SIXTH FIVE-YEAR REVIEW REPORT FOR
INDUSTRIAL LANE SUPERFUND SITE
NORTHAMPTON COUNTY, PENNSYLVANIA

SEPTEMBER 2023

Prepared by

U.S. Environmental Protection Agency
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Table of Contents

LIST OF ABBREVIATIONS AND ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
DCE	Dichloroethylene
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FYR	Five-Year Review
IC	Institutional Control
MCL	Maximum Contaminant Level
MSC	Medium Specific Concentrations
µg/L	Microgram per Liter
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PADEP	Pennsylvania Department of Environmental Protection
PCE	Tetrachloroethylene
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
ROD	Record of Decision
RPM	Remedial Project Manager
TCE	Trichloroethylene
VOC	Volatile Organic Compounds

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of reviews are documented in FYR Reports such as this one. In addition, FYR Reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the sixth FYR for the Industrial Lane Superfund site (the Site). The triggering action for this statutory review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

This FYR addresses both the Site's operable units (OUs). OU1 addresses provision of an alternate drinking water supply and OU2 addresses the former landfill and contaminated groundwater.

EPA's remedial project manager (RPM) led the FYR. Additional participants from EPA included the community involvement coordinator (CIC), human health and ecological risk assessors, a hydrogeologist and contractor support form Skeo. Staff from the Pennsylvania Department of Environmental Protection (PADEP) also participated in the review. The potentially responsible parties (PRPs) were notified of the initiation of the FYR. The review began on September 15, 2022. Refer to Appendix A for reference documents and to Appendix B for the Site's chronology of events.

Site Background

The Site is located on Industrial Drive in Williams Township, Northampton County, Pennsylvania (Figure 1). The 30-acre Site is an inactive and unlined landfill, located within and beneath the active Chrin Brothers Sanitary Landfill (Chrin Landfill). The Site borders the city limits of Easton, Pennsylvania, and is about 15 miles east of Allentown, Pennsylvania. The Lehigh River and the Lehigh Canal are northwest of the Site. The communities of Glendon Borough and Lucy's Crossing are northwest and west of the Site, respectively. Land use adjacent to the Chrin Landfill includes various active, inactive and abandoned industrial facilities.

Groundwater in the area flows primarily under unconfined conditions. Groundwater generally follows topography in a north/northwest direction. Seasonal fluctuations affect the water table elevation, but do not affect groundwater flow direction.

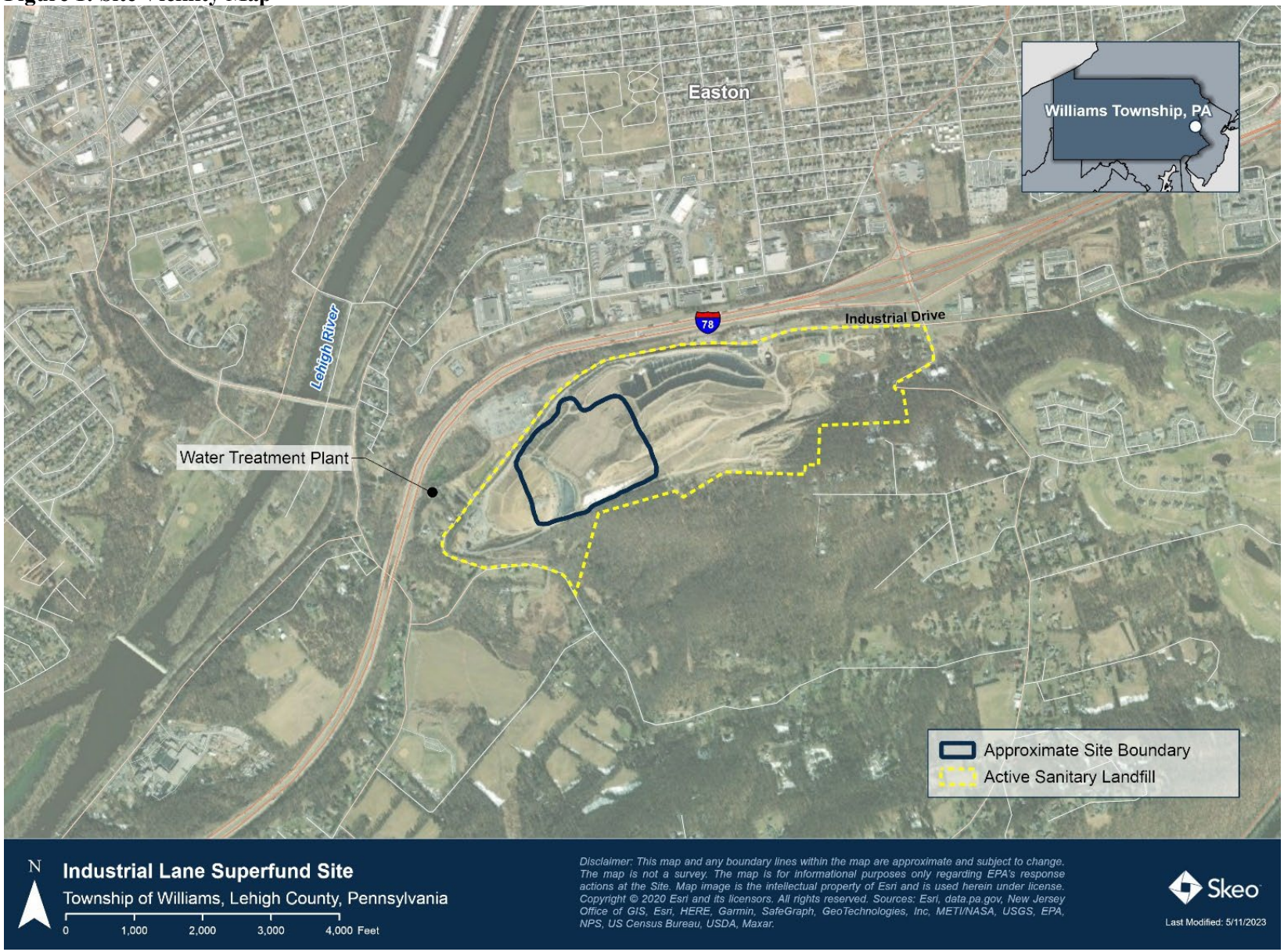
FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Industrial Lane		
EPA ID: PAD980508493		
Region: 3	**State:** Pennsylvania	**City/County:** Williams Township / Northampton

SITE STATUS	
NPL Status: Final	
Multiple OUs? Yes	**Has the Site achieved construction completion?** Yes

REVIEW STATUS
Lead agency: EPA, with support from Skeo
Author name: Roy Schrock
Author affiliation: EPA Region 3
Review period: 9/15/2022 - 9/19/2023
Date of site inspection: 4/27/2023
Type of review: Statutory
Review number: 6
Triggering action date: 9/19/2018
Due date *(five years after triggering action date)*: 9/19/2023

Figure 1: Site Vicinity Map



II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In 1984, EPA added the Site to the National Priorities List (NPL). The remedial investigation (RI) concluded that local groundwater was contaminated with low levels of volatile organic compounds (VOCs) including: vinyl chloride; methylene chloride; trans-l,2-dichloroethylene (DCE); cis-l,2-DCE; 1,2-dichloroethane; carbon tetrachloride; trichloroethylene (TCE); benzene; tetrachloroethylene (PCE); chlorobenzene; and 1,1-DCE. These contaminants were also detected in leachate samples from the Chrin Landfill and in groundwater immediately downgradient of the unlined portion of the landfill. Potential receptors of groundwater contamination from the RI study area were determined to be those residents of Glendon and Lucy's Crossing who chose to operate private wells for potable supply.

Response Actions

EPA selected a remedy in a Record of Decision (ROD) on September 29, 1986, that focused on private well users near the Site (OU1). The OU1 ROD does not specify remedial action objectives (RAOs), but the remedy was intended to eliminate risk to private well users. The remedy consists of the following components:

- Providing a public drinking water supply to homes with private wells containing site contaminants.

EPA selected a remedy in a ROD on March 29, 1991, for contaminated groundwater at the Site and the potential for continued release of contaminants (OU2). EPA revised the remedy in two Explanation of Significant Differences (ESD) in 1996 and 2015. The remedial action objectives (RAOs) of the OU2 remedy include:

- Eliminate the threat to human health and the environment from the continuing contamination of groundwater by chemicals disposed of in the landfill; and
- Restore the groundwater to its beneficial use.

The OU2 remedy, as modified by the 1996 and 2015 ESDs, consists of the following components:

- Proper closure of the site landfill.
- Extraction, treatment, and discharge of groundwater to the Lehigh River or other appropriate discharge location.
- Long-term monitoring of groundwater quality to attain cleanup goals (Table 1).
- Institutional controls to restrict access to areas of contaminated groundwater.
- Defined cap requirements.
- Provided other possible discharge locations for the National Pollutant Discharge Elimination System (NPDES) permit.
- Revised groundwater cleanup goals from background concentrations to maximum contaminant levels (MCLs) and Pennsylvania Act 2 Medium Specific Concentrations (MSCs) (Table 1).
- Require institutional controls to prohibit activities that could disturb or otherwise adversely impact the landfill cap or the groundwater treatment plant.

Table 1: Groundwater Cleanup Goals

COC	Cleanup Goal (µg/L)[a]
Vinyl chloride	2
Methylene chloride	5
1,1-Dichloroethane	27
trans-1,2-DCE	100
cis-1,2-DCE	70
Chloroform	100
1,2-Dichloroethane	5
1,1,1-Trichloroethane	200
Carbon tetrachloride	5
1,2-Dichloropropane	5
Benzene	5
PCE	5
1.4-Dichlorobenzene	75
Chlorobenzene	100
1,1-DCE	7
TCE	5
Notes: a. 1996 ESD, Attachment 2 µg/L = microgram per liter	

Status of Implementation

OU1 Drinking Water Supply
The local water authority provided an alternate drinking water supply to affected properties. This remedial action began in April 1987 and was completed by EPA in 1989.

OU2 Landfill Closure
The landfill operator, Chrin Brothers Inc. (Chrin), designed and implemented the remedy under PADEP and EPA oversight. In 1993, Chrin lined, capped and properly closed about 25.1 acres of the 30-acre Site with a geosynthetic overlay liner system. The remaining 4.9 acres were covered with a 2-foot low-permeability soil layer. This complied with the Pennsylvania Municipal Waste Management Regulations, and the 1996 ESD.

Following a 2013 slide, Chrin removed the liner under the waste, the waste materials, and the cover over the waste from the slide area and placed them in a new area that is part of the operating landfill. This work started on March 13, 2013, and was completed on March 9, 2018. Monitoring wells that were part of the network for the Superfund portion of the landfill were damaged by the slide. These wells have been rehabilitated and have resumed being used in sampling events.

OU2 Groundwater
Chrin constructed the groundwater extraction and treatment system in 1999. The groundwater treatment system includes the three groundwater extraction wells in the Site Abatement Zone Area (the Superfund portion of the landfill) and a monitoring well (MW-1) that was converted to an extraction well in 2013 for a total of four extraction wells; treatment uses a perforated tray air stripper and backwash sand filters. The extraction wells are pumped at about 80 gallons per minute. The groundwater is treated to meet NPDES requirements and discharged to a tributary leading to the Lehigh River (shown in Appendix C). The Site achieved construction completion status when the Preliminary Close-Out Report was signed by EPA on June 29, 1999. Long-term monitoring of groundwater quality and landfill closure maintenance is incorporated into the Waste Management Permit issued by PADEP.

Institutional Control (IC) Review

The 2015 ESD added institutional controls as part of the landfill and groundwater remedy in the OU2 ROD. An Environmental Covenant was recorded on September 23**,** 2016, in the office of the Northampton County Recorder of Deeds to implement the institutional controls requirements in the 2015 ESD. Table 2 summarizes the objectives of the institutional controls. Figure 2 (Institutional Controls Map) shows the area covered by the Environmental Covenant, which lines up with the approximate Abatement Zone Area.

The covenant includes the following restrictions:

- The Site (as described in the Environmental Covenant) shall not be used in any manner that EPA determines will interfere with or adversely affect the implementation, integrity, or protectiveness of the removal or remedial measures performed at the Site.
- New well construction of any type is prohibited on the Site, unless EPA, in consultation with the PADEP determines that such action will not adversely impact the remedy selected in the OU2, as modified by the 1996 ESD (OU2).
- Groundwater at the Site shall not be used for any purpose unless the groundwater is treated. Treatment of groundwater is defined as groundwater that has been treated by the groundwater treatment plant for the Site and meets the discharge values in the NPDES permit for the plant.
- Actions that could interfere with, obstruct, or disturb the operation or maintenance of the groundwater treatment plant, groundwater extraction wells and monitoring wells, discharge piping, or any other accessories associated with the OU2 groundwater treatment remedial action and operations required under the NPDES permit are prohibited at the Site, unless EPA, in consultation with PADEP, determines that such action will not adversely impact the OU2.
- The landfill cap (on the former approximately 30-acre unlined landfill) shall be maintained in accordance with Chapters 271 and 273 of the Pennsylvania Municipal Waste Management Regulations. Activities that could disturb or otherwise adversely impact the landfill cap are prohibited, unless EPA, in consultation with PADEP, determines that such activity will not adversely impact the OU2. Routine operation and maintenance activities are acceptable actions under this limitation.

Table 2: Summary of Institutional Controls (ICs)

Media, Engineered Controls, and Areas That Do Not Support UU/UE Based on Current Conditions	ICs Needed	ICs Called for in the Decision Documents	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Soils	Yes	Yes	See Figure 2	Require maintenance of the landfill cap and prohibit activities that could disturb or otherwise adversely affect the cap	Environmental Covenant, September 2016
Groundwater	Yes	Yes	See Figure 2	Prohibit installation of new wells, use of treated groundwater for any purpose except landfill operation, and activities that could disturb the operation or maintenance of the OU2 groundwater treatment remedial action	Environmental Covenant, September 2016

Figure 2: Institutional Control Map

Systems Operations/Operation and Maintenance (O&M)

O&M requirements are established in an O&M plan and include sampling of the extraction wells and monitoring wells and the discharge from the treatment plant as well as routine maintenance of the wells and the treatment system. The Groundwater Sampling and Analysis Plan, Abatement Zone (dated November 30, 1993; revised March 1998), requires that reports on the groundwater be submitted annually to PADEP and EPA. In addition, the Site is monitored and sampled according to Chrin's PADEP solid waste permit, which requires quarterly groundwater sampling. The landfill is monitored and maintained in accordance with Chapters 271 and 273 of the Pennsylvania Municipal Waste Management Regulations. This includes routine inspections of the cap integrity, maintenance (mowing, repairs, etc.), and notifications of deficiencies to PADEP and EPA.

III. PROGRESS SINCE THE PREVIOUS REVIEW

This section includes the protectiveness determinations and statements from the previous FYR. The previous FYR did not identify any Issues and Recommendations.

Table 3: Protectiveness Determinations/Statements from the 2018 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The remedy at OU1 is protective of human health and the environment. All properties affected by the groundwater contamination are connected to the public water supply.
2	Protective	The remedy at OU2 is protective of human health and the environment. The landfill has been closed appropriately, groundwater monitoring is being performed, and institutional controls are in place to prevent exposures to contaminated soil and groundwater.
Sitewide	Protective	Because the remedial actions at all OUs are protective, the Site is protective of human health and the environment.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Community Involvement and Site Interviews

A public notice was made available by a newspaper posting in *The Express-Times* on May 15, 2023 (Appendix D). It stated that the FYR was underway and invited the public to submit any comments to EPA. No comments were received. The results of the review and the report will be made available at the Site's information repository, Williams Township Municipal Office located at 655 Cider Press Road, Easton, Pennsylvania 18042. Also, the FYR is available on the Site's homepage at: https://www.epa.gov/superfund/industriallane.

During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date. The interviews are included in Appendix E.

Data Review

Sampling for the Industrial Lane Superfund portion includes three different types of wells: 1) abatement zone extraction wells (DM-2, DM-11, MW-1, MW-9), 2) abatement zone monitoring wells (DM-4R, DM-10, MW-2, PZ-3), and 3) downgradient landfill monitoring wells (N-6, N-8, MW-3M). The specific well type is relevant when EPA considers if the clean-up is meeting the standards required in the OU2 ROD as modified by the ESD. The abatement extraction wells are used to collect groundwater contamination and then the extracted groundwater is treated by a pump and treat remedy before discharge. These extraction wells are pumped for the purpose of

cleaning up the groundwater by pumping contaminants out of the groundwater and therefore are not considered monitoring wells that are required to meet the cleanup standards. Average total discharge from the treatment system is approximately 99,000 gallons per day. A 24-hour composite and single grab sample are collected from the water discharge line. The treated water is used on internal roads as dust and odor control and the remaining treated water is discharged to a tributary leading to the Lehigh River, the discharge location for the NPDES permit.

The well locations and groundwater contours are presented on Figure 3, with the Superfund portion of the Chrin property shaded in grey. Also, at the request of the U.S. EPA, annual report data tables are separated by wells which are within the landfill (those to the southwest of Industrial Lane) and those which are outside the landfill (those to the northeast of Industrial Lane). Wells outside the landfill include MW-3M, MW-9 and PZ-3.

In general, VOC concentrations in groundwater have decreased compared to historic results. Appendix H shows time series charts for sampling results since 2012. TCE has historically been detected in the abatement zone extraction wells DM-2, MW-9 and DM-11. TCE has not been detected in DM-11 since 2019, and TCE in MW-9 has been detected under the laboratory reporting limit or at low levels near the clean-up standard. Other VOCs that were historically detected above their corresponding clean-up standards include PCE at MW-1 and TCE at MW-3, and PZ-3. PCE has not been detected above the established reporting limit at MW-1 since 2015, TCE has not been detected above the established reporting limit at MW-3 since 2015, or at PZ-3 since 2016.

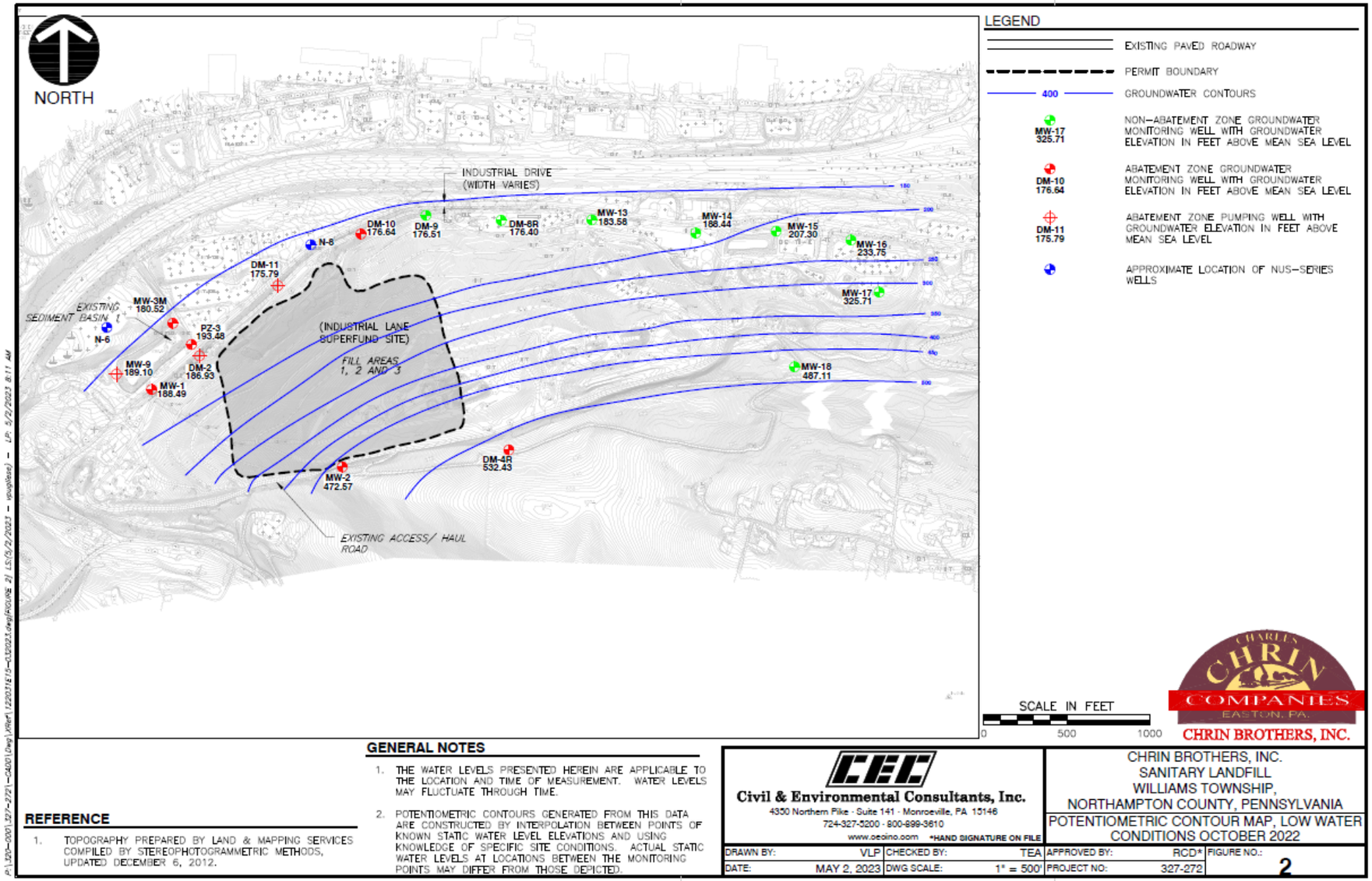
During this FYR period, concentrations in wells with historical exceedances were all below cleanup levels. In general, VOC concentrations in groundwater have decreased compared to historic results. Table 4 includes concentrations in abatement extraction wells, which historically have had TCE exceedances. Since 2021, the only well with exceedances of cleanup levels is the abatement zone extraction well DM-2.

Table 4: Abatement Zone Wells

Parameter	Cleanup Level	4/18	7/18	10/18	1/19	4/19	7/19	10/19	1/20	4/20	7/20	10/20	1/21	4/21	7/21	10/21	1/22	4/22	7/22
DM-2 (Abatement Zone Pumping Well – Inside the Landfill)																			
PCE	5	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TCE	5	**8**	**8.8**	**9.3**	**8.6**	**10.3**	**11.2**	**11.2**	**10.9**	**10.3**	**11.9**	**8.3**	**8**	**8.3**	**8**	**6.9**	**7.6**	**7.5**	**8.5**
Vinyl Chloride	2	<2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
DM-11 (Abatement Zone Pumping Well – Inside the Landfill)																			
PCE	5	NS	NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TCE	5	NS	NS	NS	NS	< 5.0	< 5.0	**6.9**	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	2	NS	NS	NS	NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
MW-1 (Abatement Zone Pumping Well – Inside the Landfill)																			
PCE	5	NS	NS	NS	NS	NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TCE	5	NS	NS	NS	NS	NS	NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	2	NS	NS	NS	NS	NS	NS	NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
MW-9 (Abatement Zone Pumping Well – Outside the Landfill)																			
PCE	5	NS	NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TCE	5	NS	NS	NS	NS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	**5.6**	**5.5**	**5.3**	< 5.0	**6.5**	< 5.0	< 5.0	< 5.0
Vinyl Chloride	2	NS	NS	NS	NS	NS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0

All units are µg/L
NS = Not sampled
Bold indicates exceedance of cleanup level

Figure 3: Groundwater Wells and Contours



Site Inspection

The site inspection took place on April 27, 2023. Participants included: EPA RPM, representatives from PADEP, representative from Earthres, representatives from Chrin Brothers, and EPA support contractor Skeo. The purpose of the inspection was to assess the protectiveness of the remedy. The inspection checklist and photographs are available in Appendices F and G, respectively.

Participants met at the Chrin offices to discuss the site status. The site inspection participants then travelled to the groundwater treatment building and observed several monitoring wells. The treatment building was secured and in good condition. Participants then observed the active construction of Chrin's storage building in the area where the former office building and residence had been located. The area of the 2013 landfill slide and subsequent repair were observed at a distance. The area appeared stable and in good condition. No issues were noted. No signs of trespassing were evident, and security is maintained as part of current landfill operations.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Yes, the remedy is functioning as intended. The OU1 public water supply connected affected properties to a safe source of drinking water. The Superfund portion of the Chrin Landfill was lined, capped and properly closed. The repaired area of the 2013 slide appears stable. The landfill property remains in operation and access is restricted. The groundwater treatment system treats groundwater contamination and meets the NPDES requirements. The groundwater remediation system has effectively reduced contaminant concentrations in on-site extraction and monitoring wells. Based on current groundwater data, the cleanup goals have been met in all the monitoring wells and only one Abatement Area extraction well had TCE concentrations above its MCL.

As of 2016, an environmental covenant restricts groundwater use and disturbing the landfill closure remedy. The active landfill operations have not disturbed the CERCLA landfill. With all remedial components in place and groundwater cleanup goals nearly attained across the plume, EPA is assessing deleting the Site from the NPL.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Yes, updated MCLs and PADEP MSCs are now used as the cleanup goals as described in the 1996 ESD. The exposure assumptions and RAOs to eliminate the threat to human health and the environment from the continuing contamination of groundwater by chemicals disposed of in the landfill and to restore groundwater to its beneficial use are still valid. The closure and capping of the landfill eliminated potential unacceptable exposures. The Site underlies an active landfill and is therefore secure; land use is not expected to change. Groundwater cleanup goals are based on federal and state standards and remain valid. Chrin sampled for 1,4-dioxane in the monitoring wells/treatment plant in 2012; based on the results, EPA determined that 1,4-dioxane is not an issue and does not warrant additional assessment at the Site.

EPA considers per- and polyfluoroalkyl substances (PFAS) to be emerging contaminants of concern. PFAS are a group of manufactured chemicals used in industry and consumer products since the 1940s. Due to the nature of disposal operations at the Site, it is possible that PFAS may be present. Chrin should provide information on historical wastes disposed of at the Site to EPA and PADEP to evaluate if groundwater sampling for PFAS may be a concern for the Site.

The vapor intrusion pathway has been assessed and EPA determined it does not pose an unacceptable risk to potential downgradient residents. An office building and the residential building, in which the PRP had installed vapor mitigation, have been demolished. The new office building was not constructed over landfill material.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the FYR:
None

OTHER FINDINGS

- It is recommended that PFAS compounds be evaluated for potential impacts to groundwater at the Site.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
Operable Unit: OU1	*Protectiveness Determination:* Protective
Protectiveness Statement: The remedy at OU1 is protective of human health and the environment. All Properties affected by the groundwater contamination are connected to the public water supply.	

Protectiveness Statement(s)	
Operable Unit: OU2	*Protectiveness Determination:* Protective
Protectiveness Statement: The remedy at OU2 is protective of human health and the environment. The landfill has been closed appropriately, groundwater treatment and monitoring is being performed, and institutional controls are in place to prevent exposures to contaminated soil and groundwater.	

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: Because the remedial actions at all OUs are protective, the sitewide remedy is protective of human health and the environment.

GPRA Measure Review

As part of this FYR, the GPRA (Government Performance Results Act) Measures have also been reviewed. The GPRA Measures and their status are provided as follows:

Environmental Indicators

Human Health: HEID = Current Human Exposure Under Control
Groundwater Migration: GMUC = Groundwater Migration Under Control

Sitewide RAU

The Site achieved Sitewide Ready for Anticipated Use (SWRAU) on September 30, 2016.

VIII. NEXT REVIEW

The next FYR Report for the Industrial Lane Superfund site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

Environmental Covenant for Chrin Brothers Landfill. Instrument Number 2016025153. Recorded by Northampton County Recorder of Deeds, Book 2016-1, Page 204195. September 23, 2016.

Explanation of Significant Differences: Industrial Lane OU2, EPA ID: PAD980508493, Williams Township, PA, December 5, 1996. EPA.

