH TO THIS FORM.

Employee

Date \_\_\_\_\_



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## Appendix G

Copies of Quarterly Groundwater Well Inspection Reports – 2019



1/19  
APPENDIX B - QUARTERLY GROUNDWATER WELL INSPECTION REPORT

MARK 5  
GRAFTECH WELLS

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
MW1-78	Y	good	good	good	
MW2-78	Y	good	good	good	
MW3-79	Y	good	good	good	
BW1-86	Y	good	good	good	
BW2-86	Y	good	good	good	
BW3-86	Y	good	good	good	
BW4-86	Y	good	good	good	
BW5-86	Y	good	good	cracked	
BW6-86	Y	good	good	cracked	
WW1-86	Y	good	good	Not visible	
OW1-88	Y	good	good	Not visible	
OW2-88	Y	good	good	Not visible	

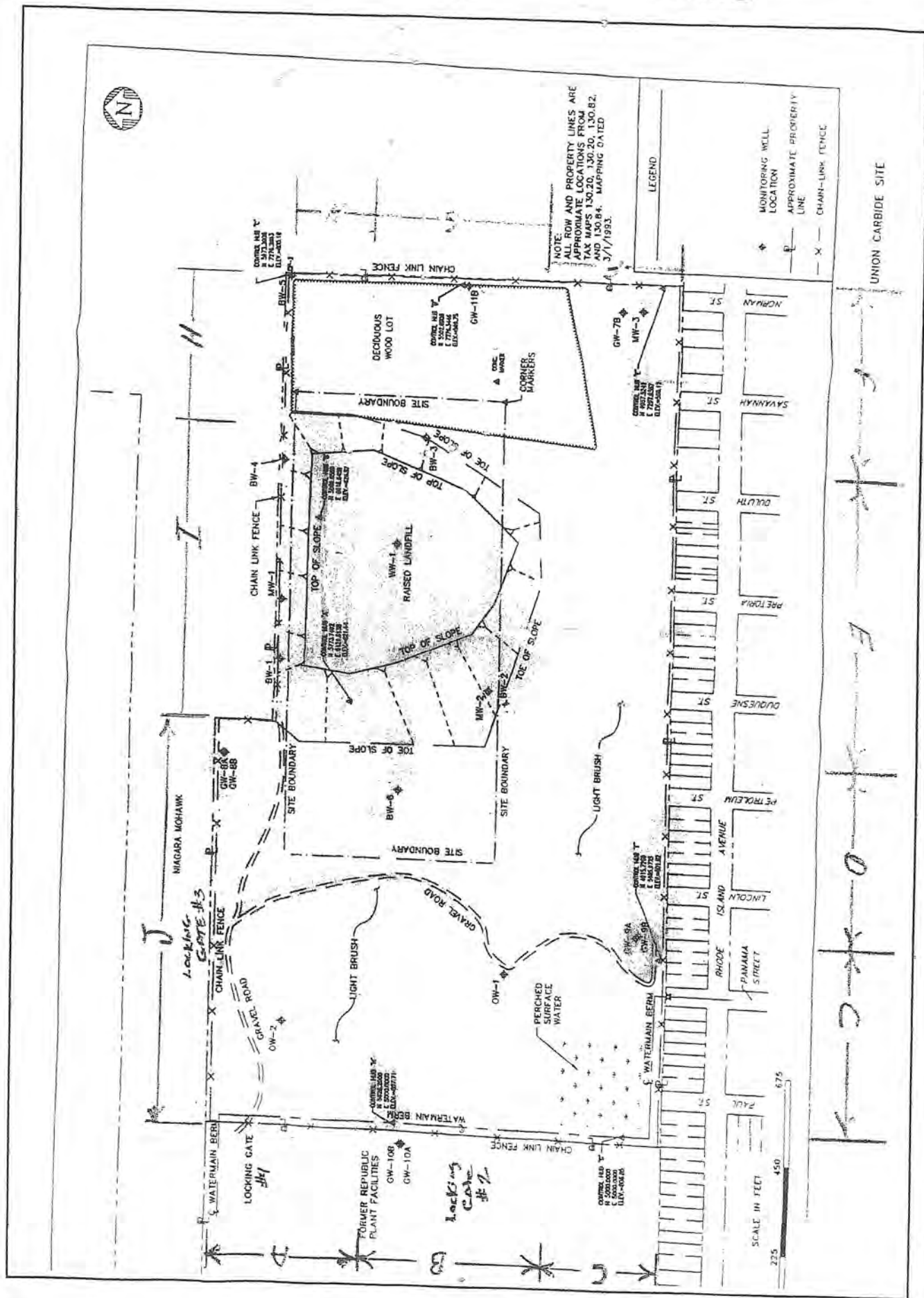
ON-SITE WELLS INSTALLED BY NYSDEC

(Installed Sept./Oct. 93)