Explanation of Significant Differences: Industrial Lane OU2, EPA ID: PAD980508493, Williams Township, PA, December 29, 2015. EPA.

Five-Year Review Follow-Up Action Report. Indoor and Outdoor Ambient Air Analytical Data, Industrial Lane Site, Williams Township, Northampton County, Pennsylvania. Prepared by Civil and Environmental Consultants Inc. February 6, 2015.

Five-Year Review Report for Industrial Lane, EPA ID: PAD980508493, Williams Township, PA, June 10, 1997. EPA.

Five-Year Review Report for Industrial Lane, EPA ID: PAD980508493, Williams Township, PA, September 29, 2003. EPA.

Five-Year Review Report for Industrial Lane, EPA ID: PAD980508493, Williams Township, PA, September 30, 2008. EPA.

Five-Year Review Report for Industrial Lane, EPA ID: PAD980508493, Williams Township, PA, September 25, 2013. EPA.

Focused Feasibility Study for Private Well Users: Industrial Lane OU1, EPA ID: PAD980508493, Williams Township, PA, September 01, 1986. EPA.

Groundwater Abatement Zone Report; (Chrin Brothers Sanitary Landfill; Williams Township, Northampton County, Pennsylvania. Prepared by Civil & Environmental Consultants Inc. July 25, 2013.

Indoor Air Sampling and Analysis Plan; Chrin Brothers Sanitary Landfill; Williams Township, Northampton County, Pennsylvania. Prepared by Civil & Environmental Consultants, Inc. July, 26, 2013.

Preliminary Close-Out Report: Industrial Lane, EPA ID: PAD980508493, Williams Township, Pennsylvania Operable Unit 2. June 29, 1999. EPA.

Record of Decision: Industrial Lane OU1, EPA ID: PAD980508493, Williams Township, PA, September 21, 1986. EPA.

Record of Decision: Industrial Lane OU2, EPA ID: PAD980508493, Williams Township, PA, March 29, 1991. EPA.

Remedial Investigation and Feasibility Study: Industrial Lane Site. EPA ID: PAD980508493, Williams Township, PA, March 3, 1991. EPA.

Remedial Investigation: Industrial Lane OU1, EPA ID: PAD980508493, Williams Township, PA, June 13, 1986. EPA.

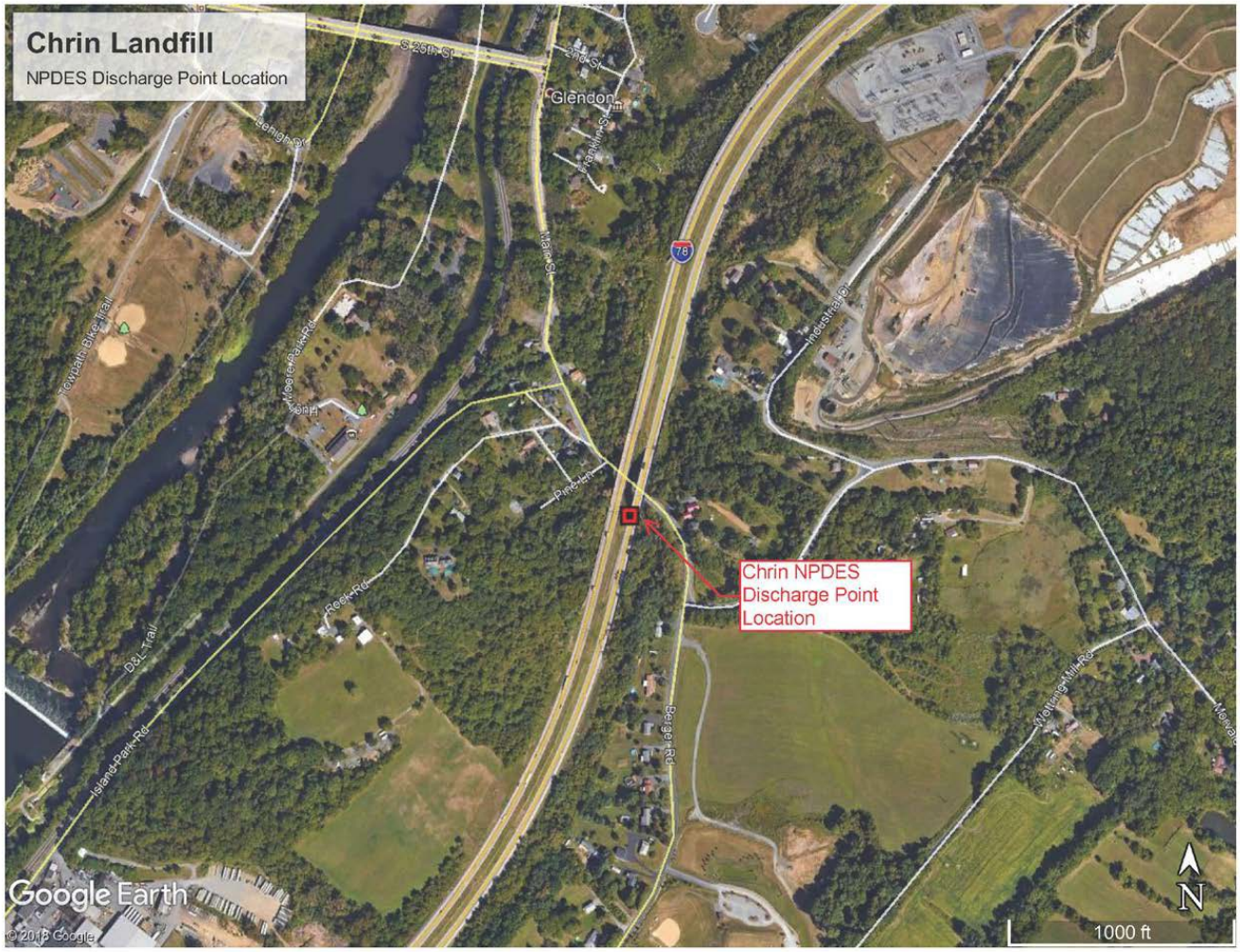
APPENDIX B – SITE CHRONOLOGY

Table B-1: Site Chronology

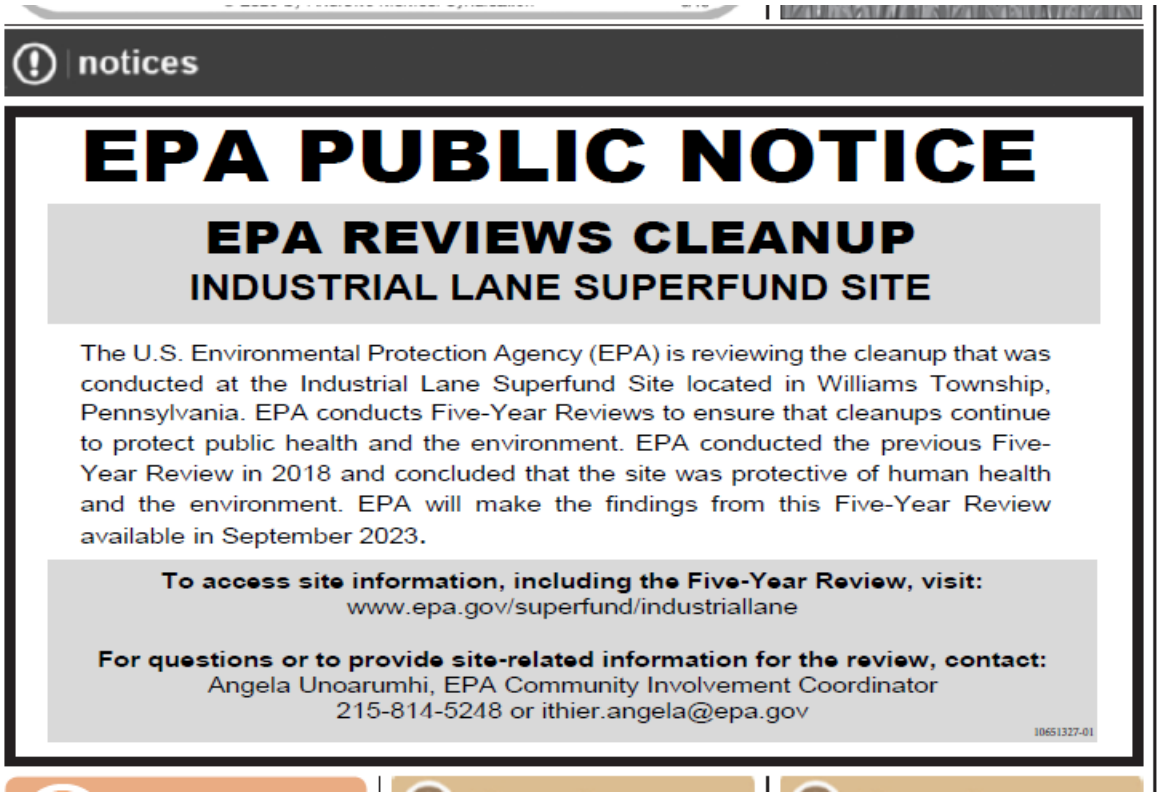
Event	Date
Chrin Landfill began accepting wastes	1961
Groundwater contamination was detected in local wells	1983
EPA added the Site to the NPL	September 21, 1984
EPA issued a ROD for OU1 for public drinking water supply	September 29, 1986
Remedial Action for OU1 public water supply completed	June 15, 1989
EPA issued ROD for OU2 for landfill closure and groundwater extraction, treatment and discharge	March 29, 1991
PRP completed remedial design for OU2 groundwater treatment system	August 2, 1996
EPA issued ESD for soil cap, discharge location and groundwater cleanup standards	December 5, 1996
EPA signed first FYR	June 10, 1997
EPA signed Preliminary Close Out Report Construction for OU2 was completed and operation began	June 29, 1999
EPA signed second FYR	September 29, 2003
EPA signed third FYR	September 28, 2008
A slide of the liner and cover occurred on the Site	March 12, 2013
EPA signed fourth FYR	September 25, 2013
EPA issued ESD for institutional controls	December 29, 2015
PRP recorded environmental covenant	September 23, 2016
Site achieved Sitewide Ready for Anticipated Reuse	September 30, 2016
PRP completed removal of the slide and liner	March 9, 2018
EPA signed fifth FYR	September 19, 2018

APPENDIX C – SITE MAPS

Figure C-1. NPDES Discharge Point



APPENDIX D – PRESS NOTICE



notices

EPA PUBLIC NOTICE

EPA REVIEWS CLEANUP
INDUSTRIAL LANE SUPERFUND SITE

The U.S. Environmental Protection Agency (EPA) is reviewing the cleanup that was conducted at the Industrial Lane Superfund Site located in Williams Township, Pennsylvania. EPA conducts Five-Year Reviews to ensure that cleanups continue to protect public health and the environment. EPA conducted the previous Five-Year Review in 2018 and concluded that the site was protective of human health and the environment. EPA will make the findings from this Five-Year Review available in September 2023.

To access site information, including the Five-Year Review, visit:
www.epa.gov/superfund/industriallane

For questions or to provide site-related information for the review, contact:
Angela Unoarumhi, EPA Community Involvement Coordinator
215-814-5248 or ithier.angela@epa.gov

10651327-01

APPENDIX E – INTERVIEW FORMS

Industrial Lane
Superfund Site Five Year Review Partner Feedback

This questionnaire is meant to collect information from our local partners about the Site for inclusion in the Industrial Lane Five Year Review Report which will be shared with the Public September 2023.

* Required

* This form will record your name, please fill your name.

Mike Sabatine-Township Manager

1. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future? *

I was not employed by the Township at the time of this event. I do see historically however; that we do have a multitude of documents explaining the process and procedures.

Questions? Contact the Site Team!

Roy Shrock Remedial Project Manager
215-814-3210
shrock.roy@epa.gov

Angela Ithier, Community Involvement Coordinator
215-814-5248
ithier.angela@epa.gov

4/28/2023

2. Have there been any problems with unusual or unexpected activities at the Site, such as emergency response, vandalism, or trespassing? *

None that I am aware of at least for the past (5) five years.

3. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy? *

I am not.

4. Are you aware of any changes in projected land use(s) at the Site? *

I don't believe there is any planned changes to the use.

5. Has EPA kept involved parties and surrounding neighbors informed of activities at the Site? How can EPA best provide site-related information in the future? *

This I am unable to answer. Not sure if they have been in the loop or not.

6. Do you have any comments, suggestions, or recommendations regarding the project? *

No Comments other than I am sorry I could not be of more assistance.

4/28/2023

APPENDIX F – SITE INSPECTION CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: Industrial Lane	**Date of Inspection: 04/27/2023**
Location and Region: Williams Township, PA 3	**EPA ID: PAD980508493**
Agency, Office or Company Leading the Five-Year Review: EPA	**Weather/Temperature: 50s and cloudy**

Remedy Includes: (Check all that apply)

- ☒ Landfill cover/containment
- ☐ Access controls
- ☒ Institutional controls
- ☒ Groundwater pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other: _____
- ☐ Monitored natural attenuation
- ☐ Groundwater containment
- ☐ Vertical barrier walls

Attachments: ☐ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** _____ Name _____ Title _____ Date
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems, suggestions ☐ Report attached: _____

2. **O&M Staff** _____ Name _____ Title _____ Date
   Interviewed ☐ at site ☐ at office ☐ by phone Phone: _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

   Agency _____
   Contact _____ Name _____ Title _____ Date _____ Phone No.
   Problems/suggestions ☐ Report attached: _____

   Agency _____
   Contact _____Name _____ Title _____ Date _____ Phone No.
   Problems/suggestions ☐ Report attached:_____

   Agency _____
   Contact _____ Name _____ Title _____ Date _____ Phone No.
   Problems/suggestions ☐ Report attached:_____

   Agency _____
   Contact _____ Name _____ Title _____ Date _____ Phone No.
   Problems/suggestions ☐ Report attached: _____

   Agency _____
   Contact _____ _____ _____ _____

	Name	Title	Date	Phone No.	
	Problems/suggestions ☐ Report attached:_____				
4.	**Other Interviews** (optional) ☐ Report attached: _____				
	III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)				
1.	**O&M Documents**				
	☐ O&M manual	☐ Readily available	☐ Up to date	☒ N/A	
	☐ As-built drawings	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Maintenance logs	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
2.	**Site-Specific Health and Safety Plan**	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Contingency plan/emergency response plan	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
3.	**O&M and OSHA Training Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
4.	**Permits and Service Agreements**				
	☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A	
	☒ Effluent discharge	☒ Readily available	☒ Up to date	☐ N/A	
	☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A	
	☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
5.	**Gas Generation Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
6.	**Settlement Monument Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
7.	**Groundwater Monitoring Records**	☒ Readily available	☒ Up to date	☐ N/A	
	Remarks: _____				
8.	**Leachate Extraction Records**	☐ Readily available	☐ Up to date	☒ N/A	
	Remarks: _____				
9.	**Discharge Compliance Records**				
	☐ Air	☐ Readily available	☐ Up to date	☒ N/A	
	☒ Water (effluent)	☐ Readily available	☐ Up to date	☐ N/A	
	Remarks: _____				
10.	**Daily Access/Security Logs**	☐ Readily available	☐ Up to date	☒ N/A	

Remarks: _____

IV. O&M COSTS

1. **O&M Organization**

☐ State in-house ☐ Contractor for state

☒ PRP in-house ☐ Contractor for PRP

☐ Federal facility in-house ☐ Contractor for Federal facility

☐ _____

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☐ Funding mechanism/agreement in place ☐ Unavailable

Original O&M cost estimate: _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached
From: _____ Date	To: _____ Date	_____ Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☒ Gates secured ☐ N/A

Remarks: entry gates and fencing present around the Chrin Brothers Sanitary Landfill

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: private property signs present at entry

C. Institutional Controls (ICs)

1. **Implementation and Enforcement**

Site conditions imply ICs not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply ICs not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): N/A

Frequency: _____

Responsible party/agency: _____

Contact _____ _____ _____ _____

Name Title Date Phone no.

Reporting is up to date ☐ Yes ☐ No ☒ N/A

Reports are verified by the lead agency ☐ Yes ☐ No ☒ N/A

Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☒ No ☐ N/A

Other problems or suggestions: ☐ Report attached

2. **Adequacy** ☒ ICs are adequate ☐ ICs are inadequate ☐ N/A

Remarks: _____

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☒ No vandalism evident

Remarks: _____

2. **Land Use Changes On Site** ☒ N/A

Remarks: _____

3. **Land Use Changes Off Site** ☐ N/A

Remarks: Chrin Brothers Sanitary Landfill is expanding to the east

VI. GENERAL SITE CONDITIONS

A. Roads ☒ Applicable ☐ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: _____

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS ☒ Applicable ☐ N/A

A. Landfill Surface

1. **Settlement** (low spots) ☐ Location shown on site map ☒ Settlement not evident

Area extent: _____ Depth: _____

Remarks: landfill operators are currently repairing 2013 liner and cover slide

2. **Cracks** ☐ Location shown on site map ☒ Cracking not evident

Lengths: _____ Widths: _____ Depths: _____

Remarks: _____

3.	**Erosion**	☐ Location shown on site map	☒ Erosion not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
4.	**Holes**	☐ Location shown on site map	☒ Holes not evident
	Area extent: _____		Depth: _____
	Remarks: _____		
5.	**Vegetative Cover**	☒ Grass	☒ Cover properly established
	☒ No signs of stress	☒ Trees/shrubs (indicate size and locations on a diagram)	
	Remarks: trees and shrubs are present on the northernmost part of Site, where clay cover is present		
6.	**Alternative Cover** (e.g., armored rock, concrete)		☒ N/A
	Remarks: _____		
7.	**Bulges**	☐ Location shown on site map	☒ Bulges not evident
	Area extent: _____		Height: _____
	Remarks: _____		
8.	**Wet Areas/Water Damage**	☒ Wet areas/water damage not evident	
	☐ Wet areas	☐ Location shown on site map	Area extent: _____
	☐ Ponding	☐ Location shown on site map	Area extent: _____
	☐ Seeps	☐ Location shown on site map	Area extent: _____
	☐ Soft subgrade	☐ Location shown on site map	Area extent: _____
	Remarks: _____		
9.	**Slope Instability**	☐ Slides	☐ Location shown on site map
	☐ No evidence of slope instability		
	Area extent: landfill cover slide currently being repaired		
	Remarks: _____		
B. Benches		☒ Applicable ☐ N/A	
	(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)		
1.	**Flows Bypass Bench**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
2.	**Bench Breached**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
3.	**Bench Overtopped**	☐ Location shown on site map	☒ N/A or okay
	Remarks: _____		
C. Letdown Channels		☐ Applicable ☒ N/A	
	(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill		

cover without creating erosion gullies.)

D. Cover Penetrations ☐ Applicable ☒ N/A

E. Gas Collection and Treatment ☐ Applicable ☒ N/A

F. Cover Drainage Layer ☐ Applicable ☒ N/A

G. Detention/Sedimentation Ponds ☐ Applicable ☒ N/A

H. Retaining Walls ☐ Applicable ☒ N/A

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☒ N/A

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

IX. GROUNDWATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Groundwater Extraction Wells, Pumps and Pipelines ☒ Applicable ☐ N/A

1. **Pumps, Wellhead Plumbing and Electrical**

   ☒ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A

   Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**

   ☒ Good condition ☐ Needs maintenance

   Remarks: _____

3. **Spare Parts and Equipment**

   ☒ Readily available ☒ Good condition ☐ Requires upgrade ☐ Needs to be provided

   Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☒ N/A

C. Treatment System ☒ Applicable ☐ N/A

1. **Treatment Train** (check components that apply)

   ☐ Metals removal ☐ Oil/water separation ☐ Bioremediation

   ☒ Air stripping ☒ Carbon adsorbers

   ☐ Filters: _____

   ☐ Additive (e.g., chelation agent, flocculent): _____

   ☐ Others: _____

   ☒ Good condition ☐ Needs maintenance

   ☒ Sampling ports properly marked and functional

   ☒ Sampling/maintenance log displayed and up to date

   ☒ Equipment properly identified

   ☐ Quantity of groundwater treated annually: _____

   ☐ Quantity of surface water treated annually: _____

   Remarks: _____

2. **Electrical Enclosures and Panels** (properly rated and functional)

   ☐ N/A ☒ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☐ N/A ☒ Good condition ☒ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☐ N/A ☒ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☐ N/A ☒ Good condition (esp. roof and doorways) ☐ Needs repair

☒ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☒ Properly secured/locked ☒ Functioning ☐ Routinely sampled ☒ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

D. Monitoring Data

1. **Monitoring Data**

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. **Monitoring Data Suggests:**

☒ Groundwater plume is effectively contained ☒ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☒ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The remedy currently appears to be functioning as intended. Homes affected by groundwater contamination were connected to the public water supply. The inactive landfill is covered with non-Superfund landfill material or vegetation. Groundwater is currently treated and discharged to a nearby tributary. Institutional controls were required per the 2015 ESD and have since been implemented.

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

O&M currently appears adequate; the treatment plant and landfill were in good condition during the site inspection.

C. Early Indicators of Potential Remedy Problems

	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. The landfill cover and liner slide indicated shifting of landfill materials; this area has since been excavated, is currently being covered, and will continue to be monitored.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. There are no opportunities for optimization at this time.

APPENDIX G – SITE INSPECTION PHOTOS

Area above CERCLA landfill

Water treatment plant air stripper

Water treatment building

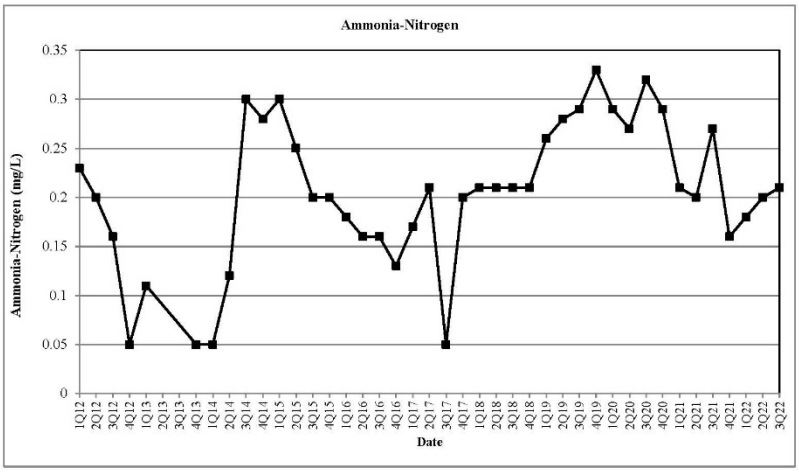
New Chrin warehouses near water treatment plant

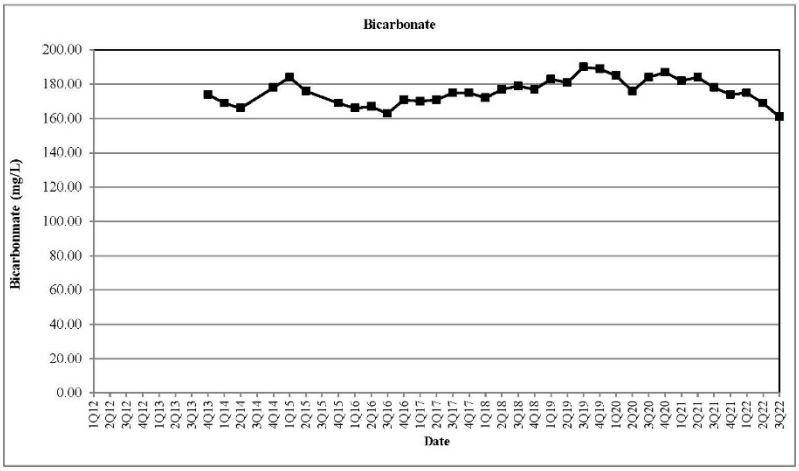
Area of former residence near water treatment plant

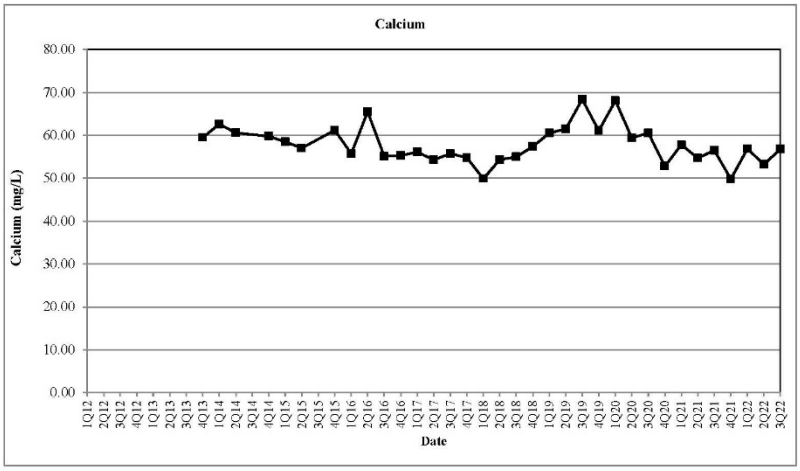
Entrance to operating landfill

APPENDIX H – MONITORING DATA

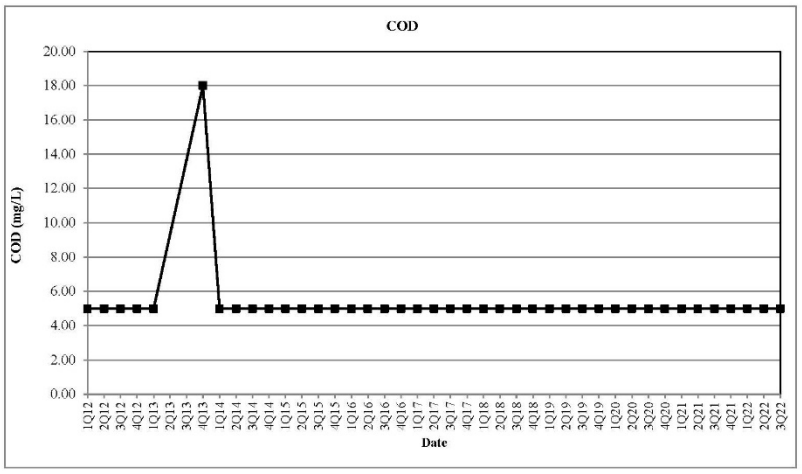
Chrin Brothers Sanitary Landfill
Monitoring Well DM-2

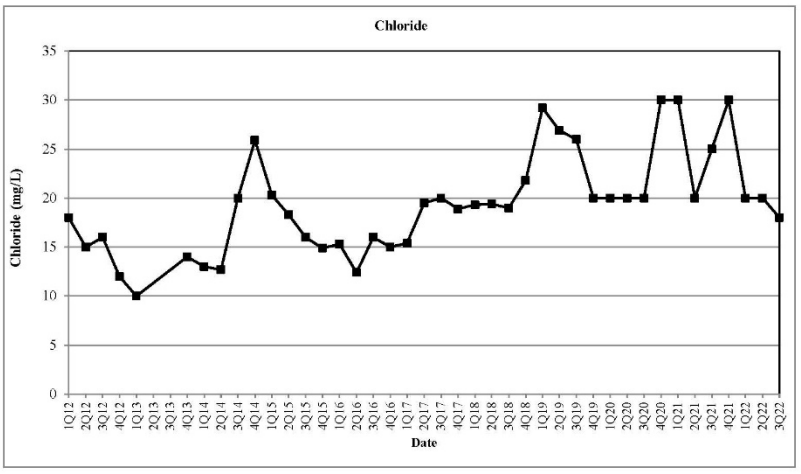


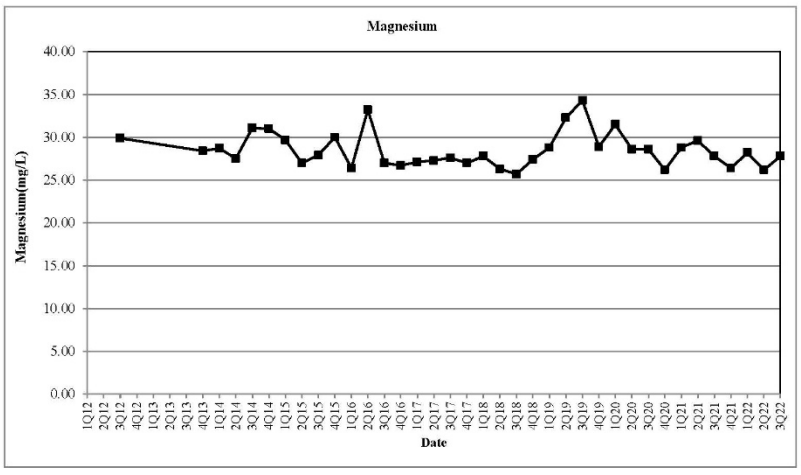




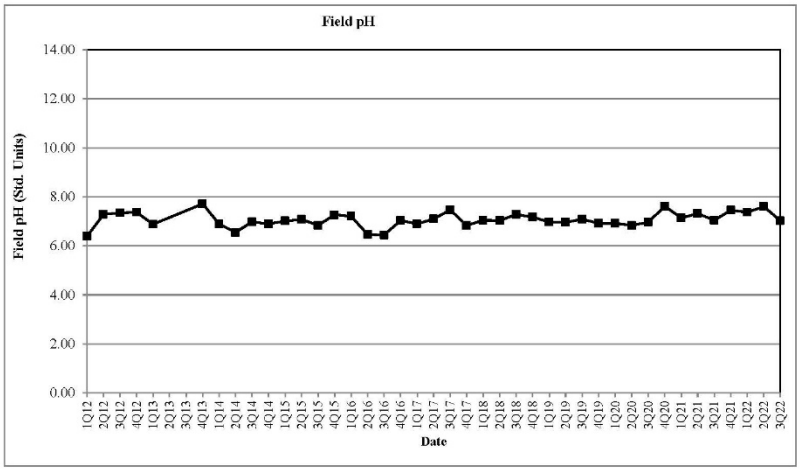
Chrin Brothers Sanitary Landfill
Monitoring Well DM-2

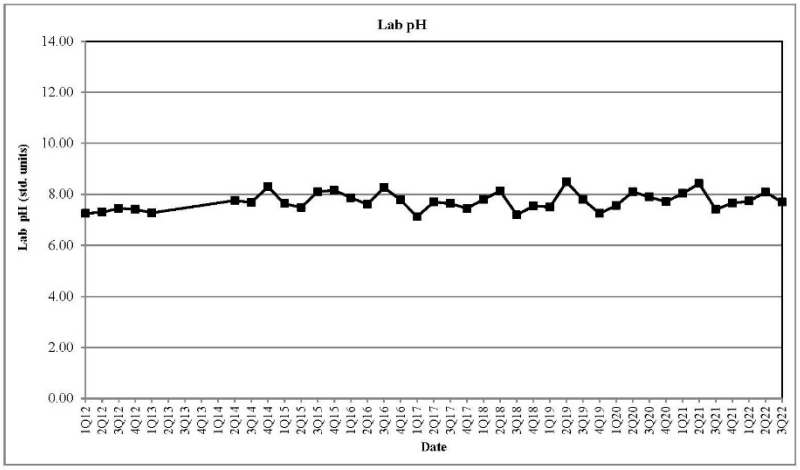


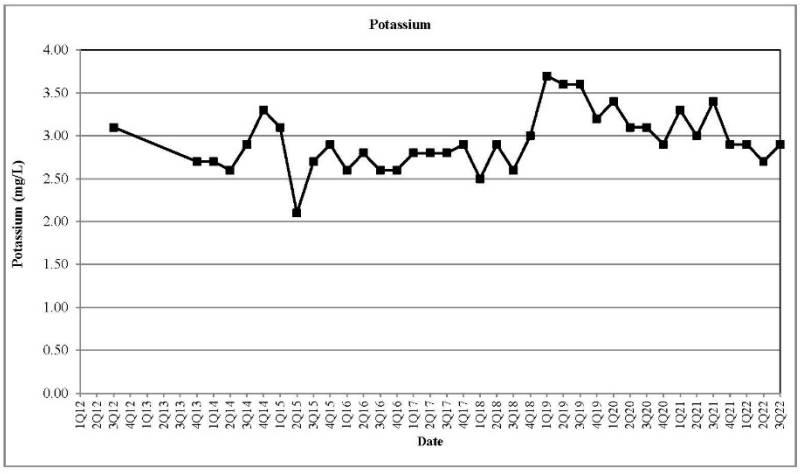




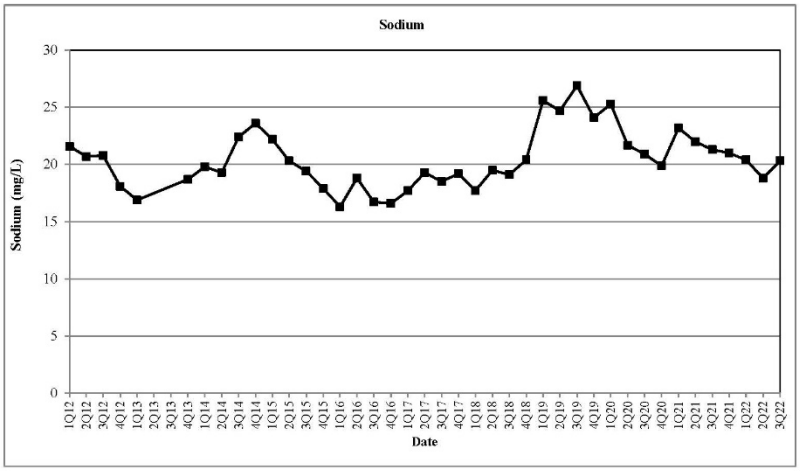
Chrin Brothers Sanitary Landfill
Monitoring Well DM-2

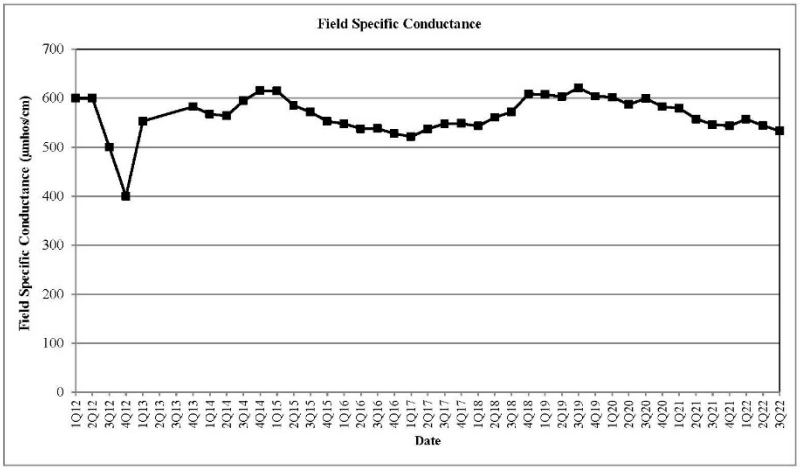


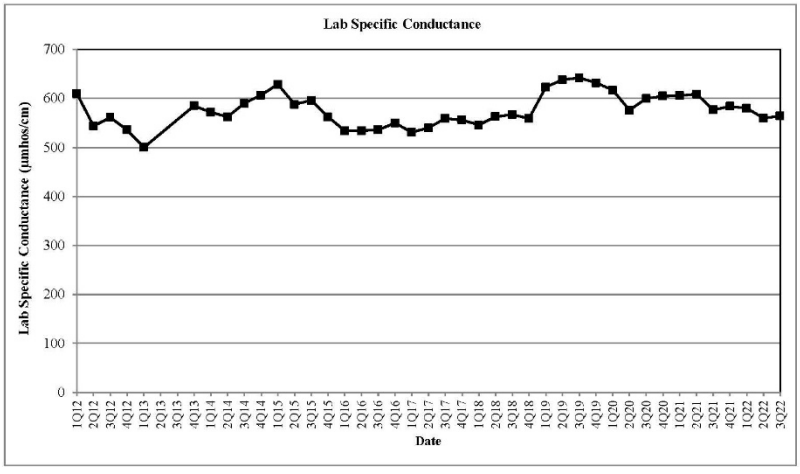




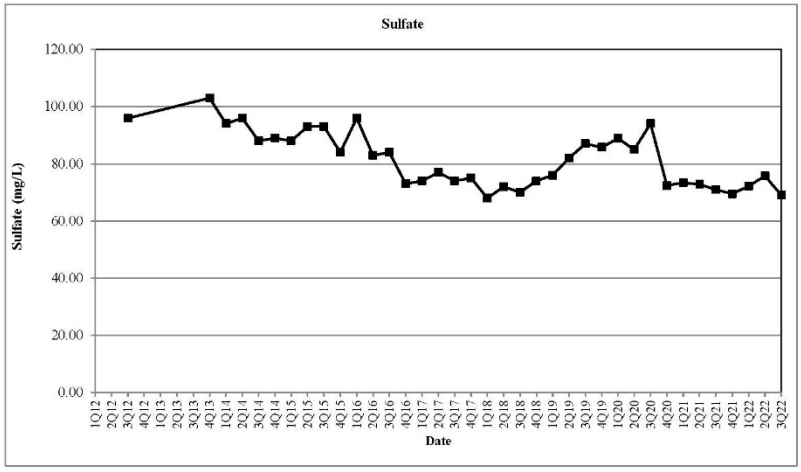
Chrin Brothers Sanitary Landfill
Monitoring Well DM-2

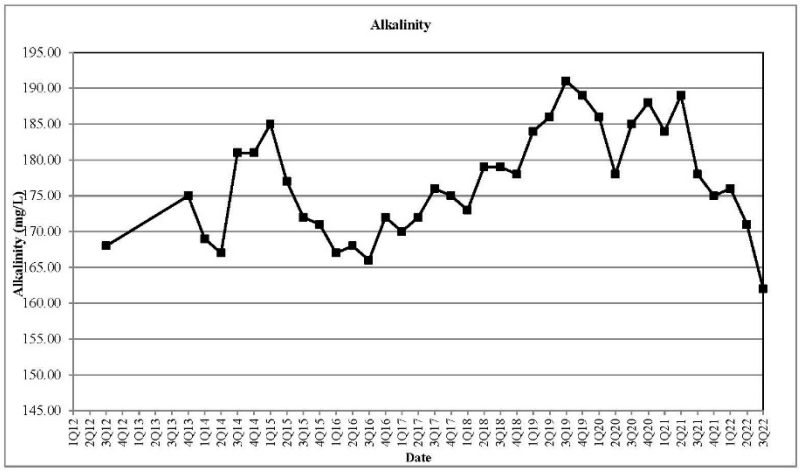


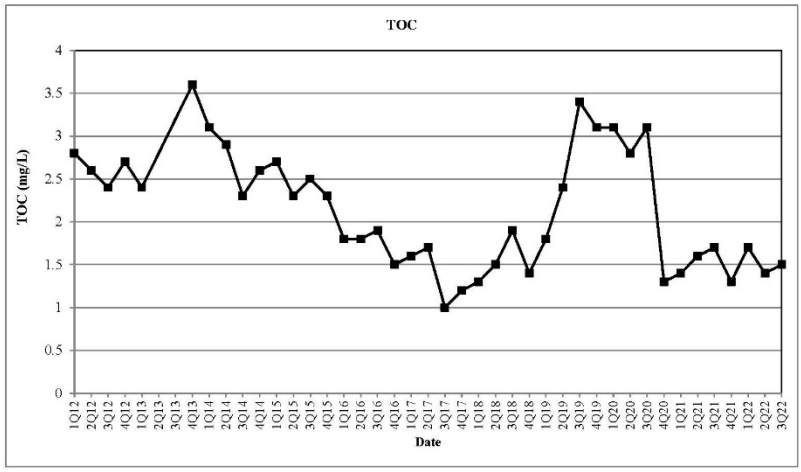




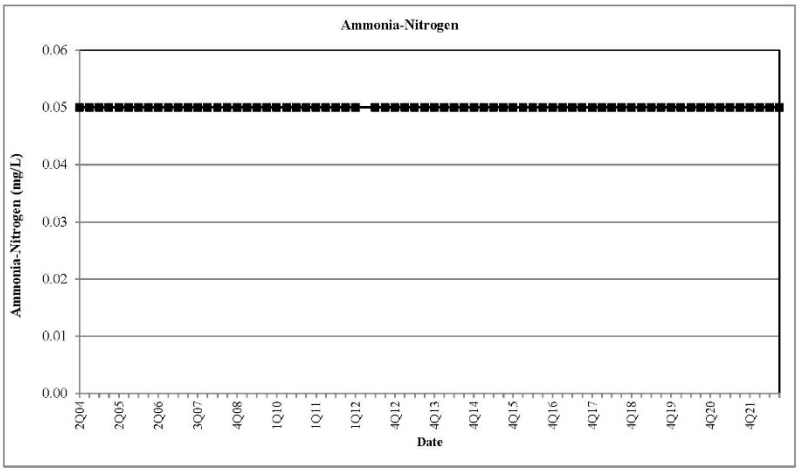
Chrin Brothers Sanitary Landfill
Monitoring Well DM-2

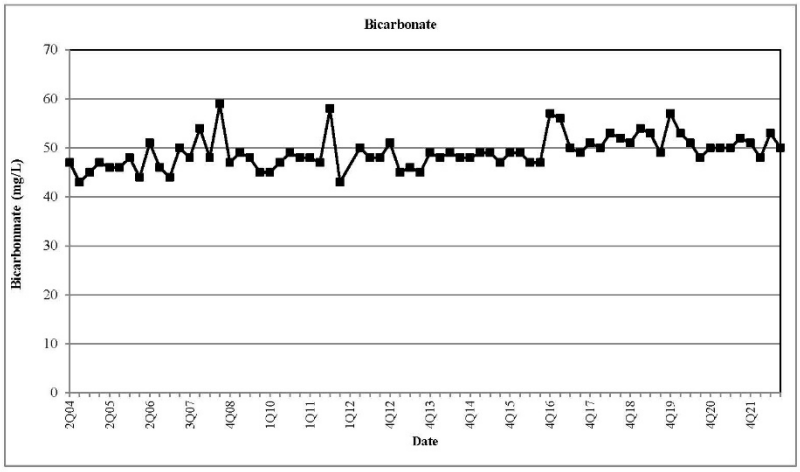


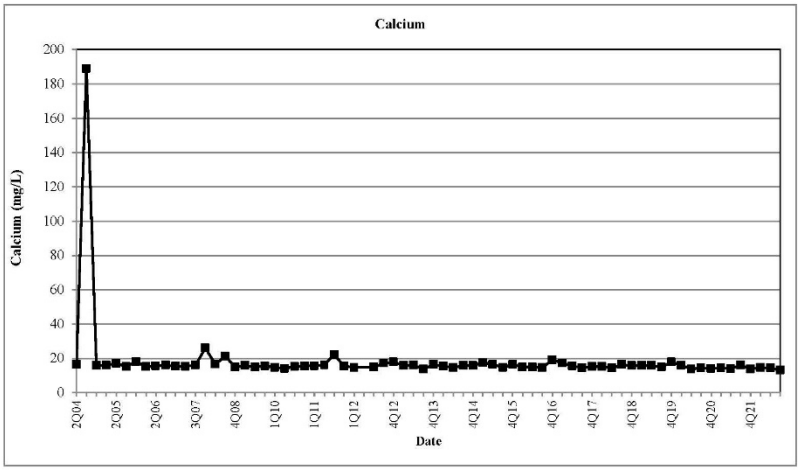




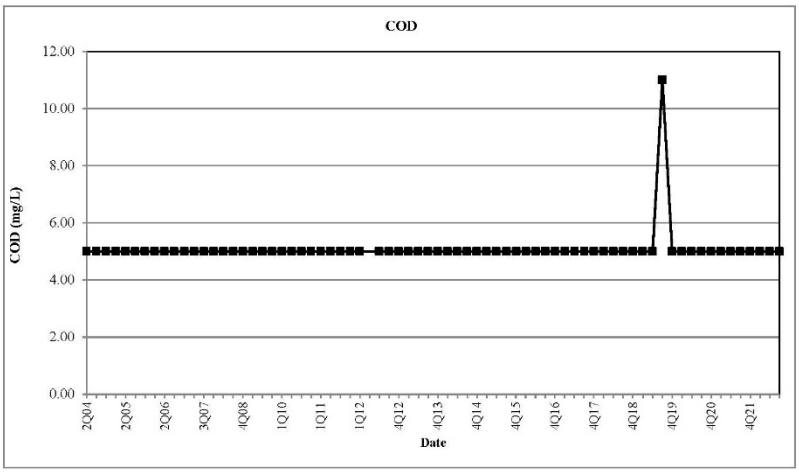
Chrin Brothers Sanitary Landfill
Monitoring Well DM-4R

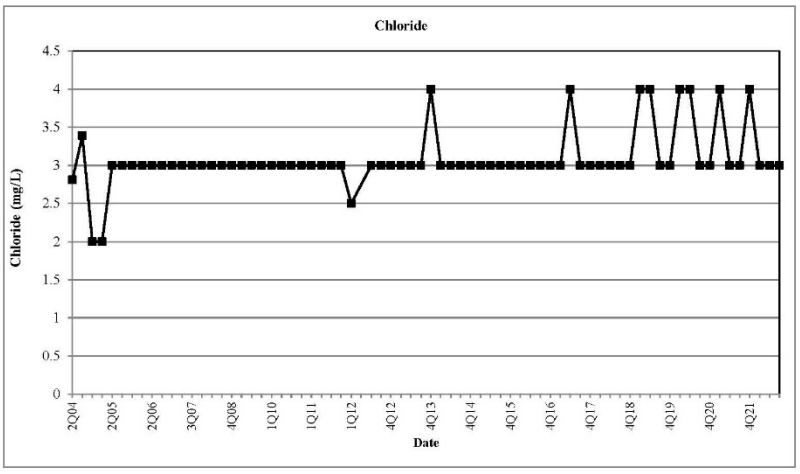


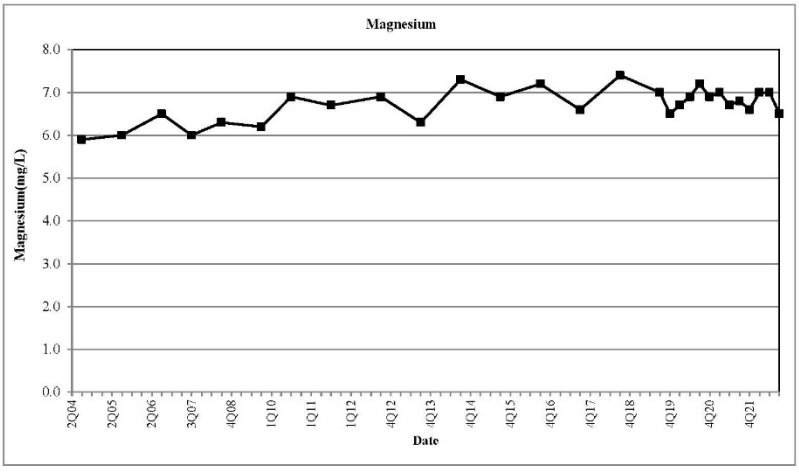




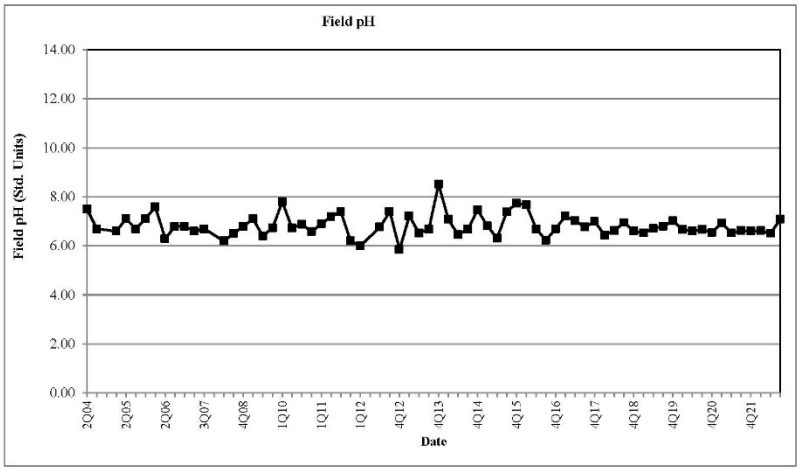
Chrin Brothers Sanitary Landfill
Monitoring Well DM-4R

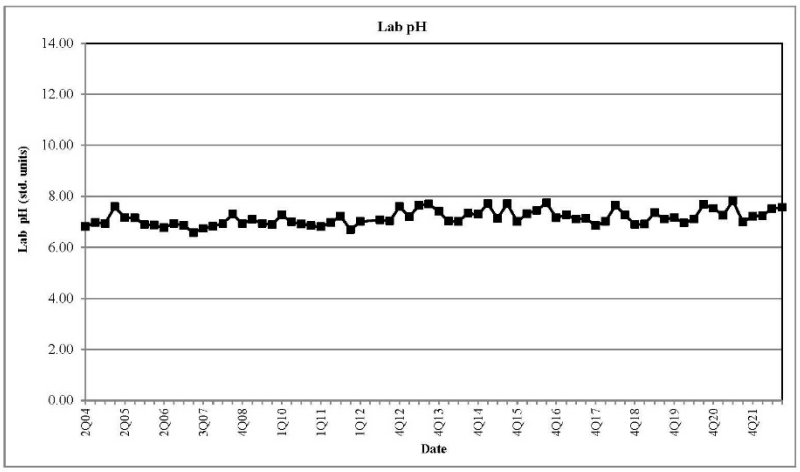


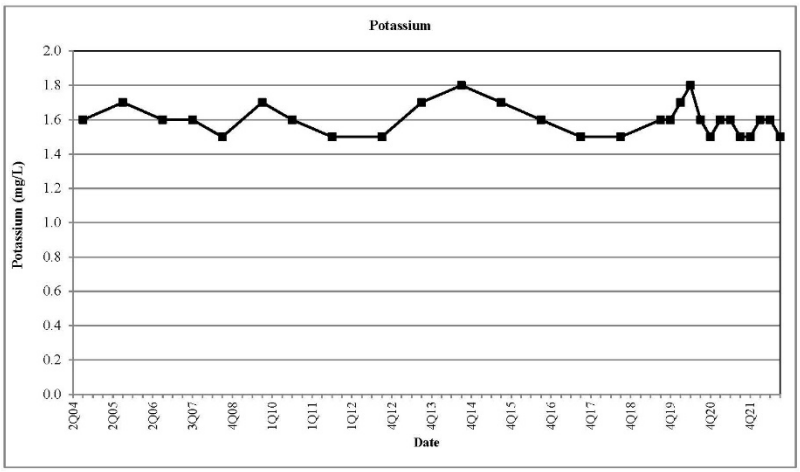




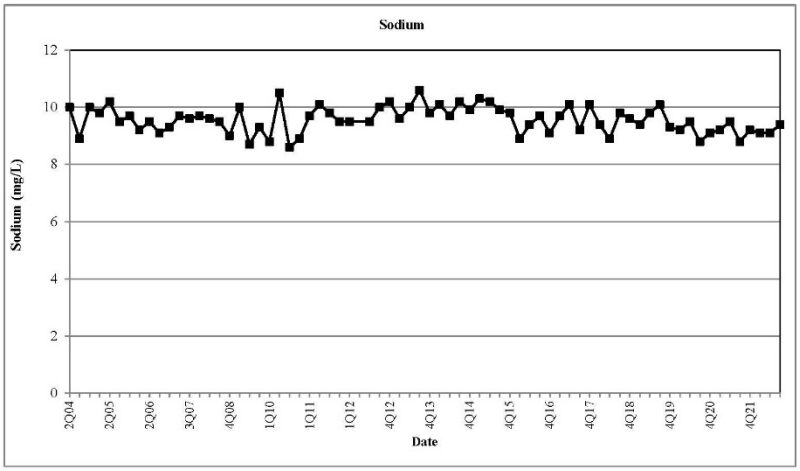
Chrin Brothers Sanitary Landfill
Monitoring Well DM-4R

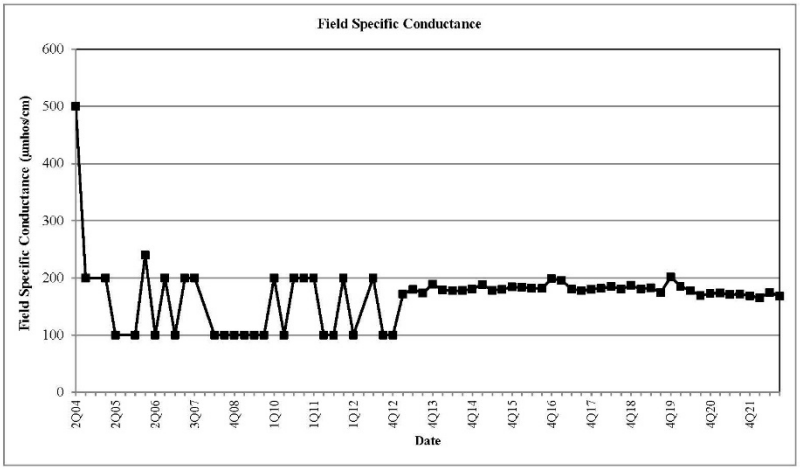


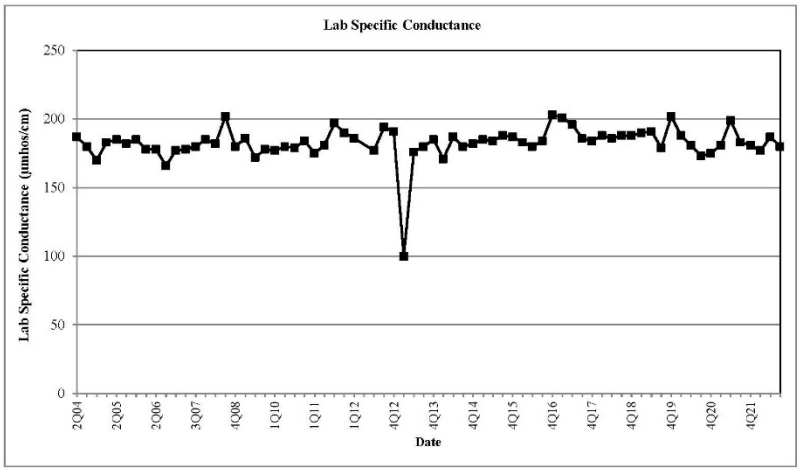




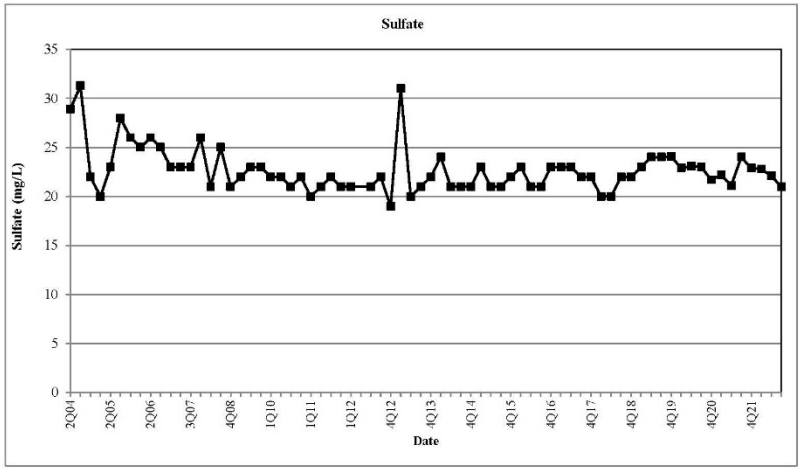
Chrin Brothers Sanitary Landfill
Monitoring Well DM-4R