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
GW7B-93	Y	good	good	loose	raising up from ground
GW8A-93	Y	good	good	loose	raising up from ground
GW8B-93	Y	good	good	good	
GW9A-93	Y	good	good	good	
GW9B-93	Y	good	good	good	
GW11B-93	Y	good	good	good	

Mark S  
Employee

1/19  
Date





APPENDIX B - QUARTERLY GROUNDWATER WELL INSPECTION REPORT

John Swearingen GRAFTECH WELLS 6/1/19

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
MW1-78	yes	good	good	good	
MW2-78	yes	good	good	good	
MW3-79	yes	good	good	good	
BW1-86	yes	good	good	good	
BW2-86	yes	good	good	good	
BW3-86	yes	good	good	good	
BW4-86	yes	good	good	good	
BW5-86	yes	good	good	cracked	
BW6-86	yes	good	good	cracked	
WW1-86	yes	good	good	not visible	
OW1-88	yes	good	good	not visible	
OW2-88	yes	good	good	not visible	

ON-SITE WELLS INSTALLED BY NYSDEC

(Installed Sept./Oct. 93)

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
GW7B-93	yes	good	good	loose	raising up from ground
GW8A-93	yes	good	good	loose	raised up from ground
GW8B-93	yes	good	good	good	
GW9A-93	yes	good	good	good	
GW9B-93	yes	good	good	good	
GW11B-93	yes	good	good	good	

APPENDIX B - QUARTERLY GROUNDWATER WELL INSPECTION REPORT

*John Sweetenham*

GRAFTECH WELLS

*9/8/19*

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
MW1-78	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
MW2-78	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
MW3-79	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
BW1-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
BW2-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
BW3-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
BW4-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
BW5-86					
BW6-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>circled</i>	
WW1-86	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>not visible</i>	
OW1-88	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>not visible</i>	
OW2-88	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>not visible</i>	

ON-SITE WELLS INSTALLED BY NYSDEC

(Installed Sept./Oct. 93)

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
GW7B-93	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>loose</i>	
GW8A-93	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>loose</i>	
GW8B-93	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	
GW9A-93	<i>yes</i>	<i>good</i>	<i>good</i>	<i>loose</i>	
GW9B-93	<i>yes</i>	<i>good</i>	<i>good</i>	<i>loose</i>	
GW11B-93	<i>yes</i>	<i>locked</i>	<i>good</i>	<i>good</i>	



2019- 4<sup>th</sup> Qtr

LANDFILL SITE MANAGEMENT PLAN FOR SWMF #32N03 (REGISTRY NO. 932035)

John Szwedlowski 12-44/19

## APPENDIX B - QUARTERLY GROUNDWATER WELL INSPECTION REPORT

### GRAFTECH WELLS

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
MW1-78	yes	locked	good	good	
MW2-78	yes	locked	good	good	
MW3-79	yes	locked	good	good	
BW1-86	yes	locked	good	good	
BW2-86	yes	locked	good	good	
BW3-86	yes	locked	good	good	
BW4-86	yes	locked	good	good	
BW5-86	yes	locked	good	good	
BW6-86	yes	locked	good	good	
WW1-86	yes	locked	good	good	
OW1-88	yes	locked	good	good	
OW2-88	yes	locked	good	good	

### ON-SITE WELLS INSTALLED BY NYSDEC

(Installed Sept./Oct. 93)

WELL I.D. NUMBER	WELL I.D. TAG INTACT (YES/NO)	LOCK CONDITION	OUTER CASING CONDITION	CONCRETE SEAL CONDITION	COMMENTS
GW7B-93	yes	locked	good	cracks	cracks and raised from ground
GW8A-93	yes	locked	good	good	
GW8B-93	yes	locked	good	cracked	raised from ground
GW9A-93	yes	locked	good	cracked	raised from ground
GW9B-93	yes	locked	good	cracked	raised from ground
GW11B-93	good	locked	good	good	

12/14/19  
Date