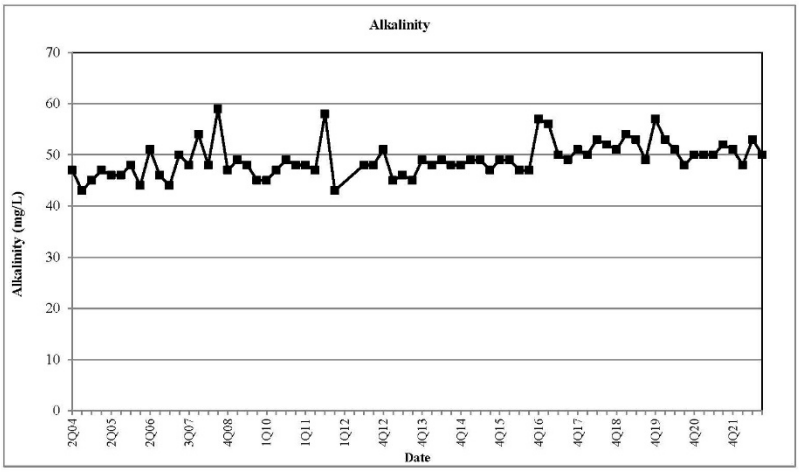


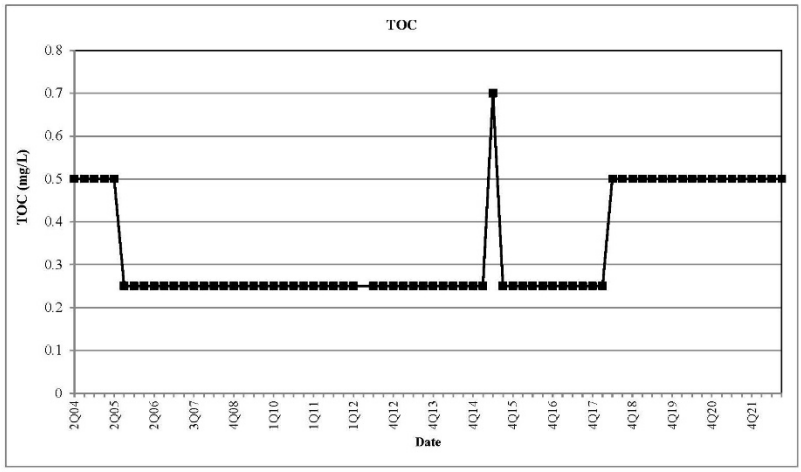




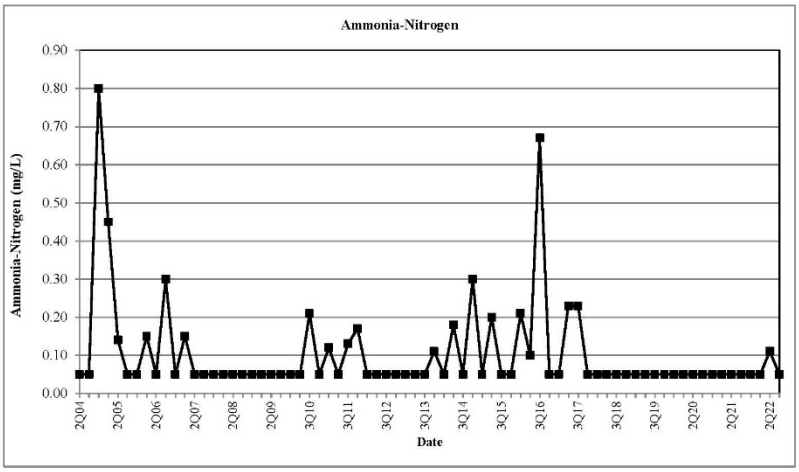
Chrin Brothers Sanitary Landfill
Monitoring Well DM-4R

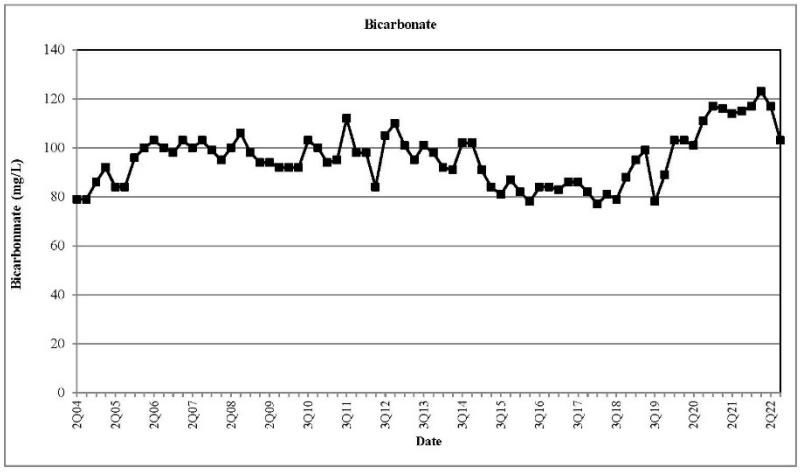


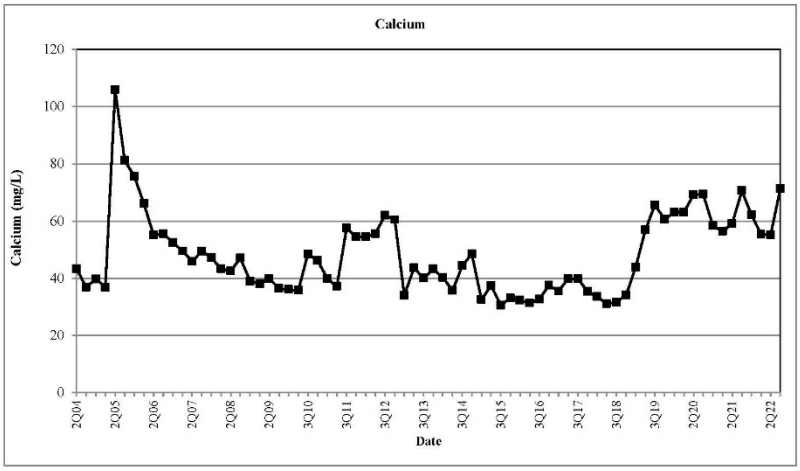




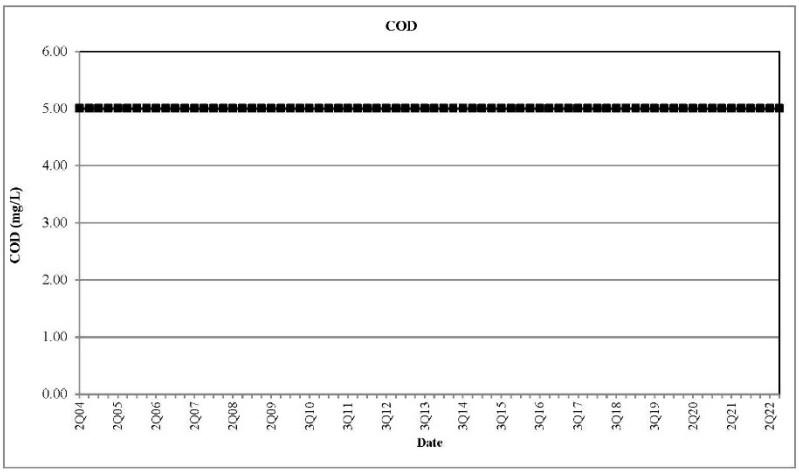
Chrin Brothers Sanitary Landfill
Monitoring Well DM-6

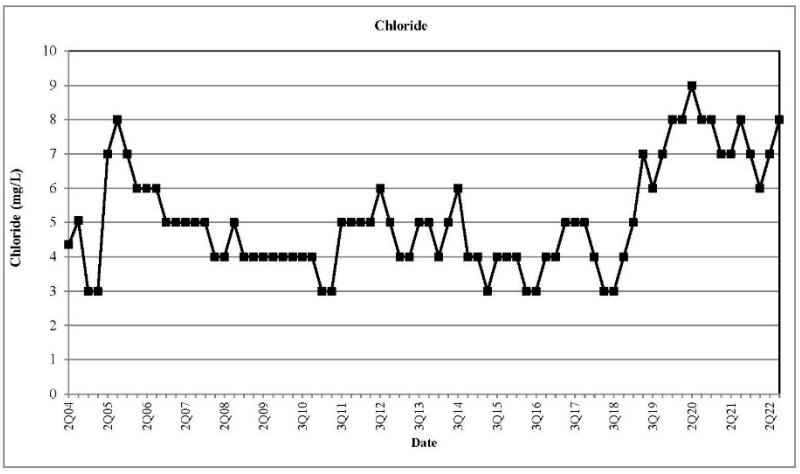


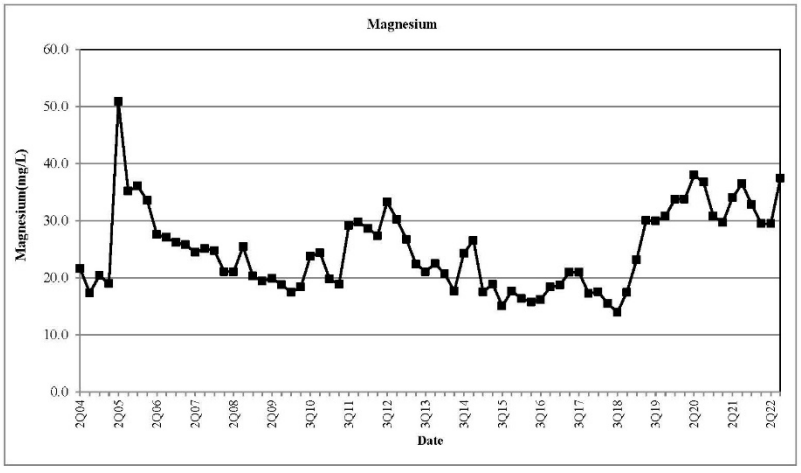




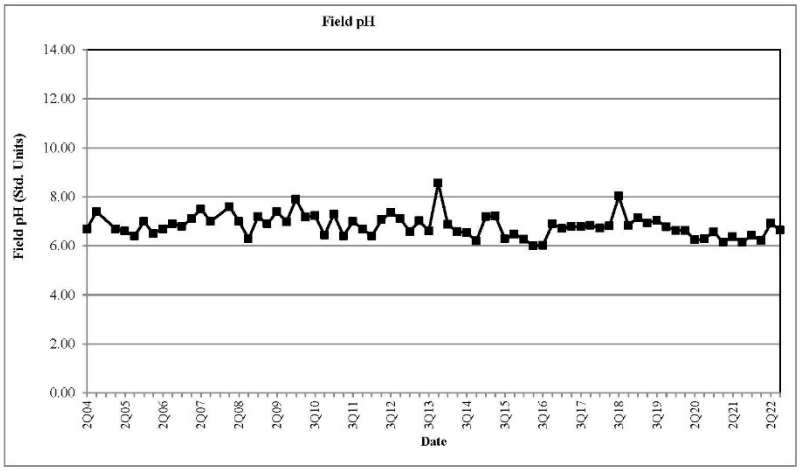
Chrin Brothers Sanitary Landfill
Monitoring Well DM-6

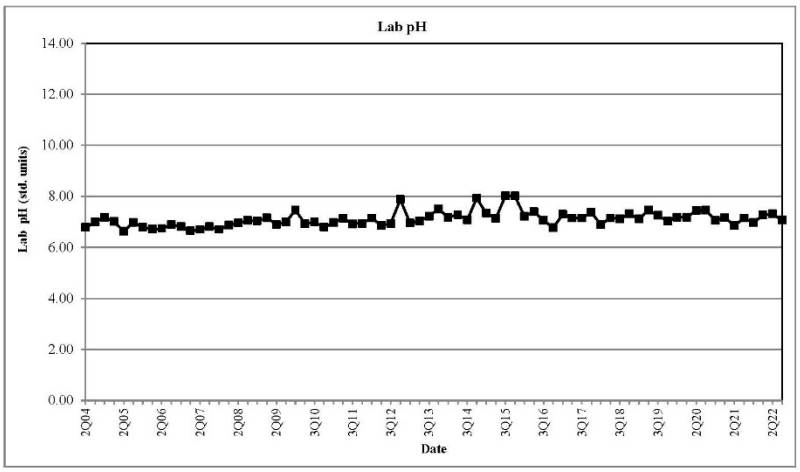


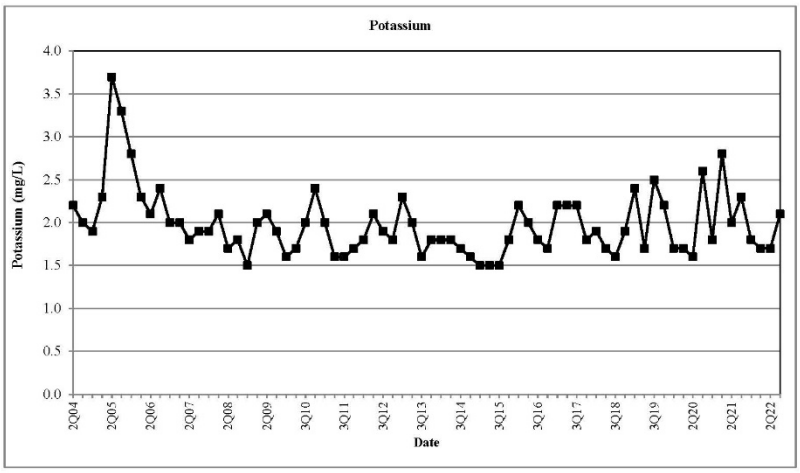




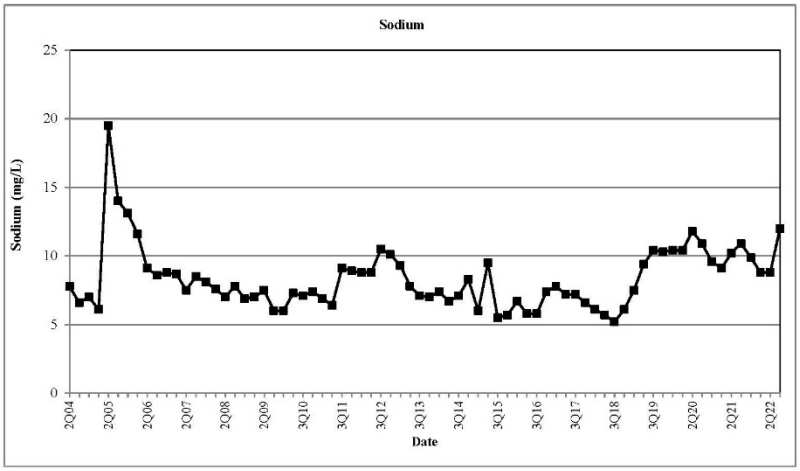
Chrin Brothers Sanitary Landfill
Monitoring Well DM-6

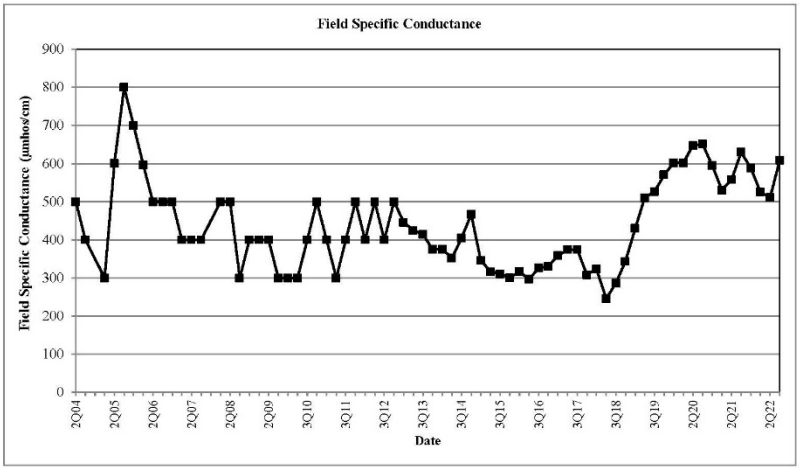


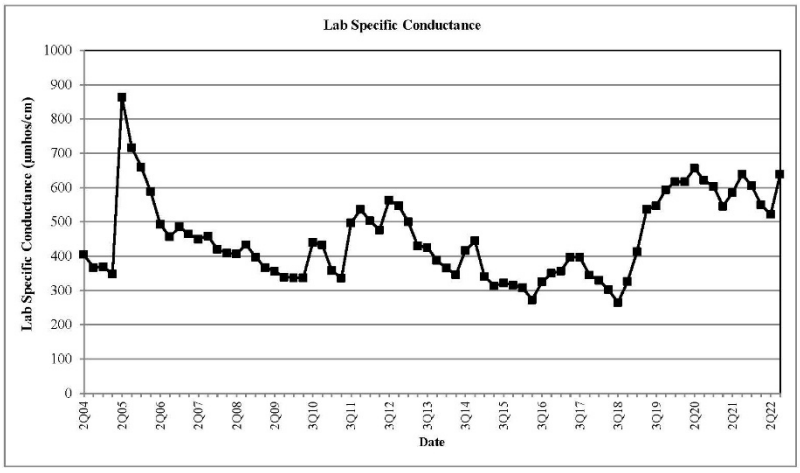




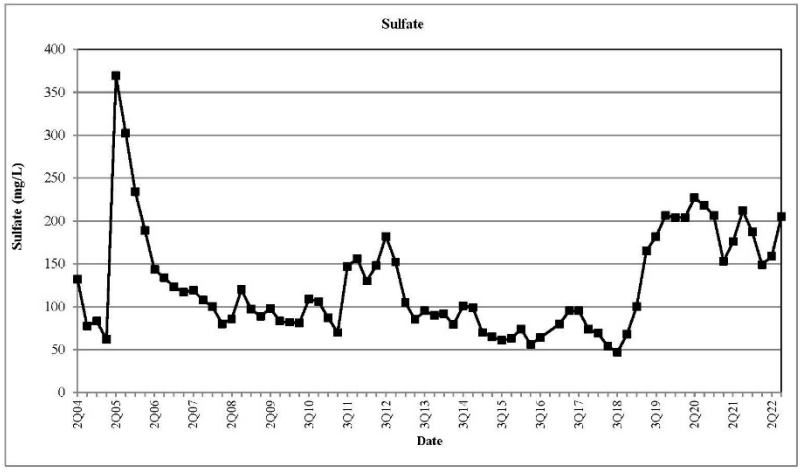
Chrin Brothers Sanitary Landfill
Monitoring Well DM-6

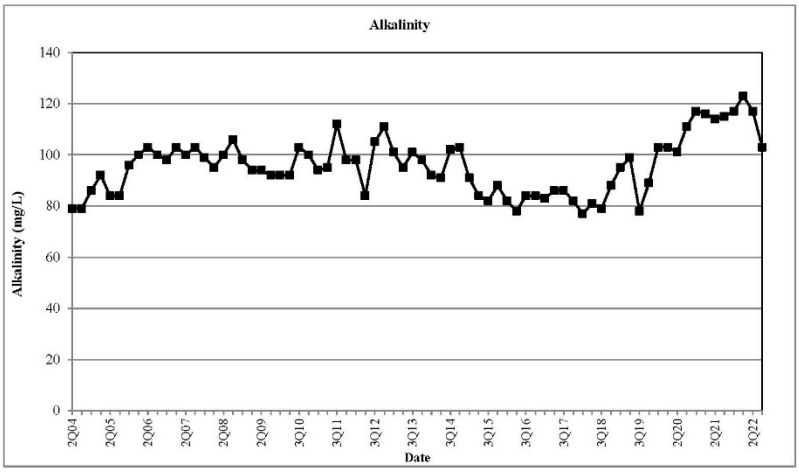


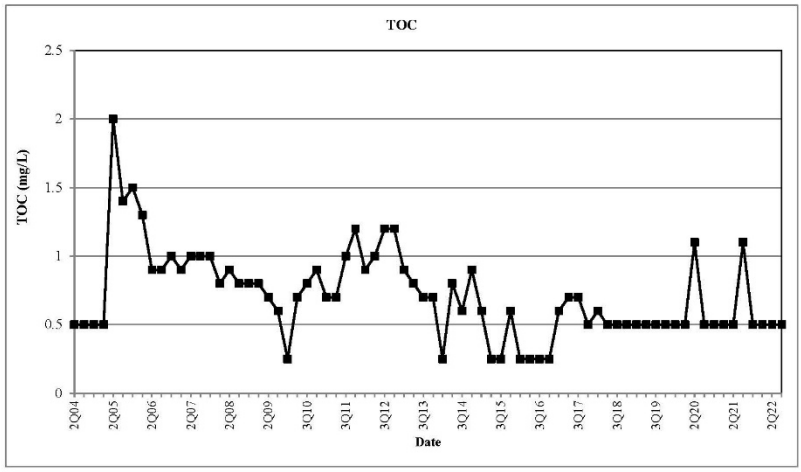




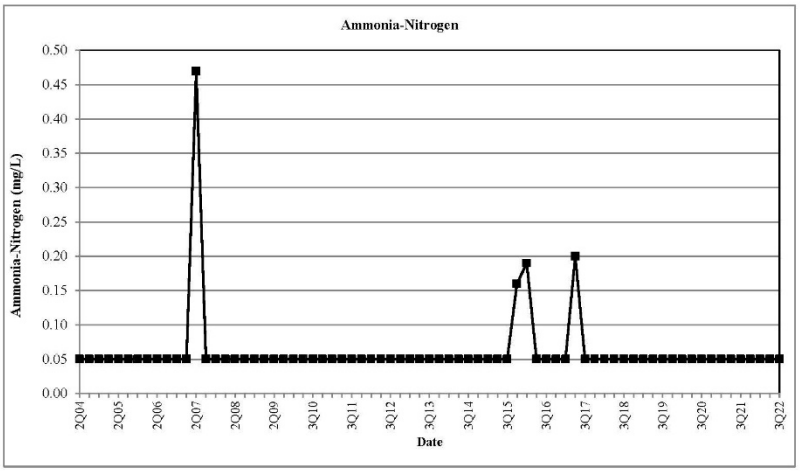
Chrin Brothers Sanitary Landfill
Monitoring Well DM-6

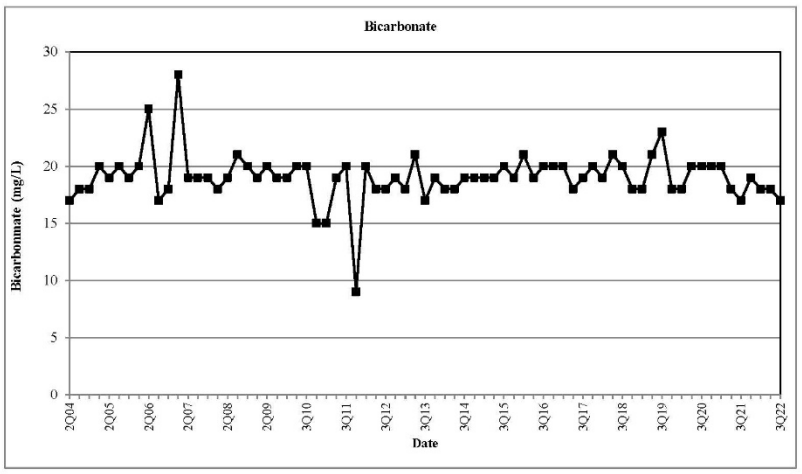


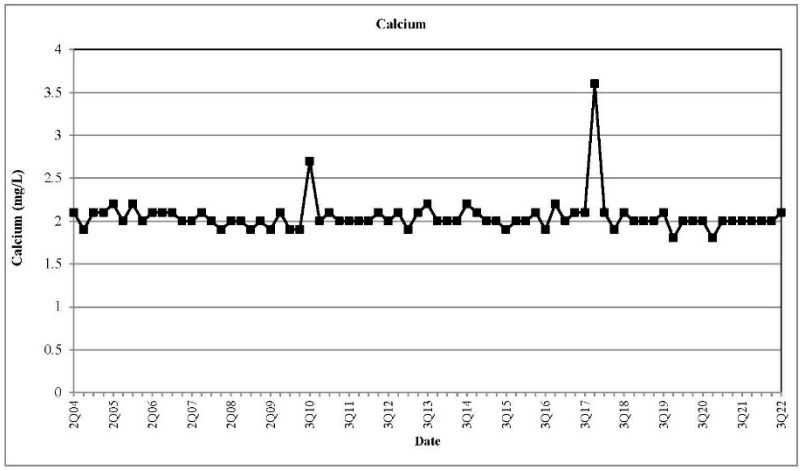




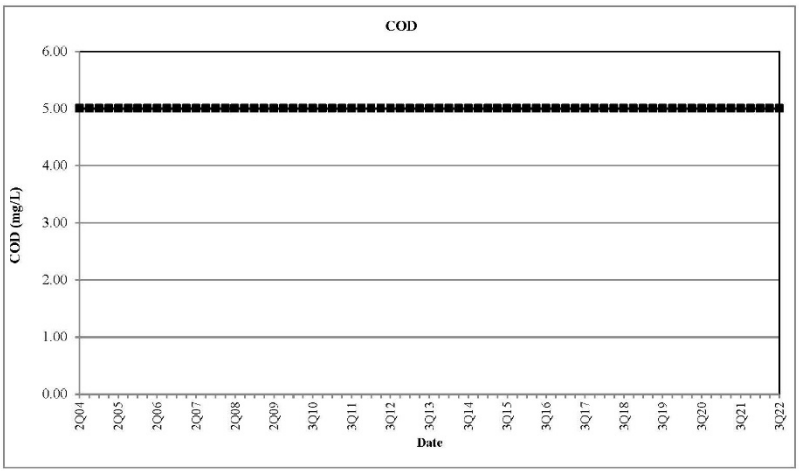
Chrin Brothers Sanitary Landfill
Monitoring Well DM-7

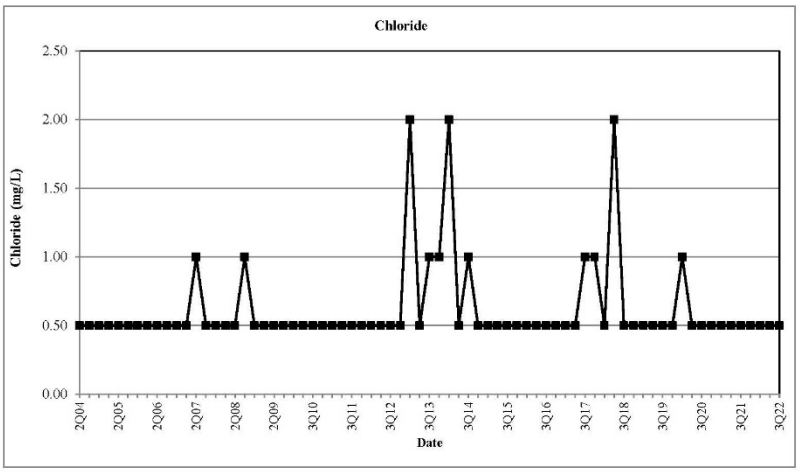


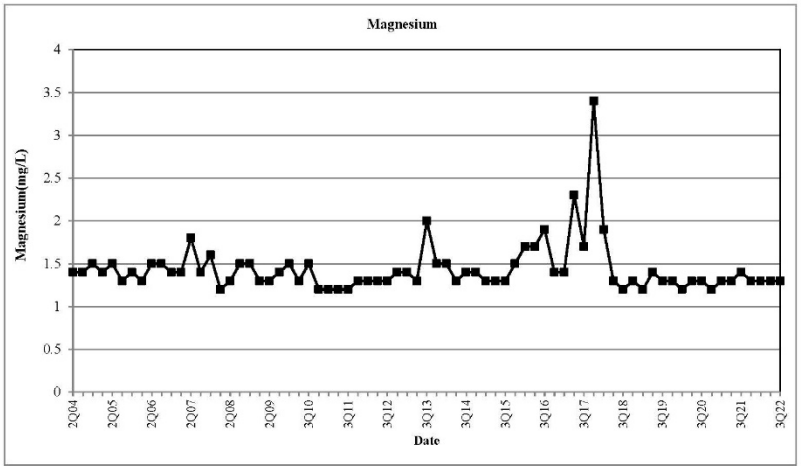




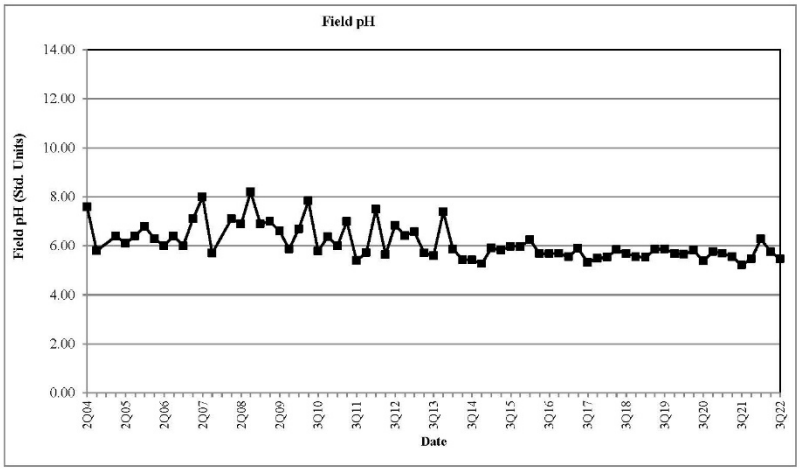
Chrin Brothers Sanitary Landfill
Monitoring Well DM-7

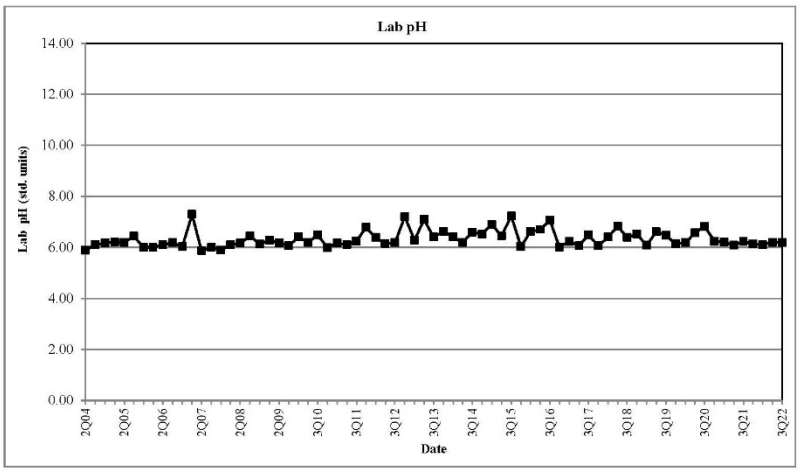


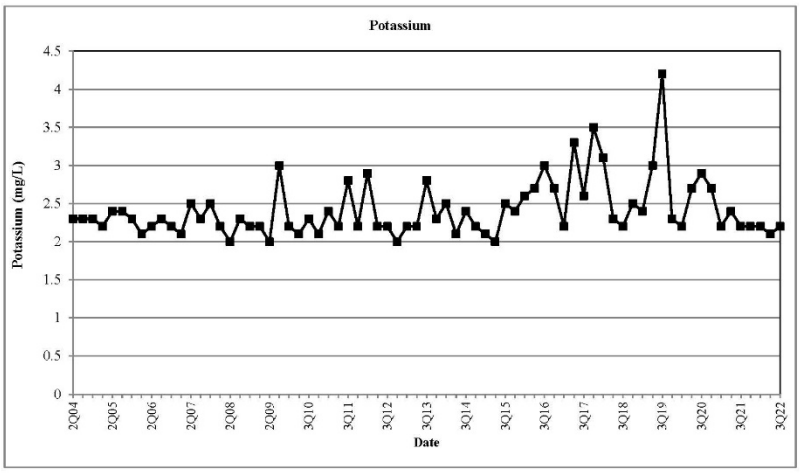




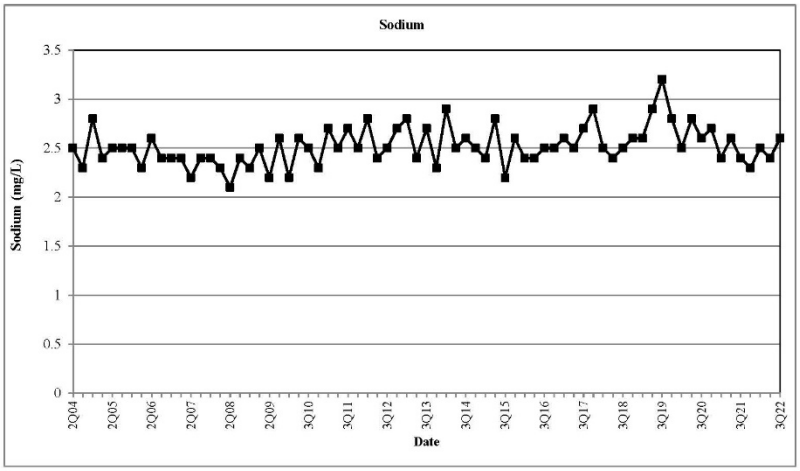
Chrin Brothers Sanitary Landfill
Monitoring Well DM-7

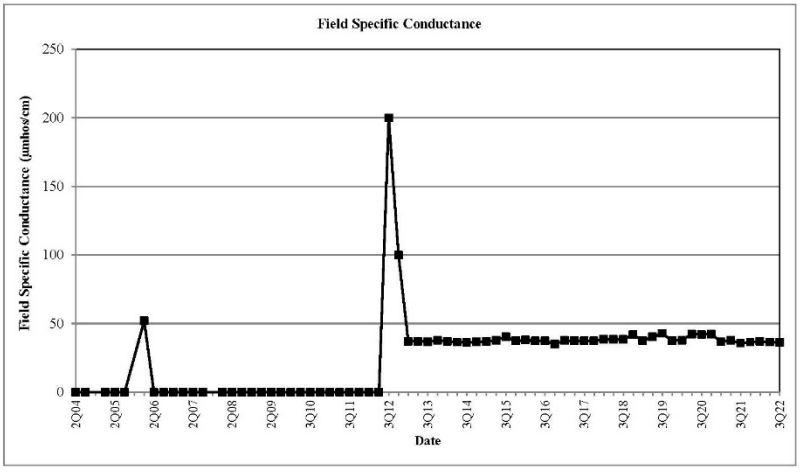


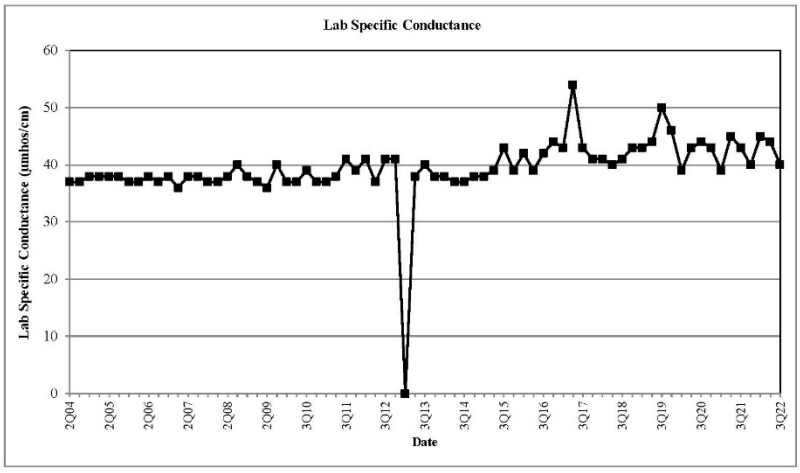




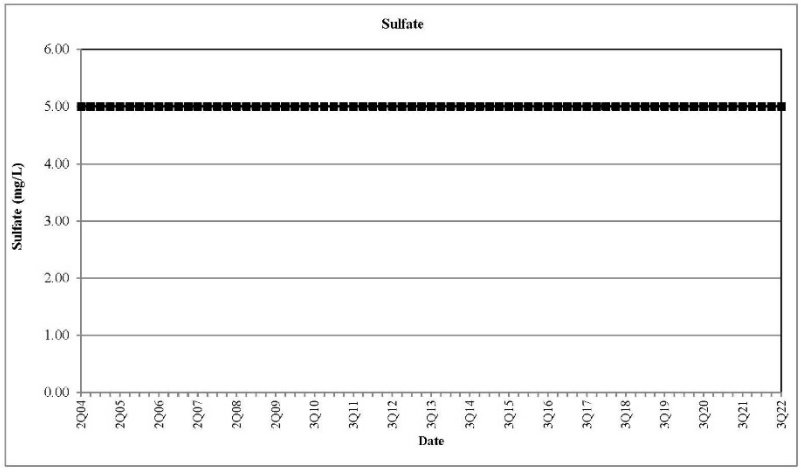
Chrin Brothers Sanitary Landfill
Monitoring Well DM-7

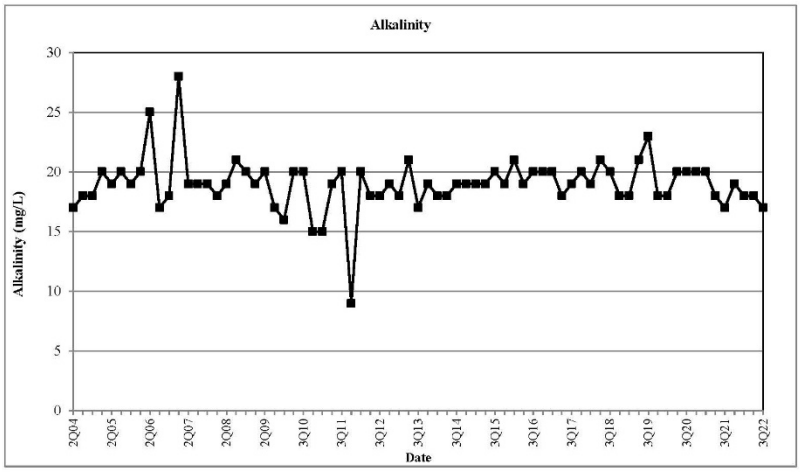


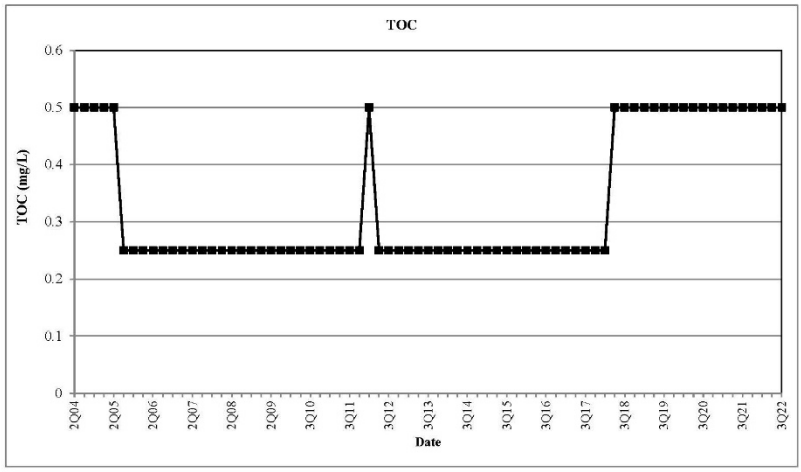




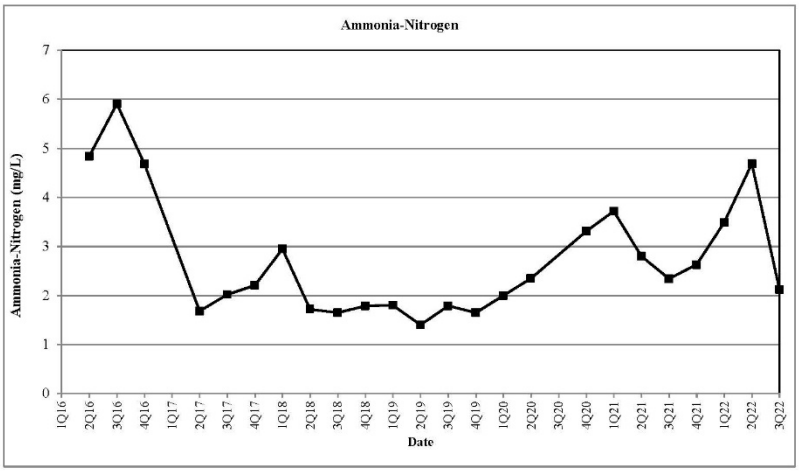
Chrin Brothers Sanitary Landfill
Monitoring Well DM-7

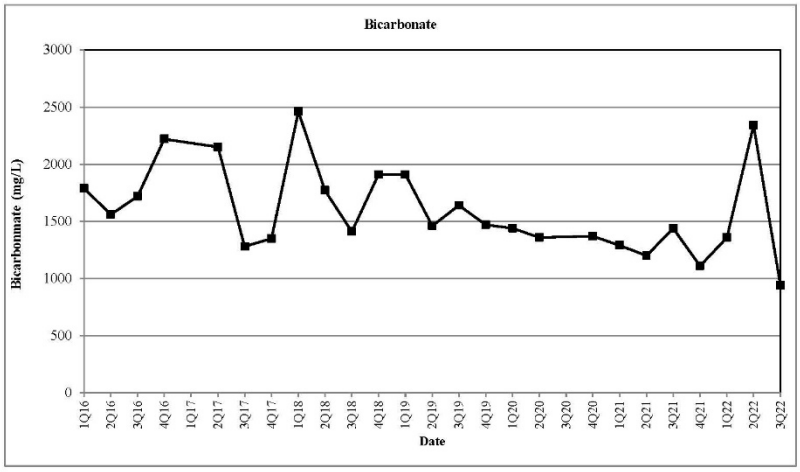


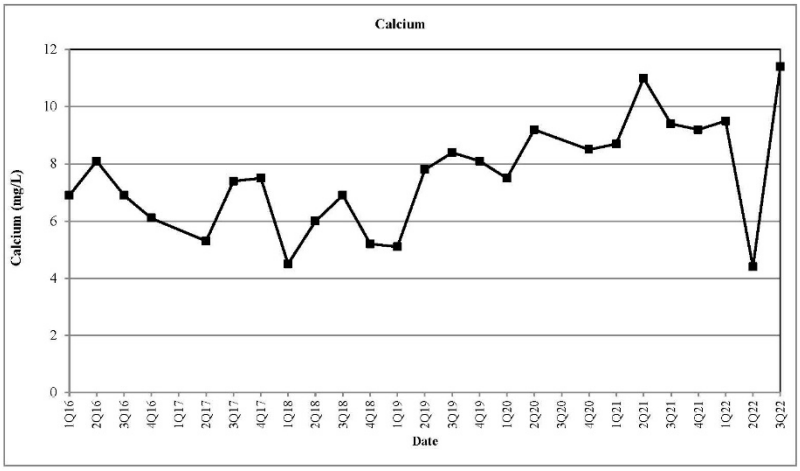




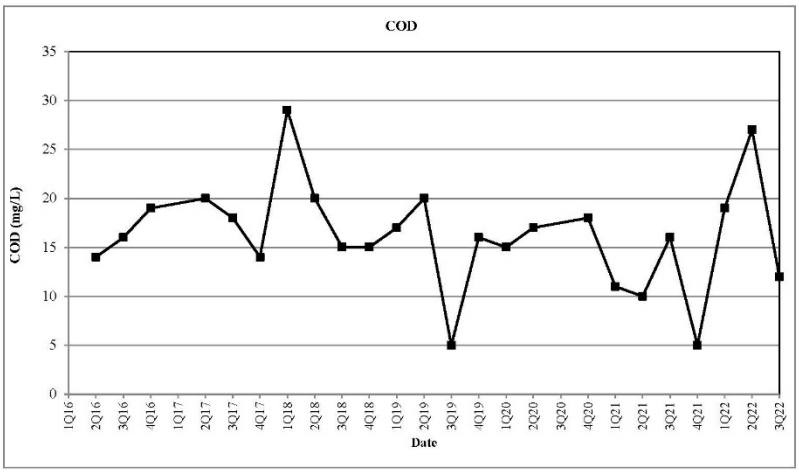
Chrin Brothers Sanitary Landfill
Monitoring Well DM-8R

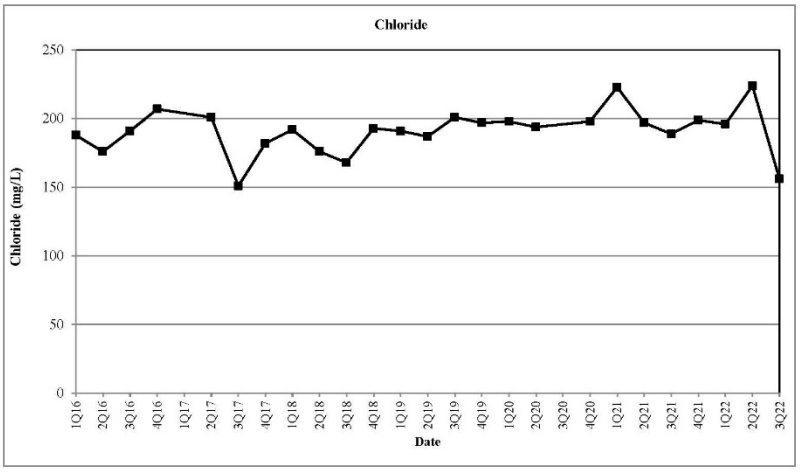


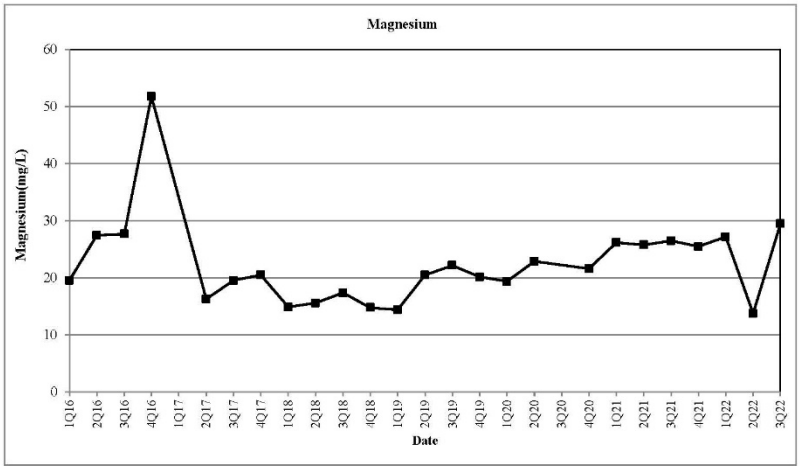




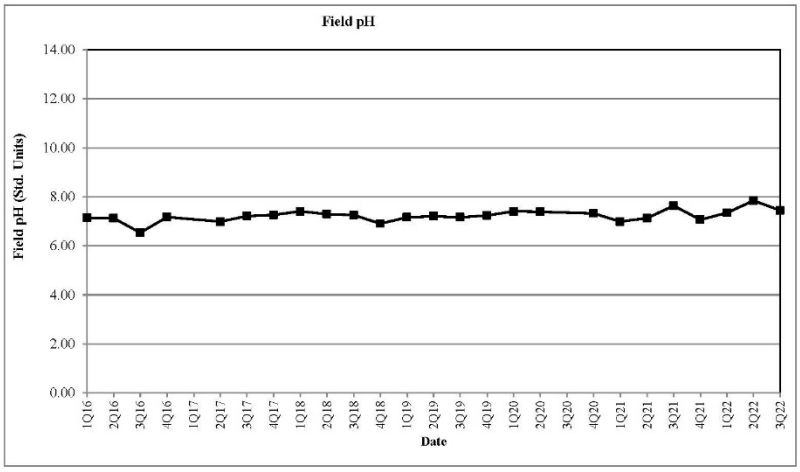
Chrin Brothers Sanitary Landfill
Monitoring Well DM-8R

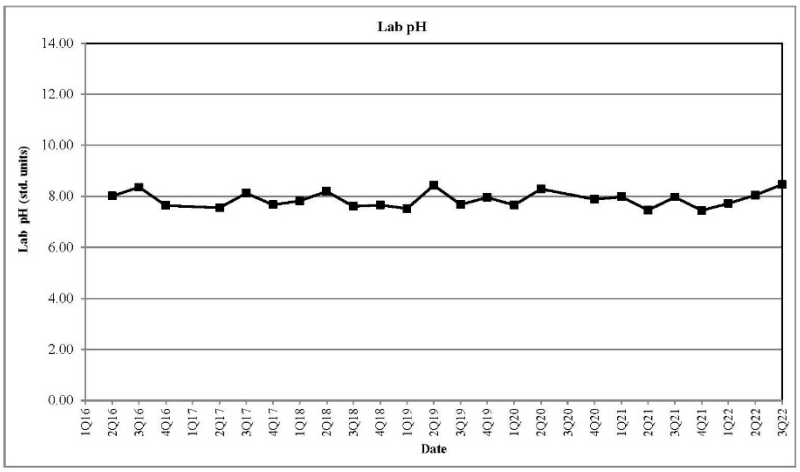


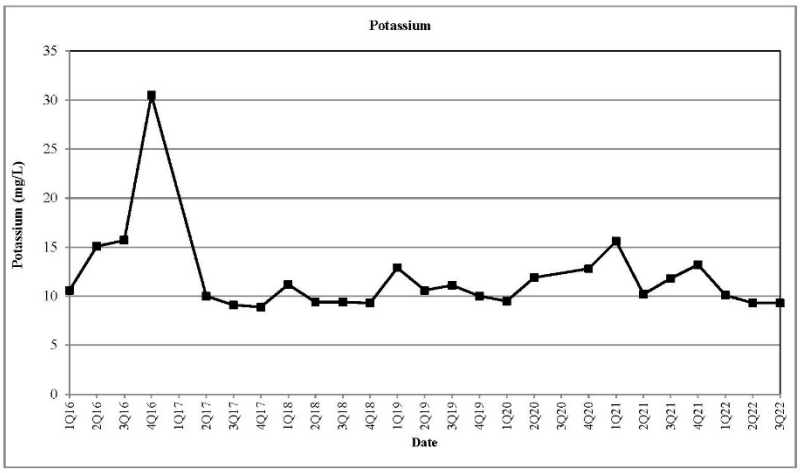




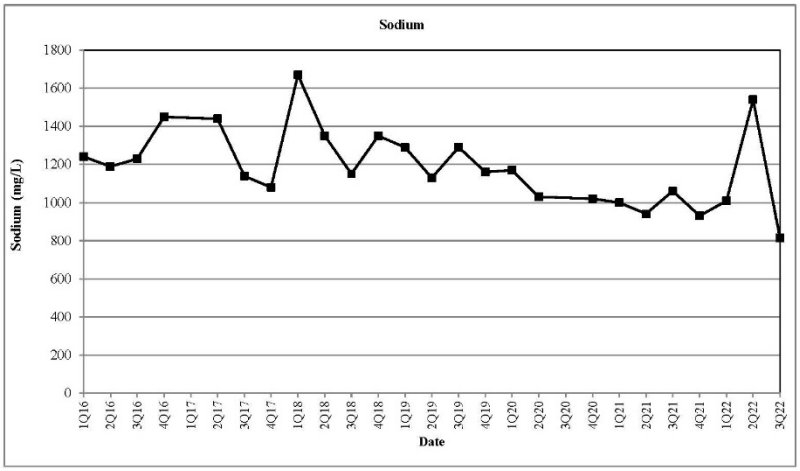
Chrin Brothers Sanitary Landfill
Monitoring Well DM-8R

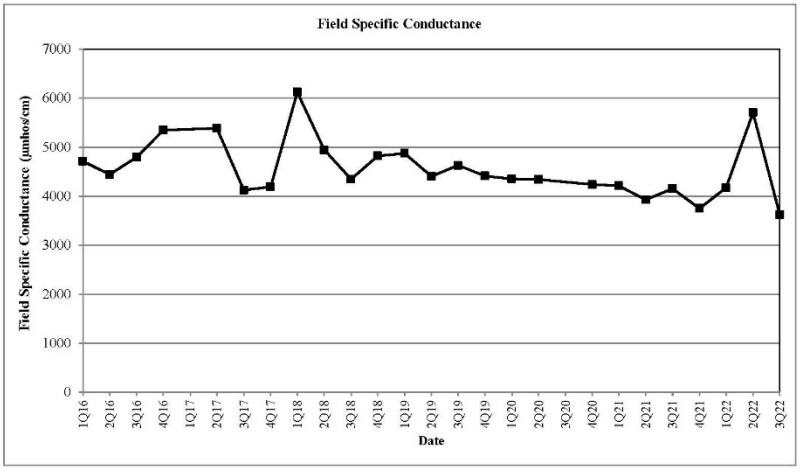


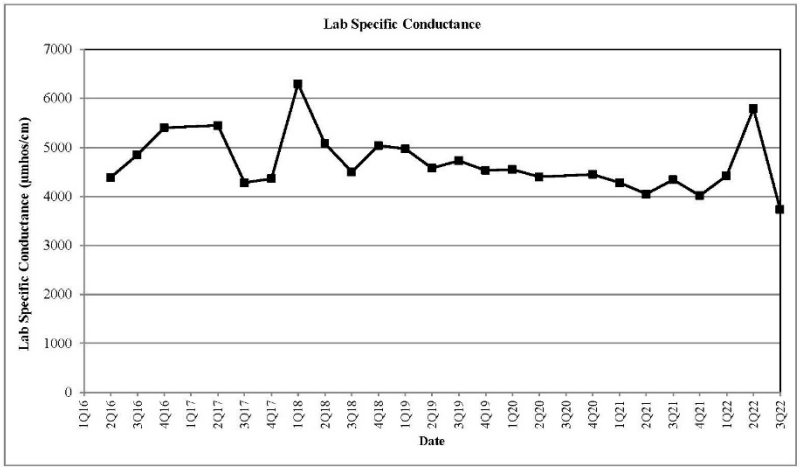




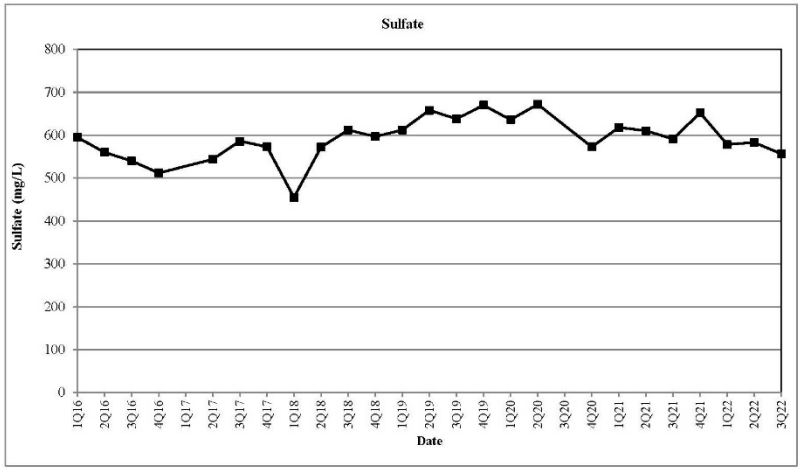
Chrin Brothers Sanitary Landfill
Monitoring Well DM-8R

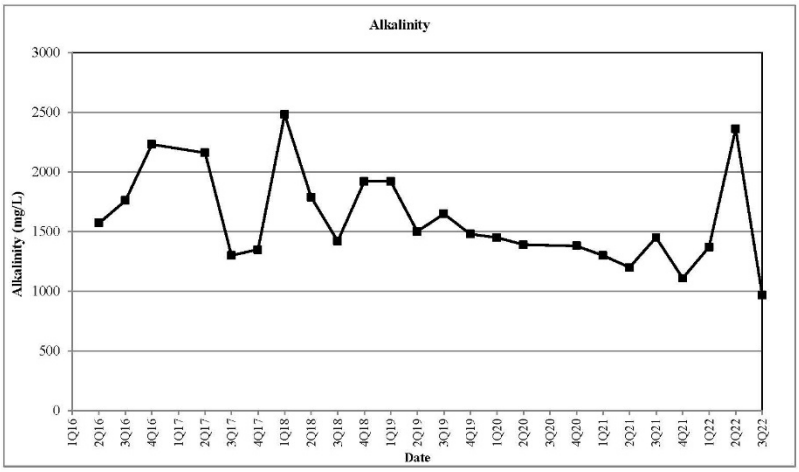


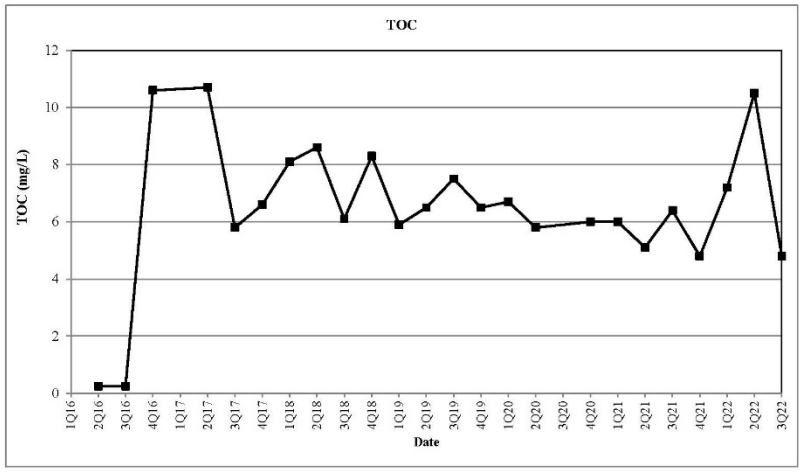




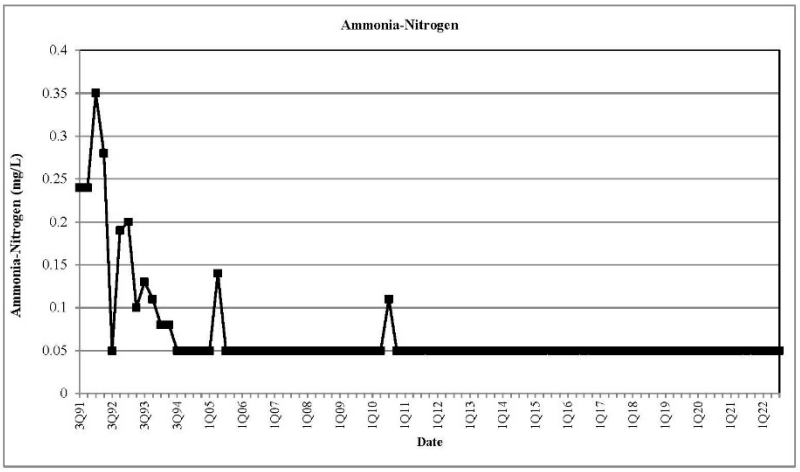
Chrin Brothers Sanitary Landfill
Monitoring Well DM-8R

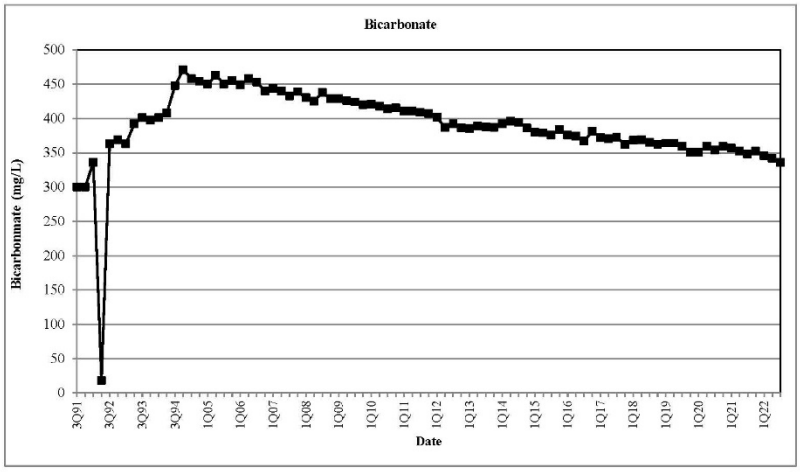


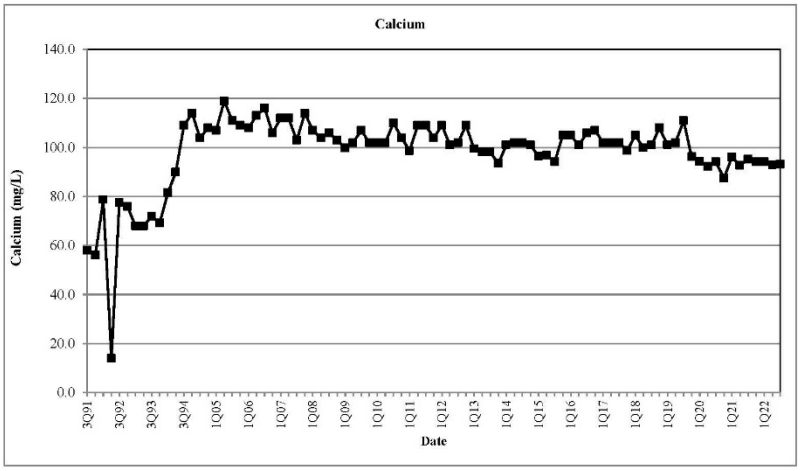




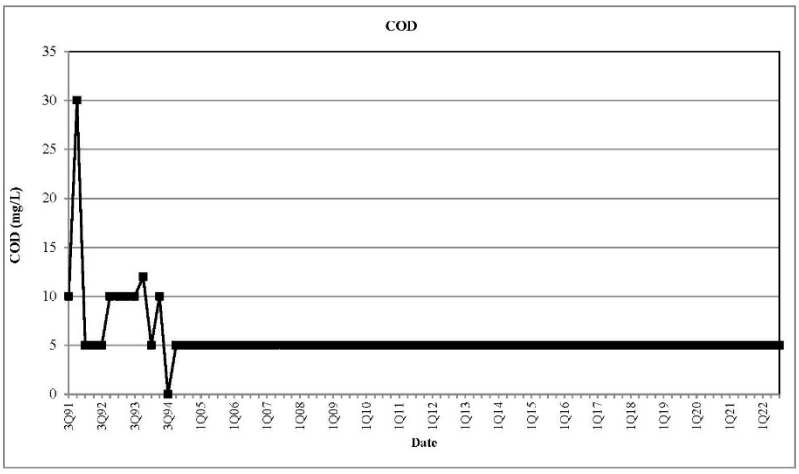
Chrin Brothers Sanitary Landfill
Monitoring Well DM-9

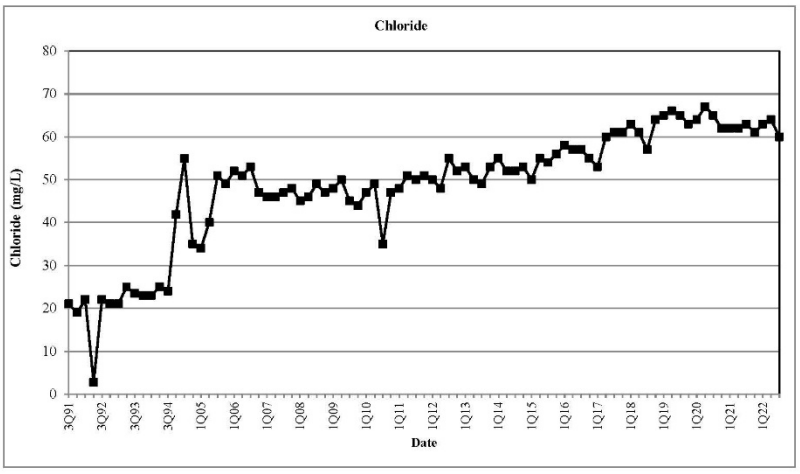


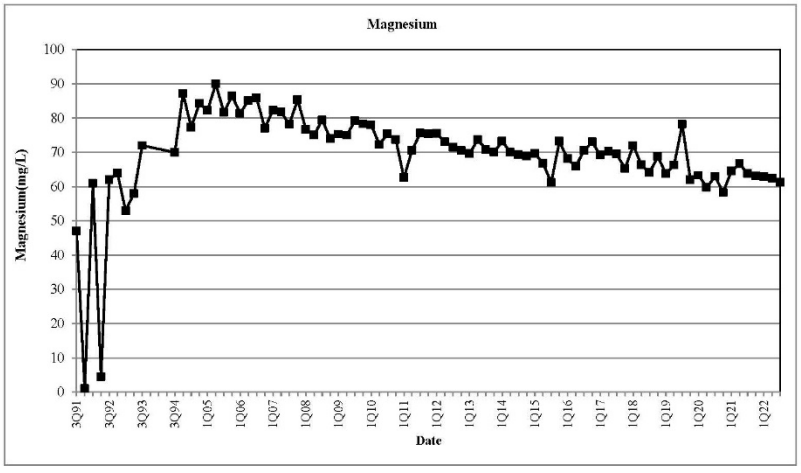




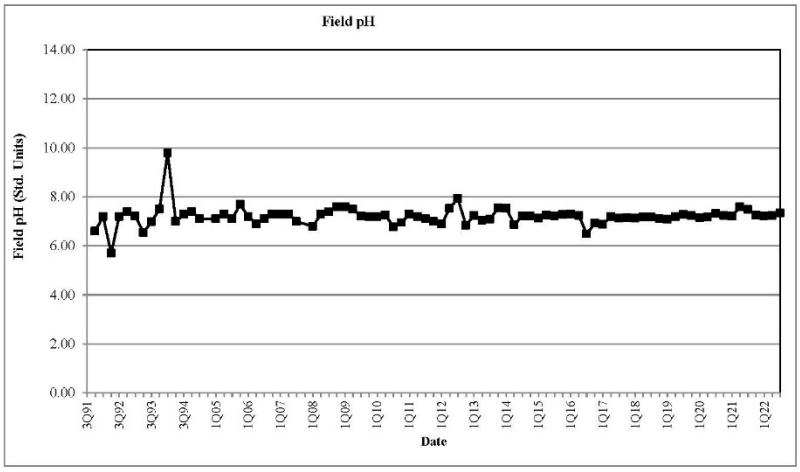
Chrin Brothers Sanitary Landfill
Monitoring Well DM-9

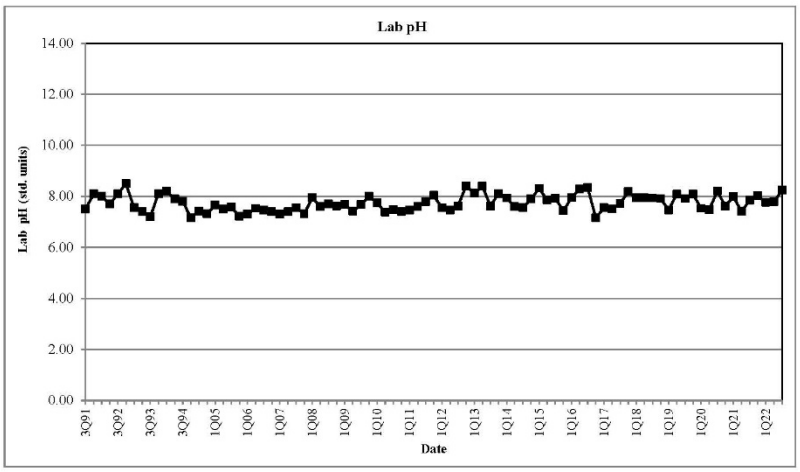


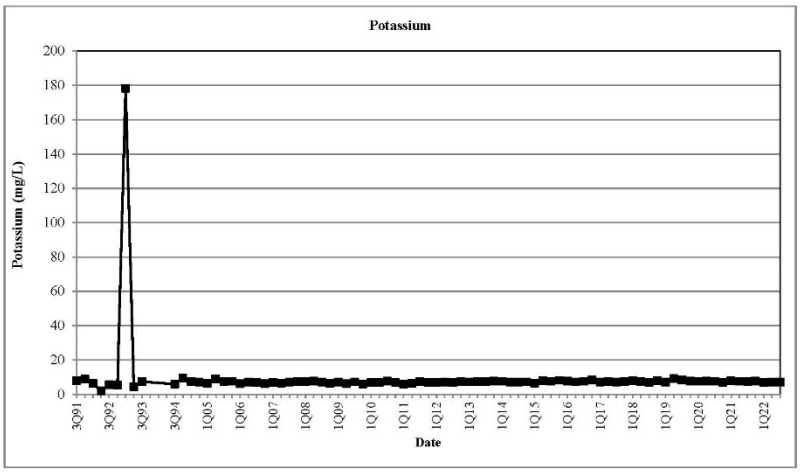




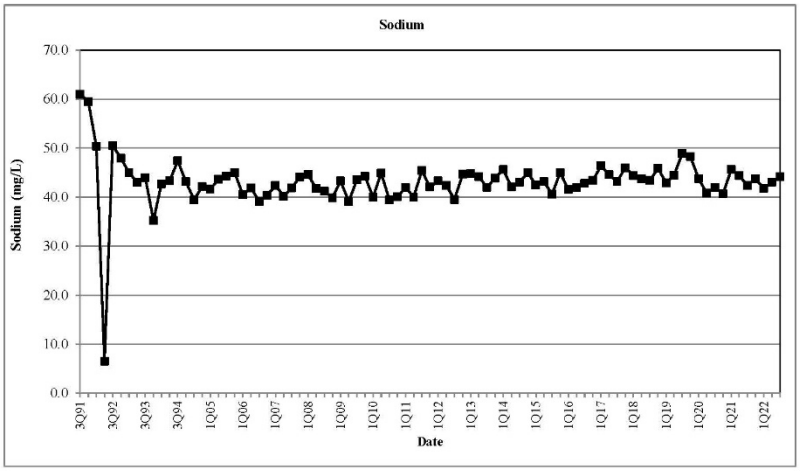
Chrin Brothers Sanitary Landfill
Monitoring Well DM-9

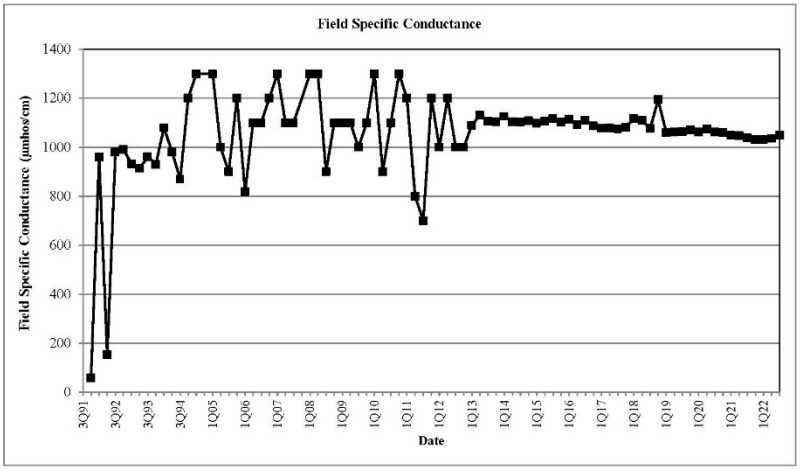


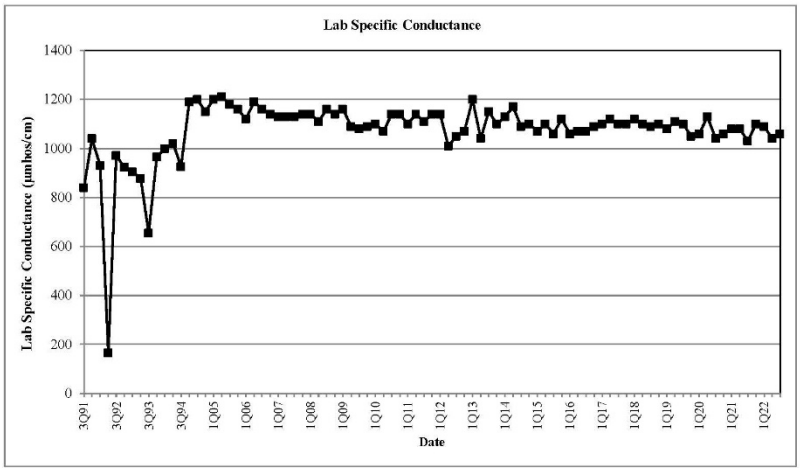




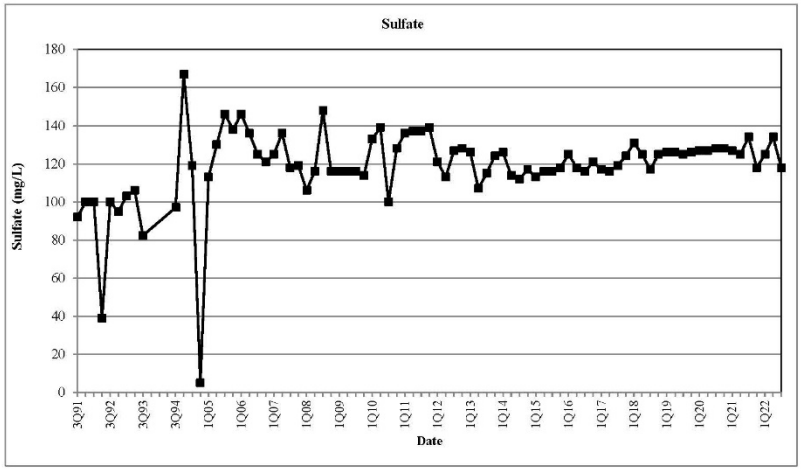
Chrin Brothers Sanitary Landfill
Monitoring Well DM-9

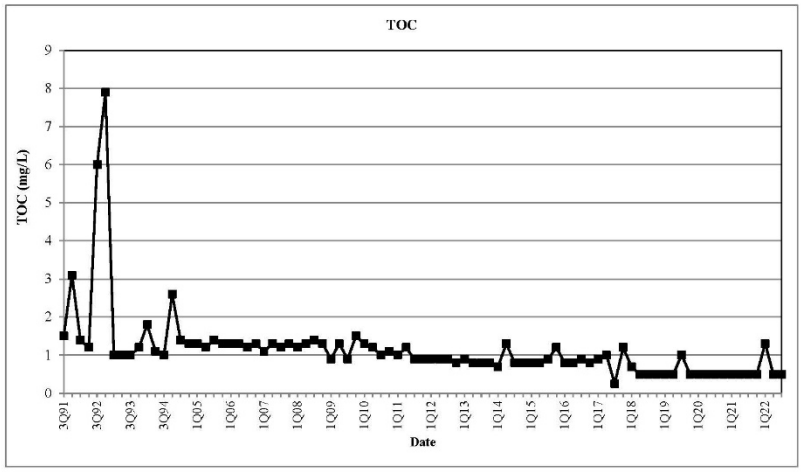




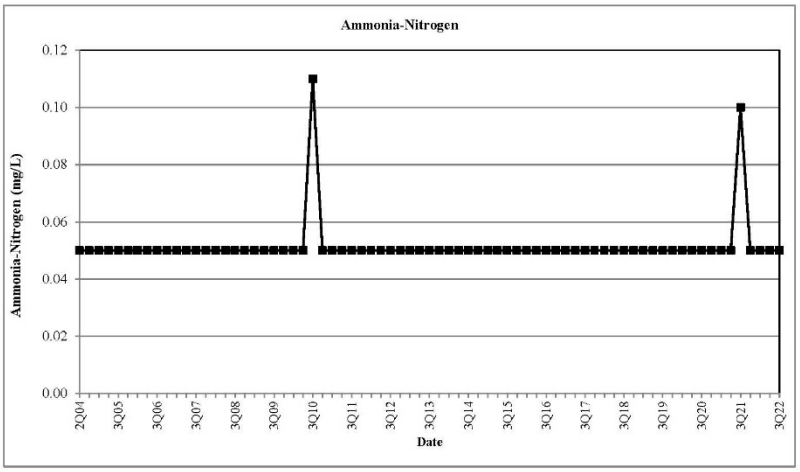


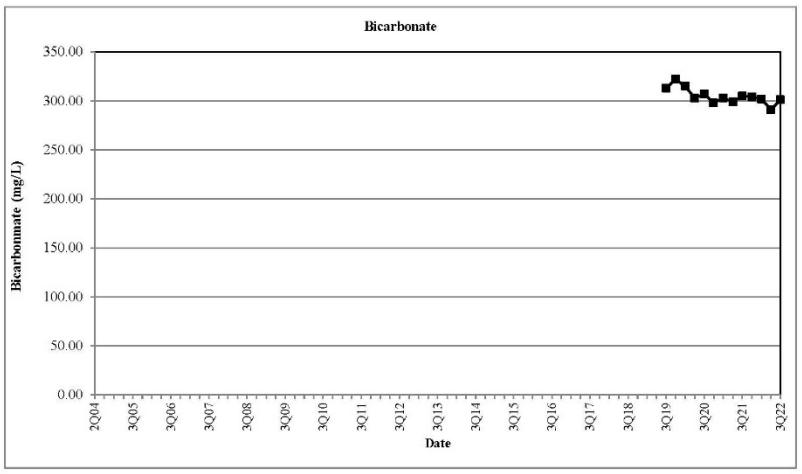
Chrin Brothers Sanitary Landfill
Monitoring Well DM-9

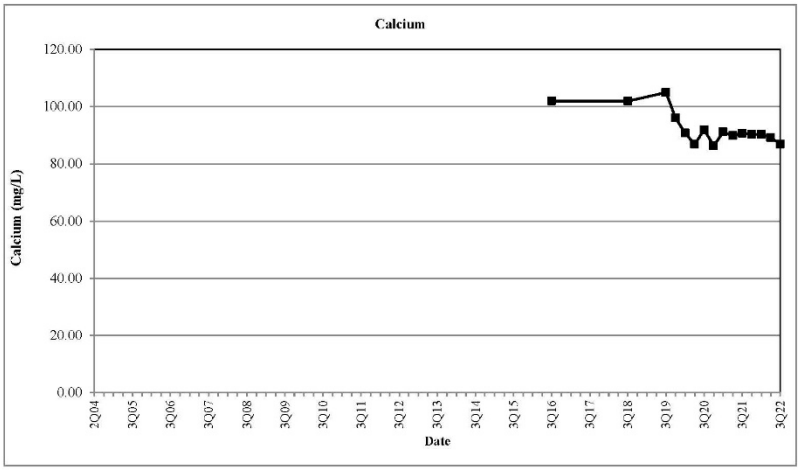




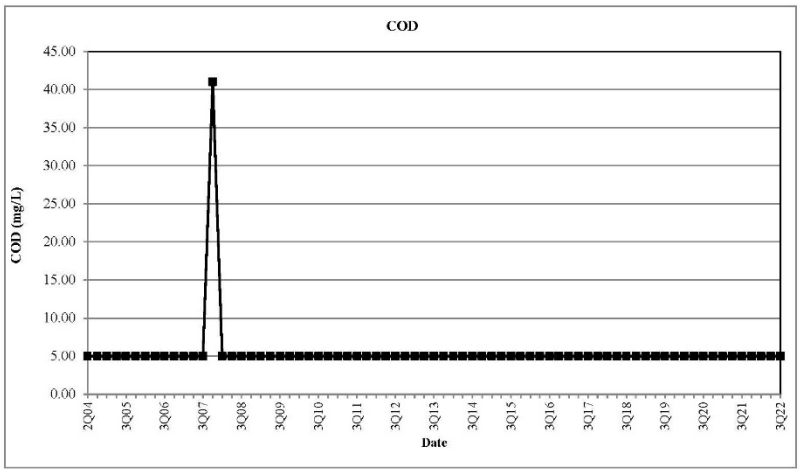
Chrin Brothers Sanitary Landfill
Monitoring Well DM-10

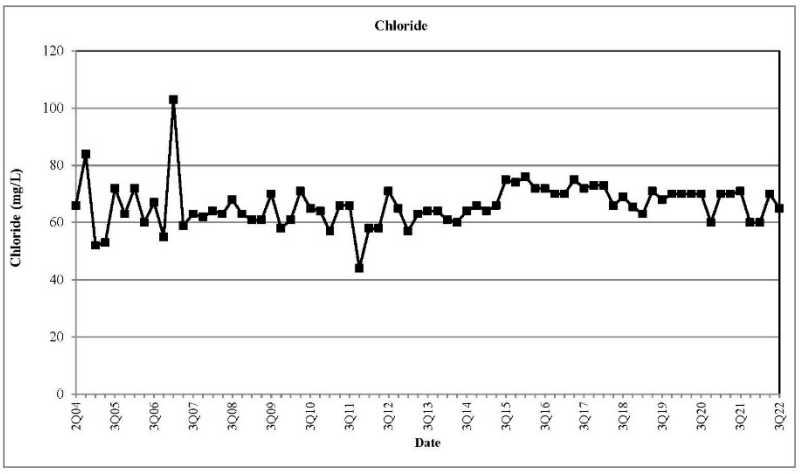


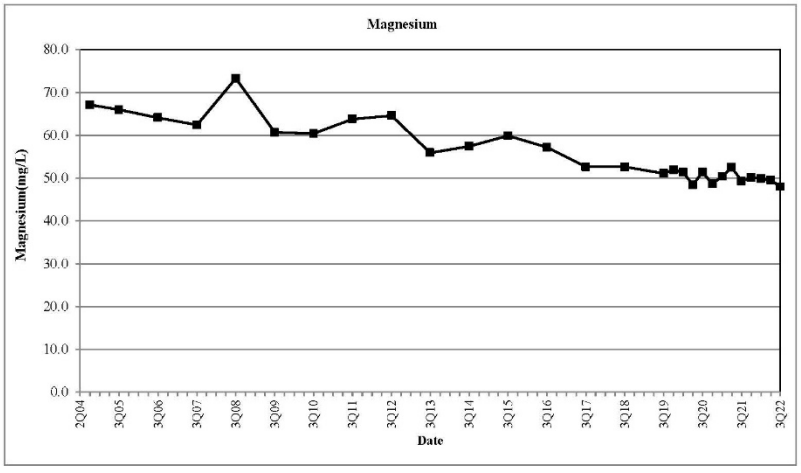




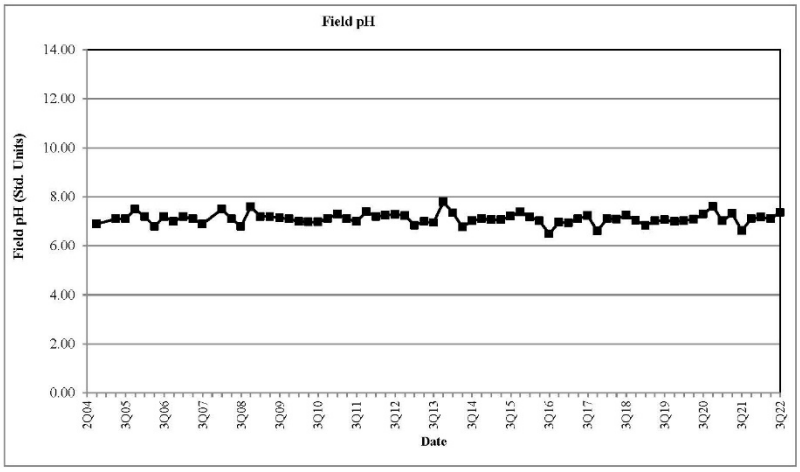
Chrin Brothers Sanitary Landfill
Monitoring Well DM-10

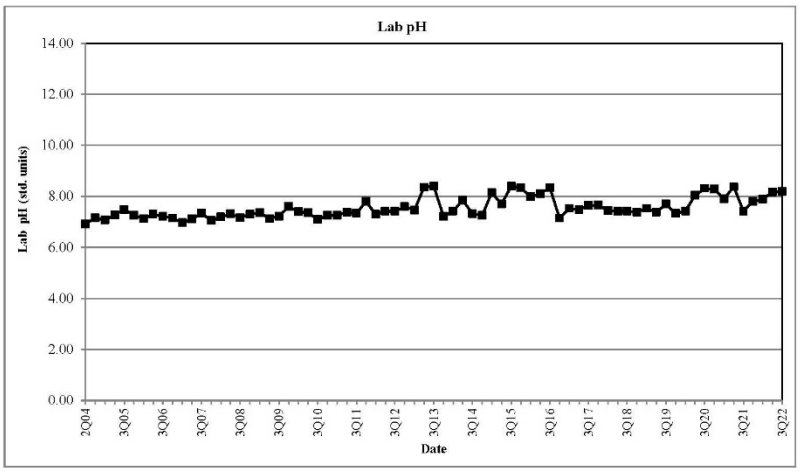


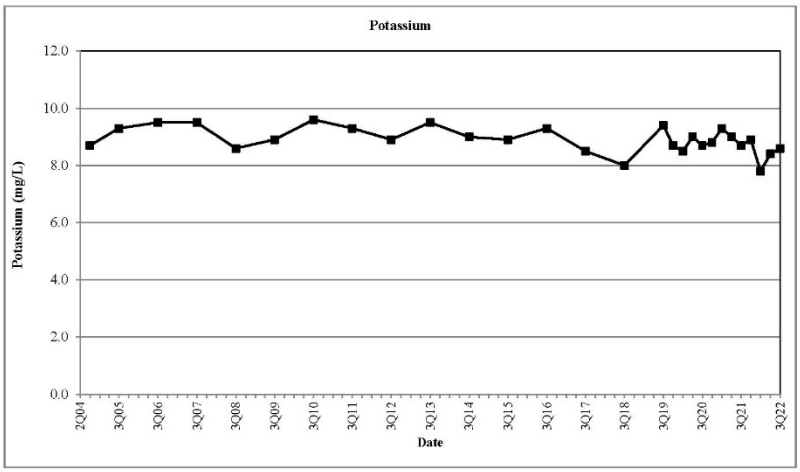




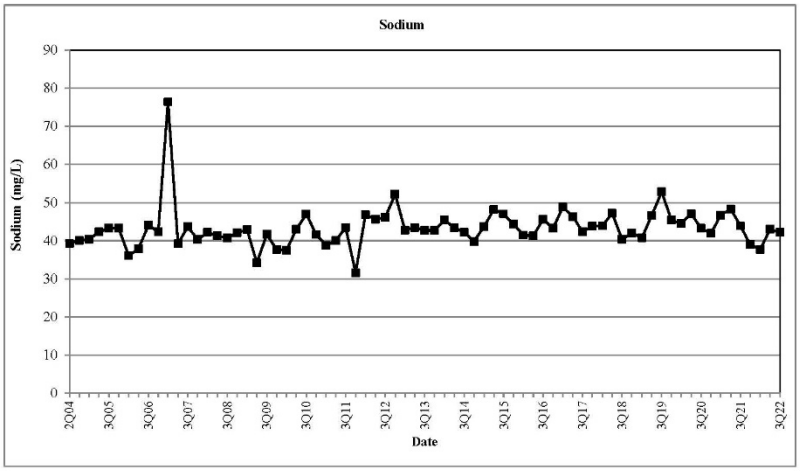
Chrin Brothers Sanitary Landfill
Monitoring Well DM-10

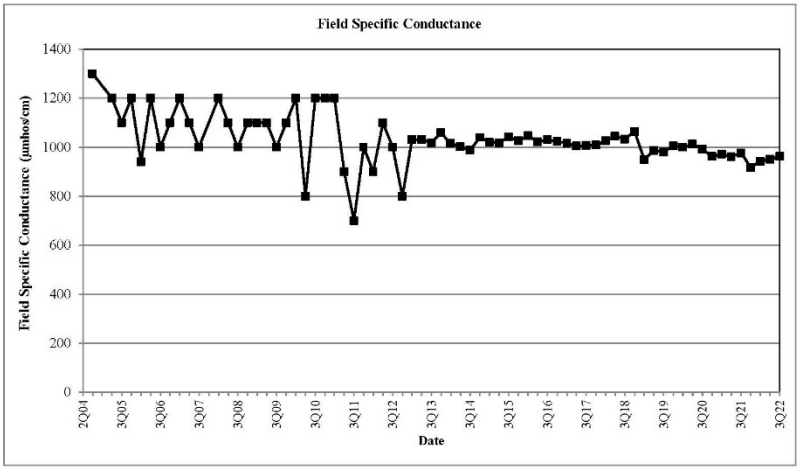


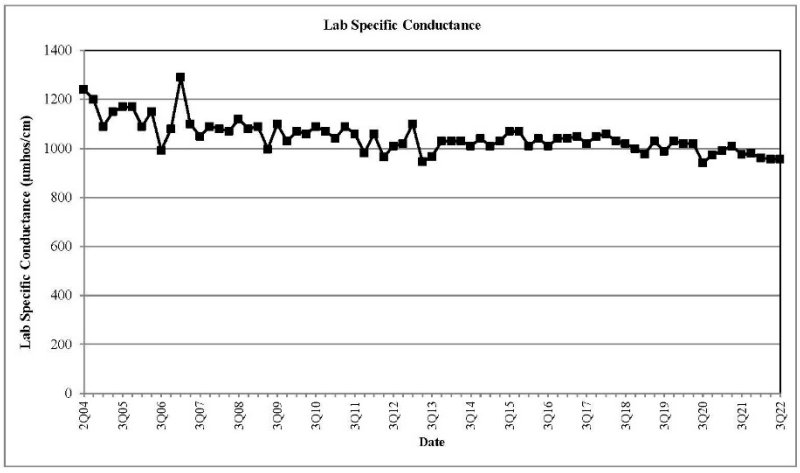




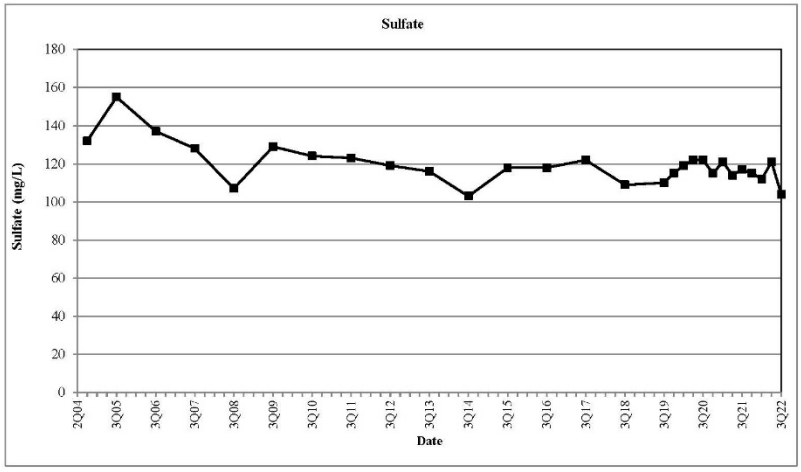
Chrin Brothers Sanitary Landfill
Monitoring Well DM-10

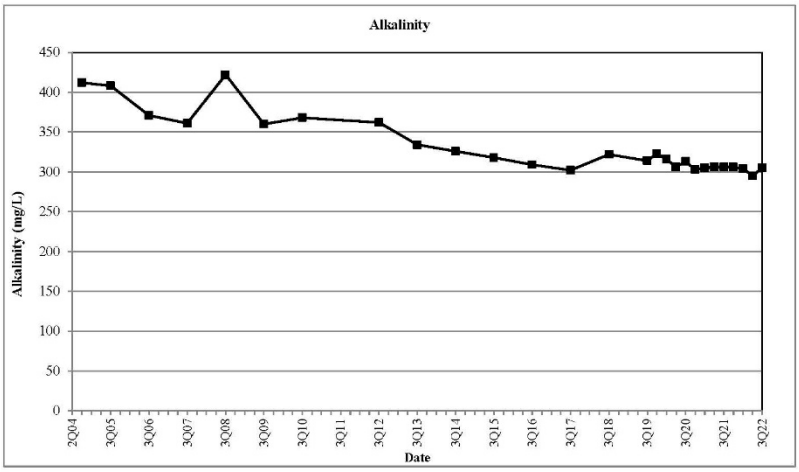


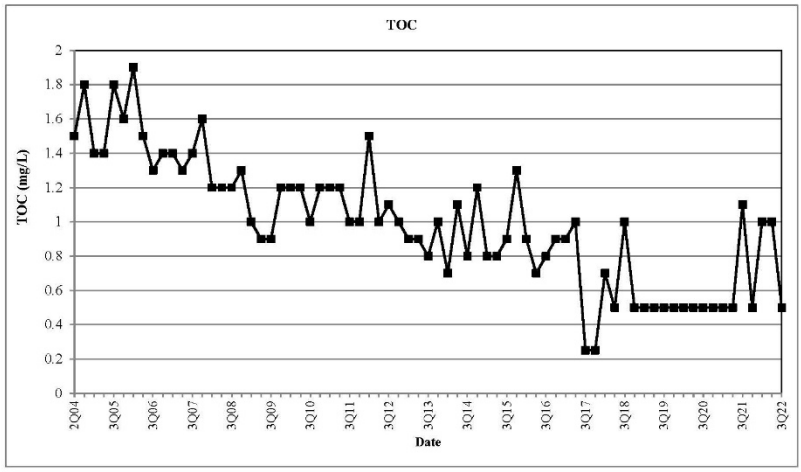




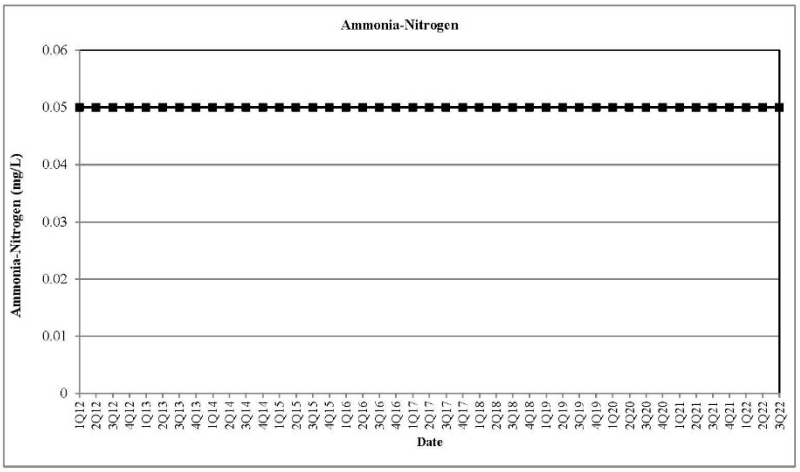
Chrin Brothers Sanitary Landfill
Monitoring Well DM-10

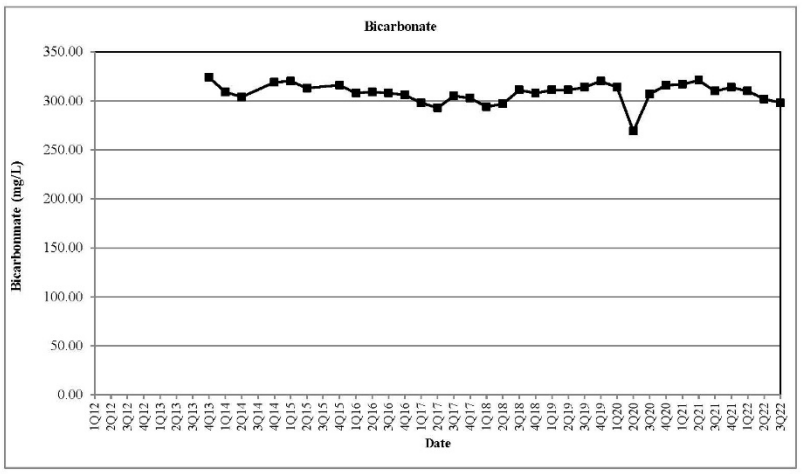


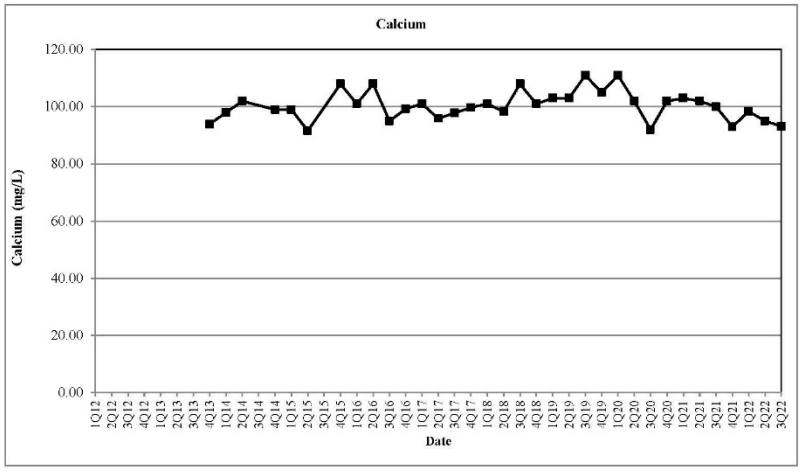




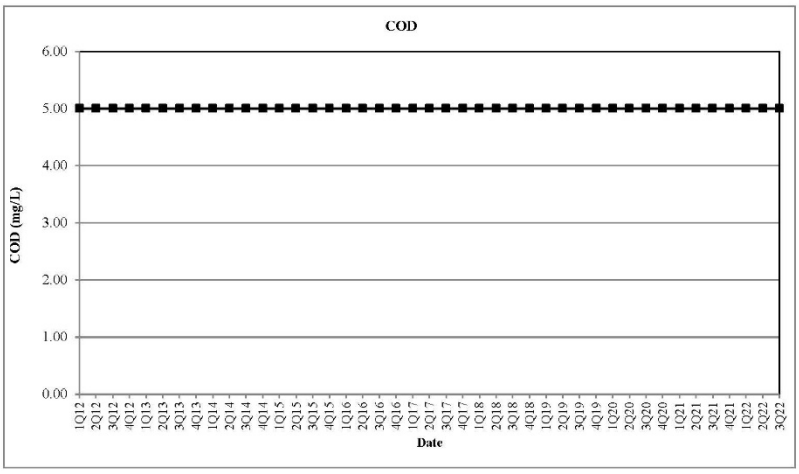
Chrin Brothers Sanitary Landfill
Monitoring Well DM-11

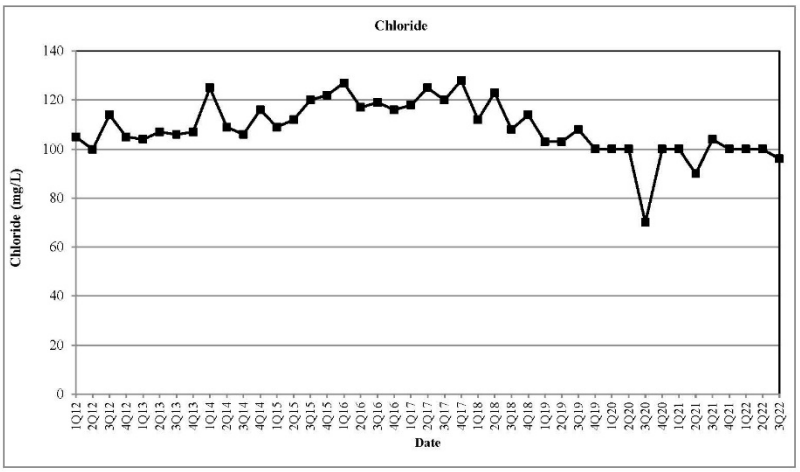


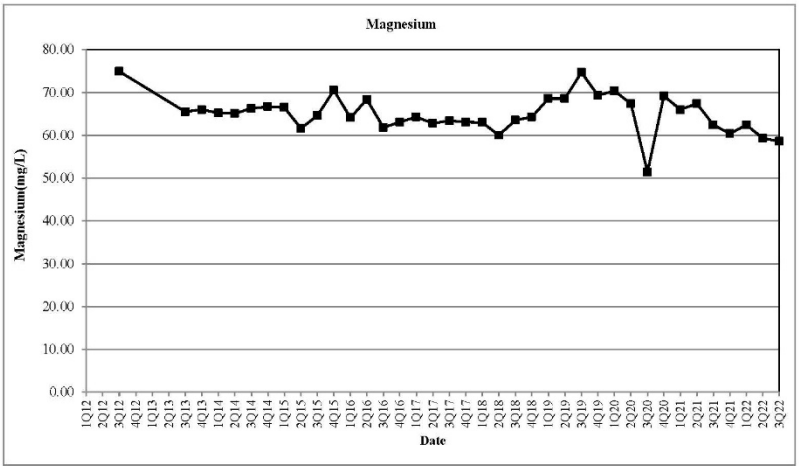




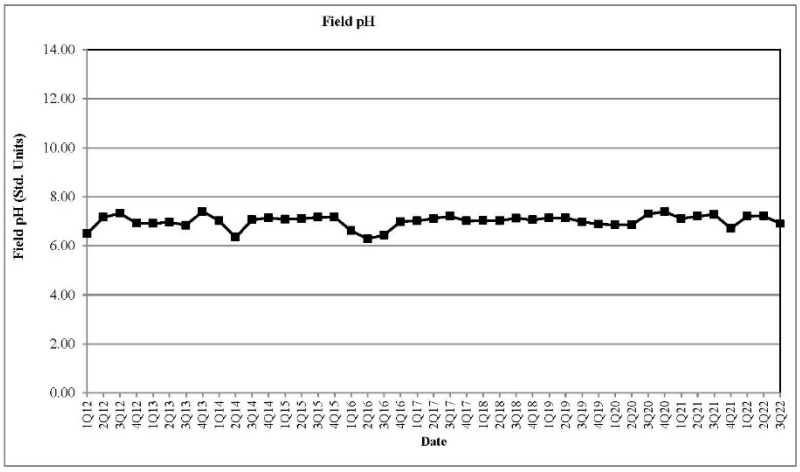
Chrin Brothers Sanitary Landfill
Monitoring Well DM-11

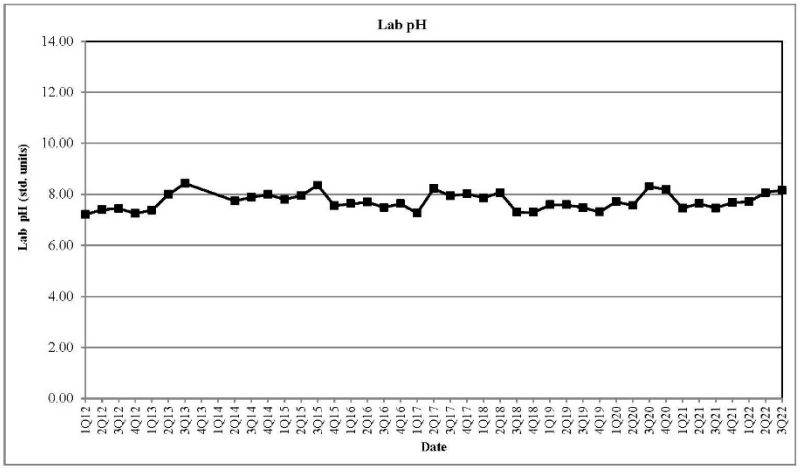


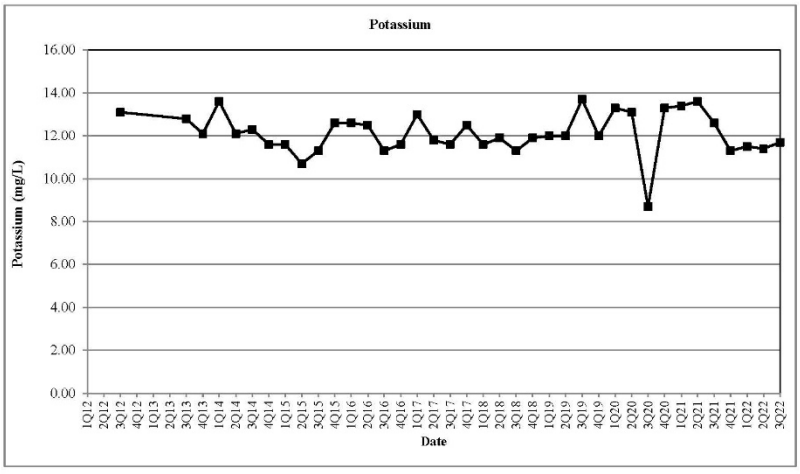




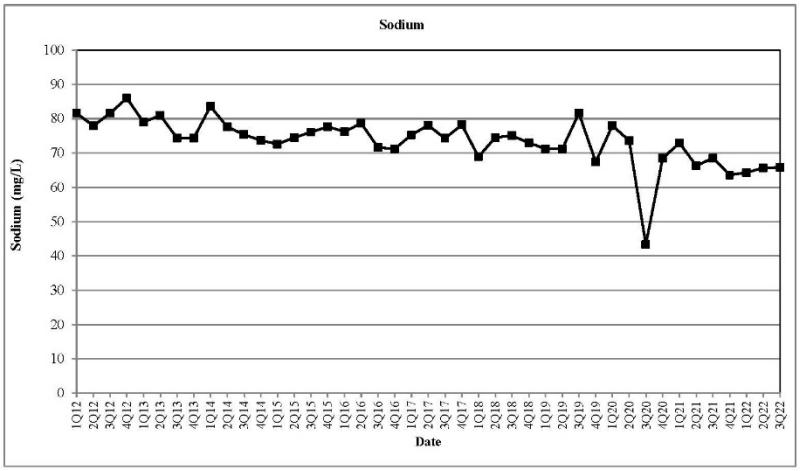
Chrin Brothers Sanitary Landfill
Monitoring Well DM-11

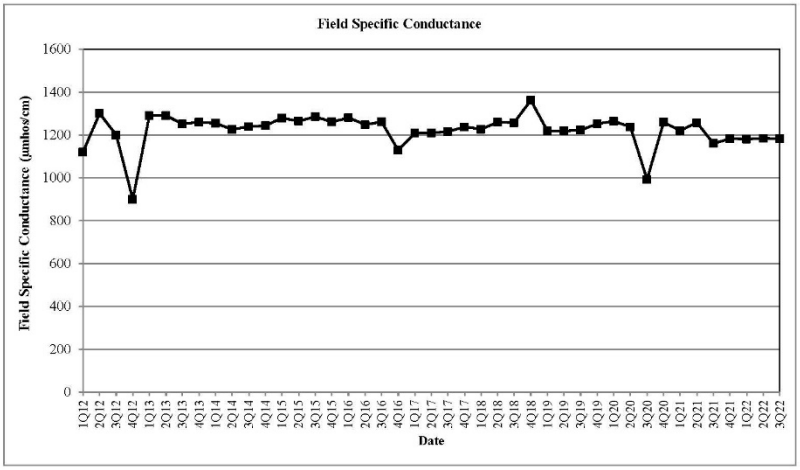


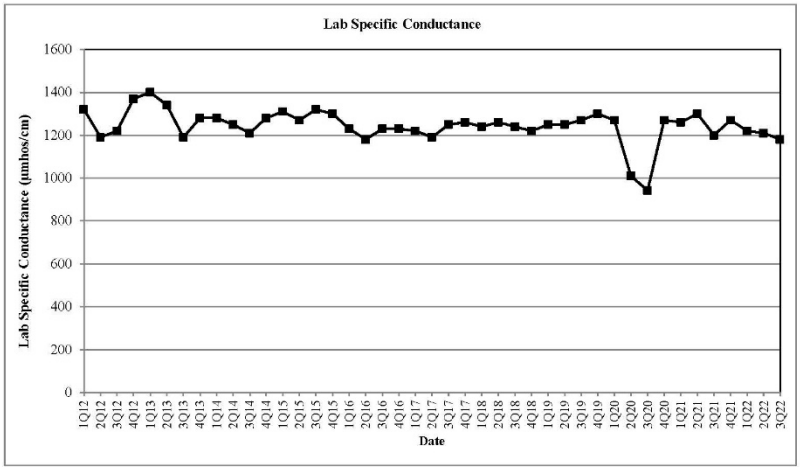




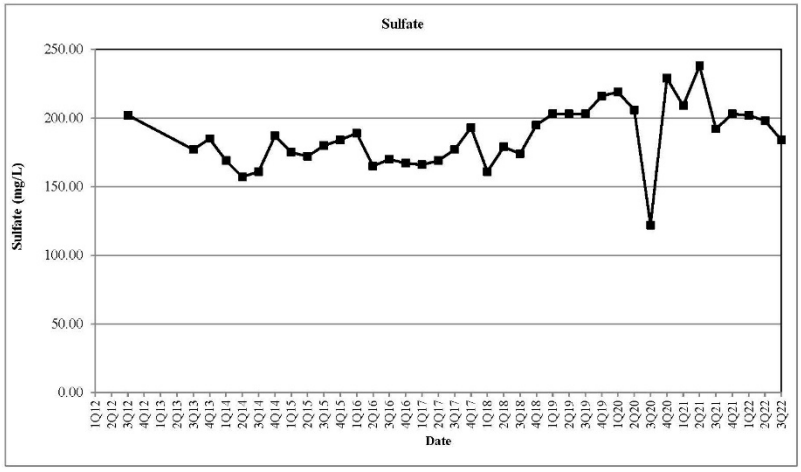
Chrin Brothers Sanitary Landfill
Monitoring Well DM-11

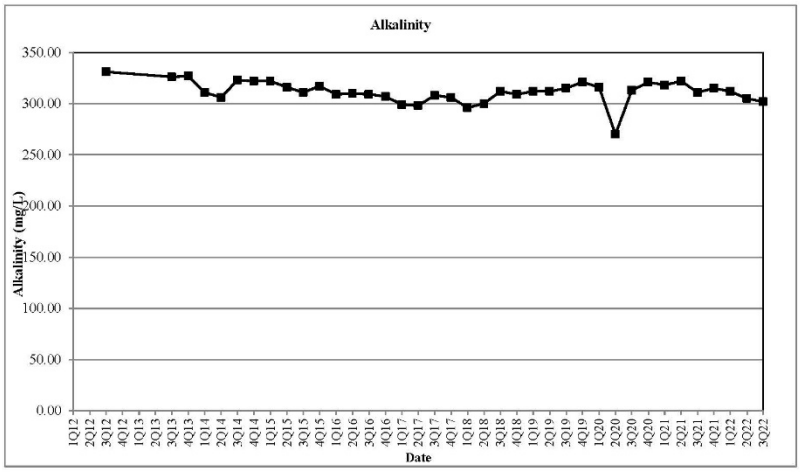


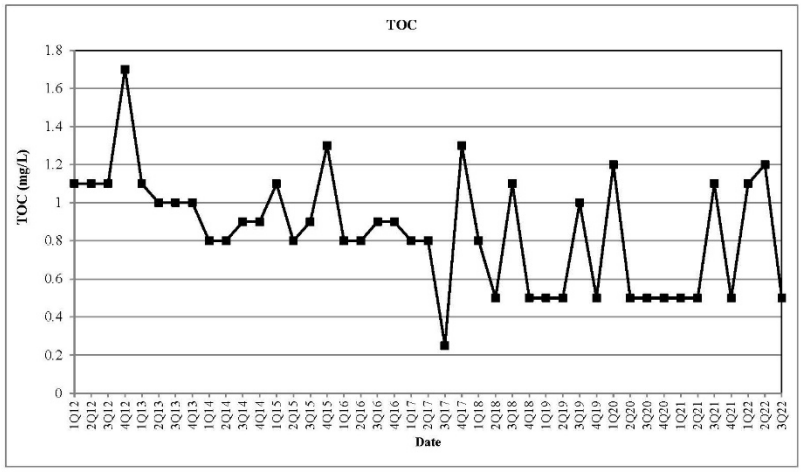




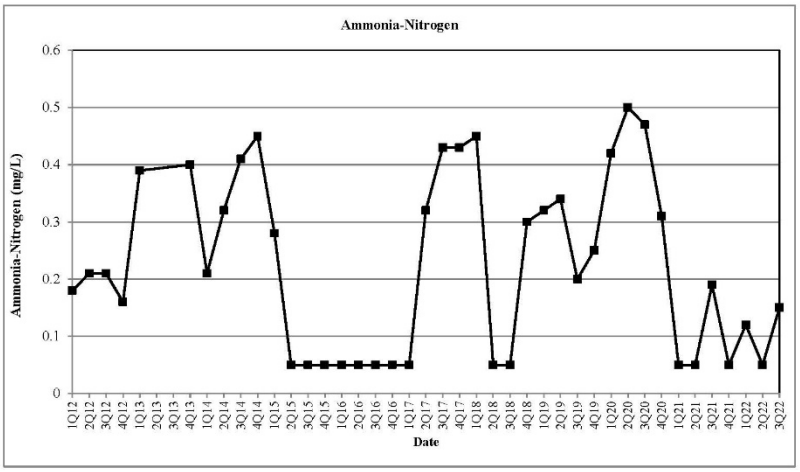
Chrin Brothers Sanitary Landfill
Monitoring Well DM-11

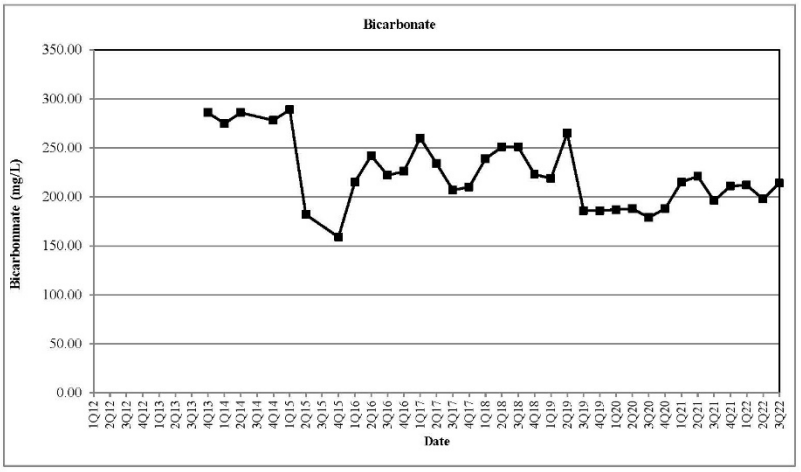


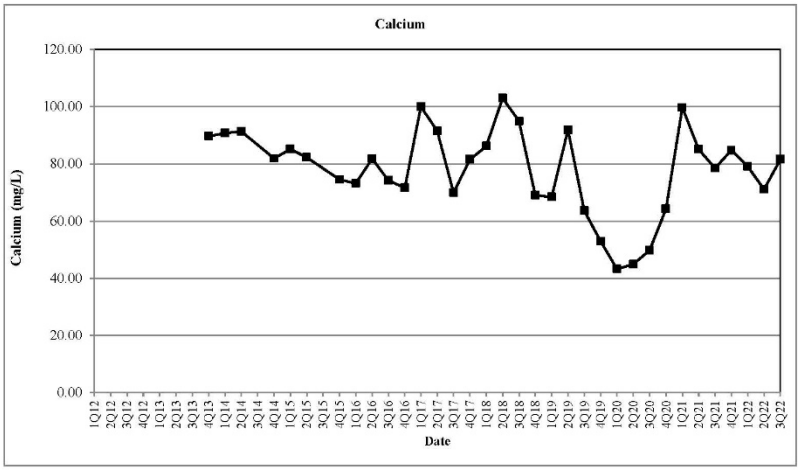




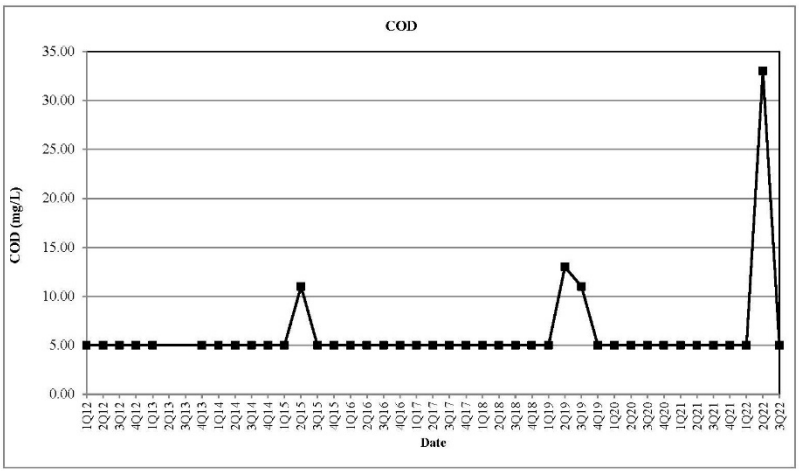
Chrin Brothers Sanitary Landfill
Monitoring Well MW-1

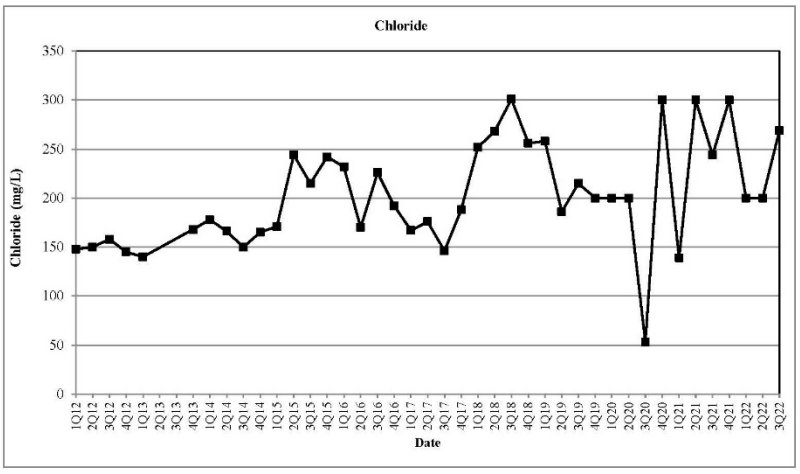


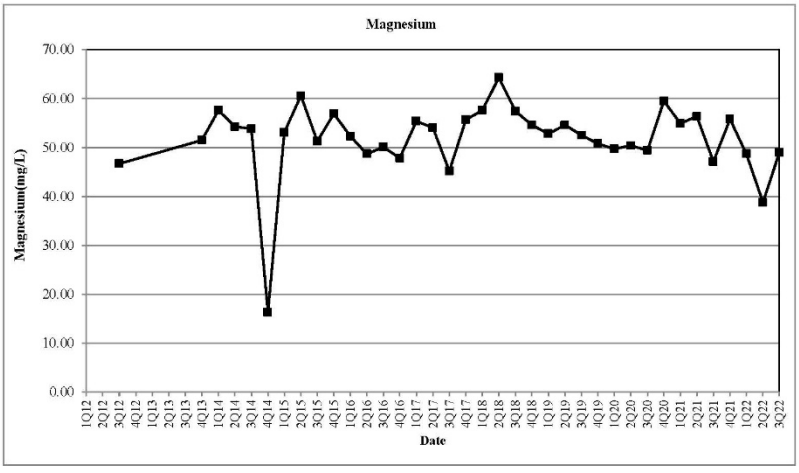




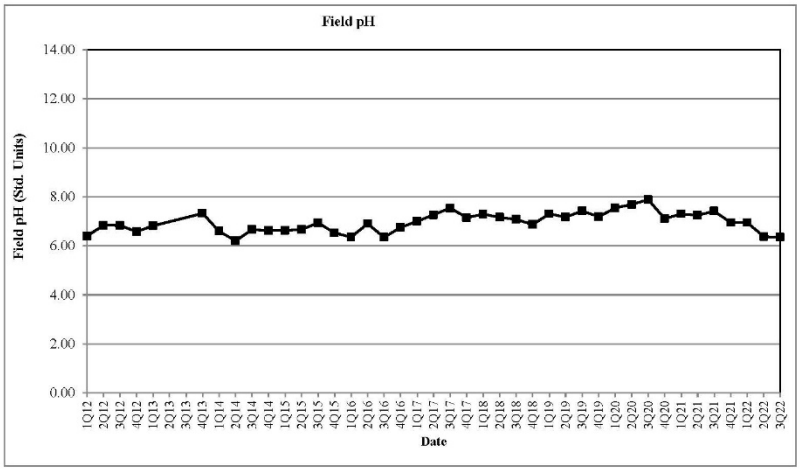
Chrin Brothers Sanitary Landfill
Monitoring Well MW-1

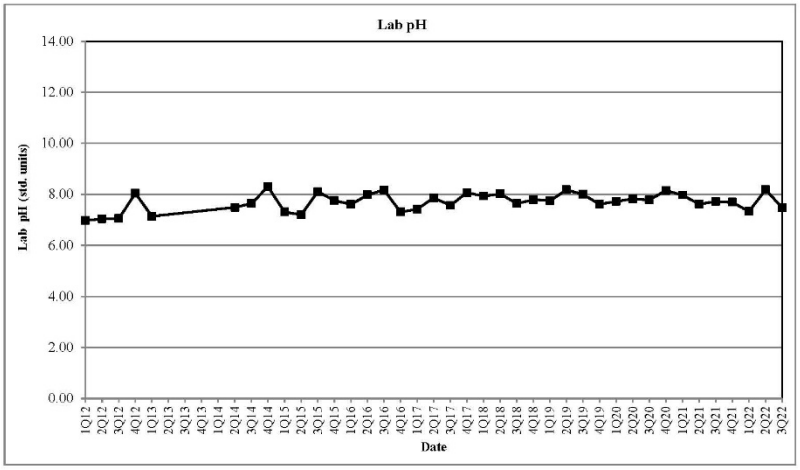


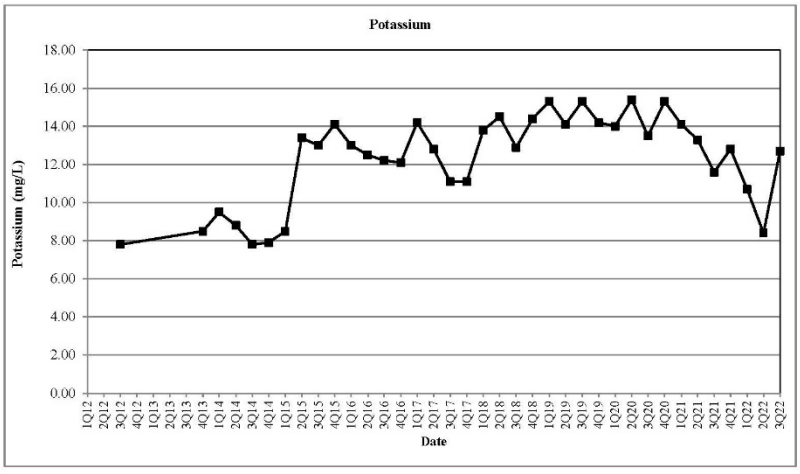




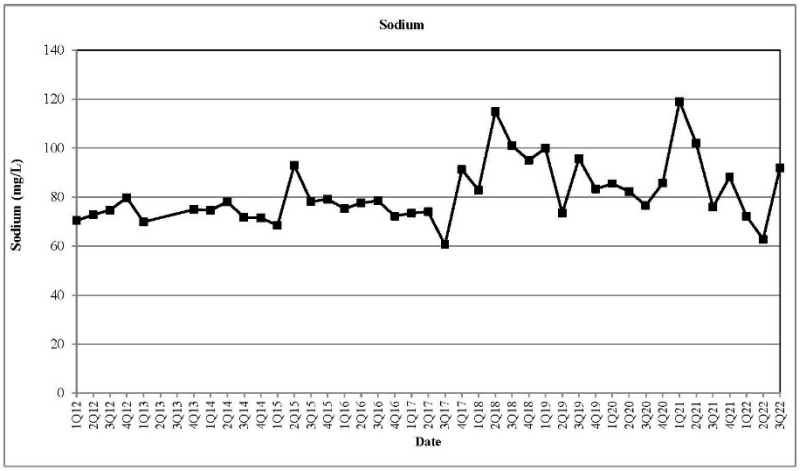
Chrin Brothers Sanitary Landfill
Monitoring Well MW-1

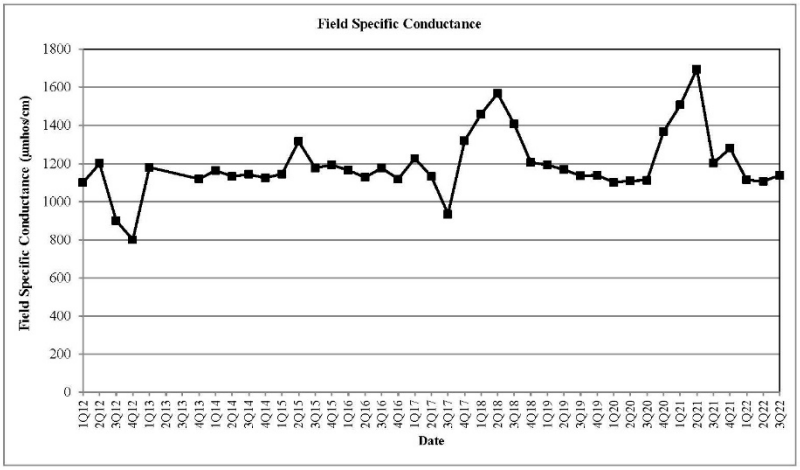


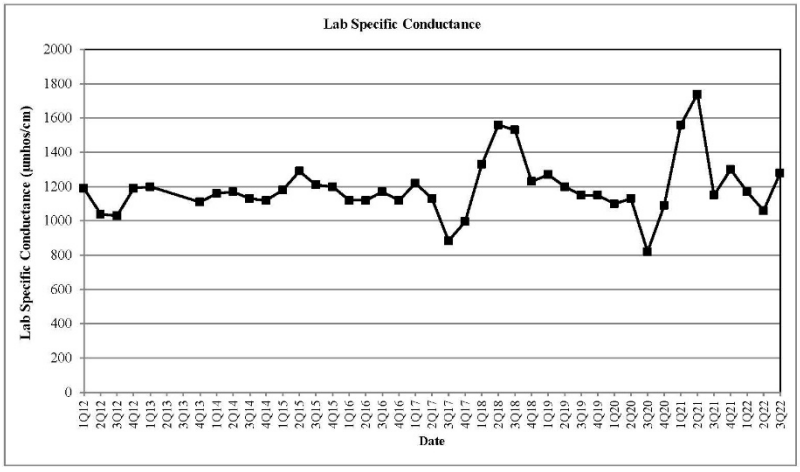




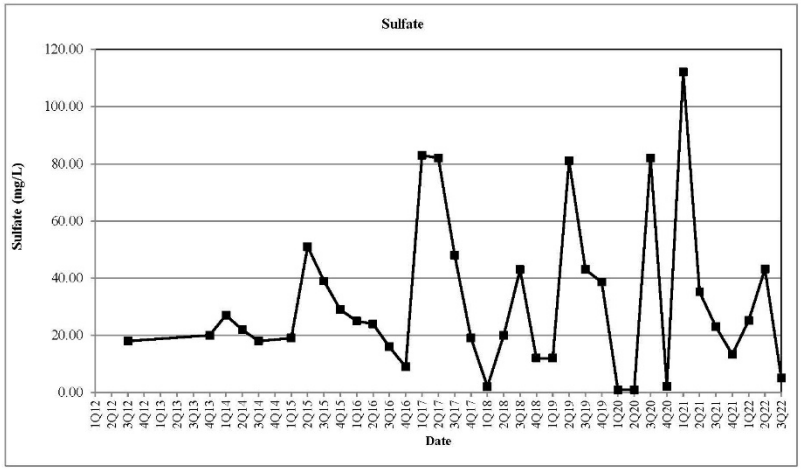
Chrin Brothers Sanitary Landfill
Monitoring Well MW-1

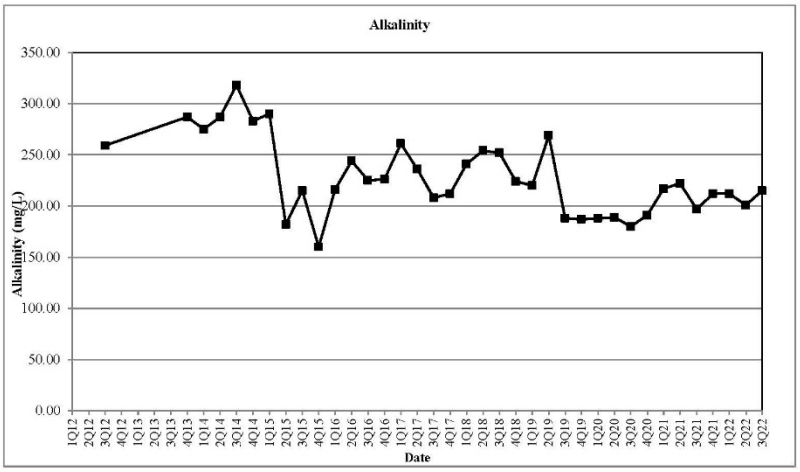


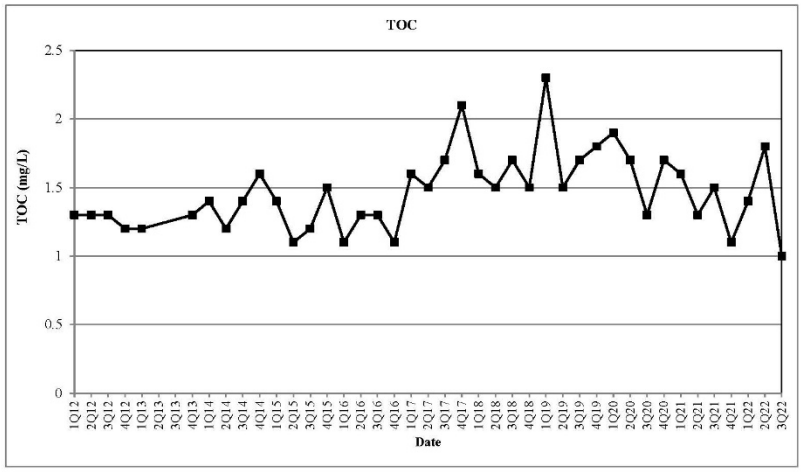




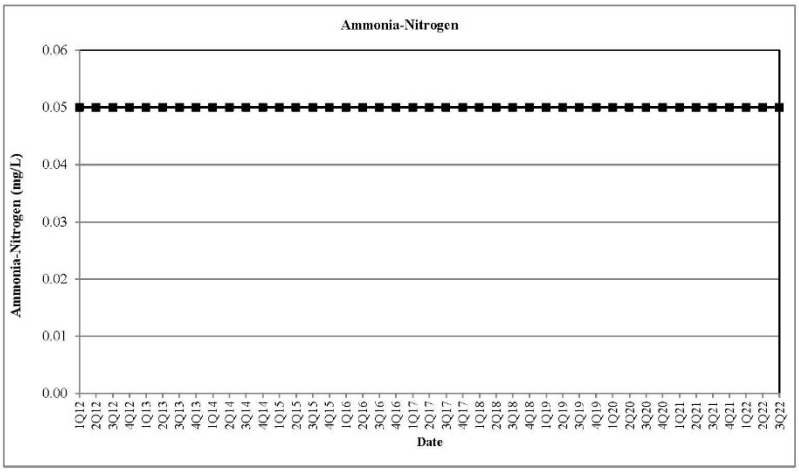
Chrin Brothers Sanitary Landfill
Monitoring Well MW-1

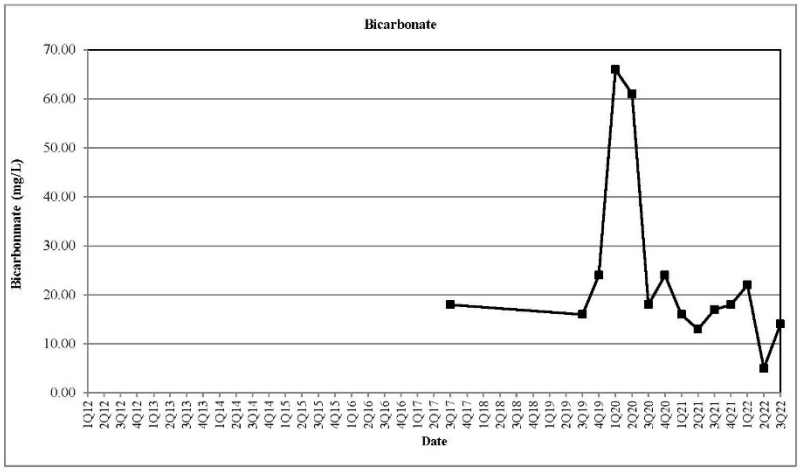


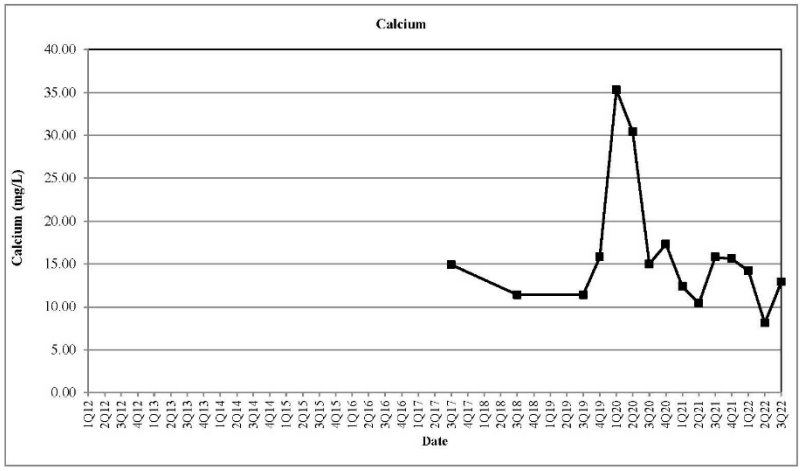




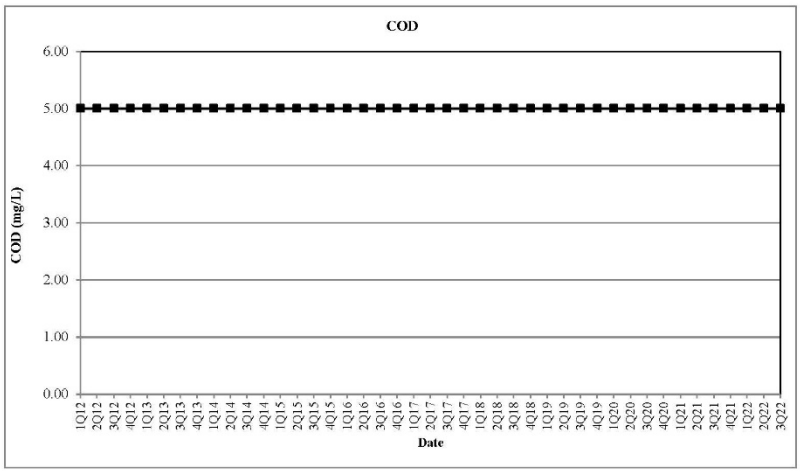
Chrin Brothers Sanitary Landfill
Monitoring Well MW-2

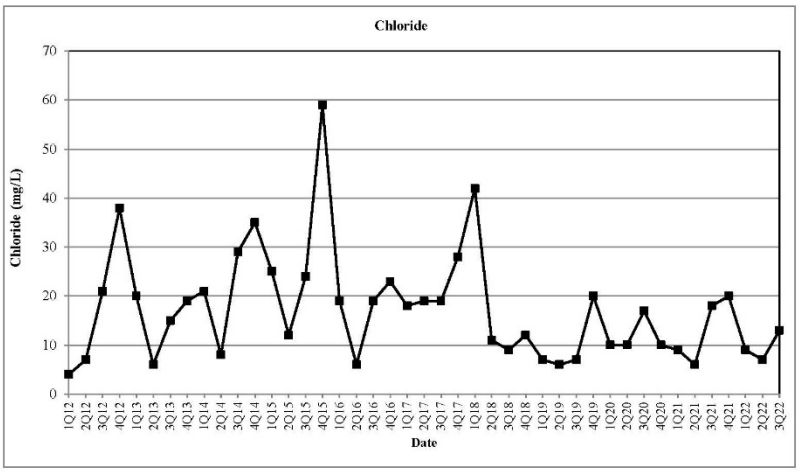


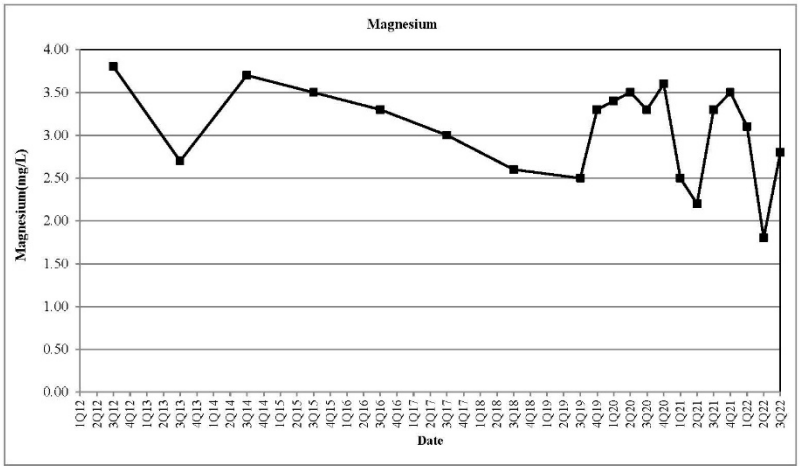




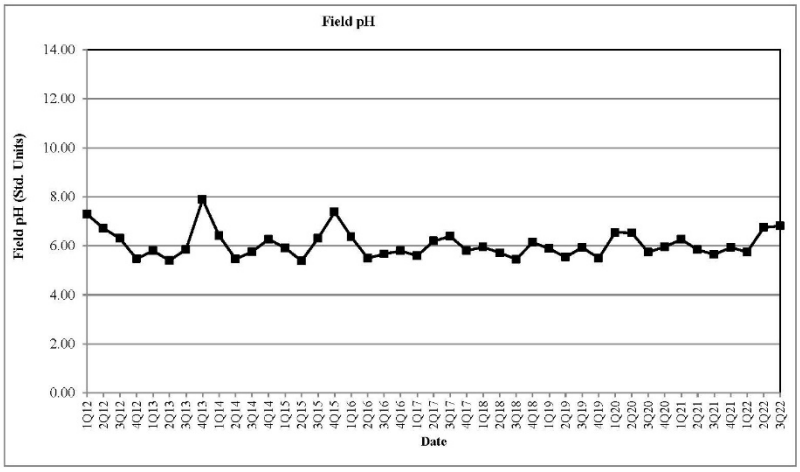
Chrin Brothers Sanitary Landfill
Monitoring Well MW-2

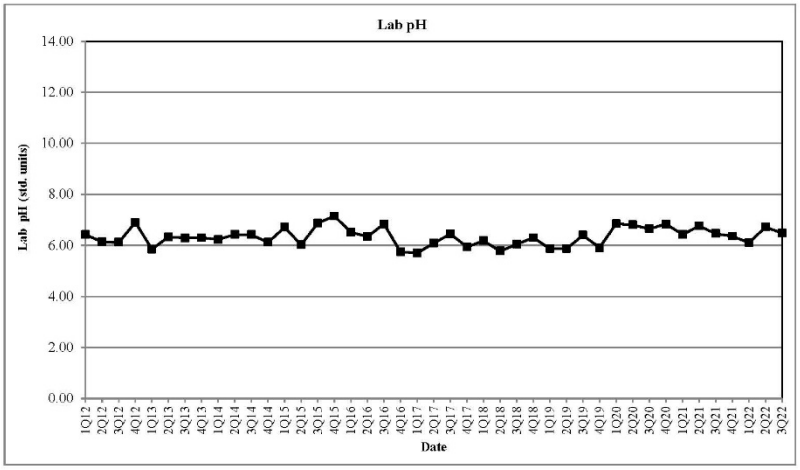


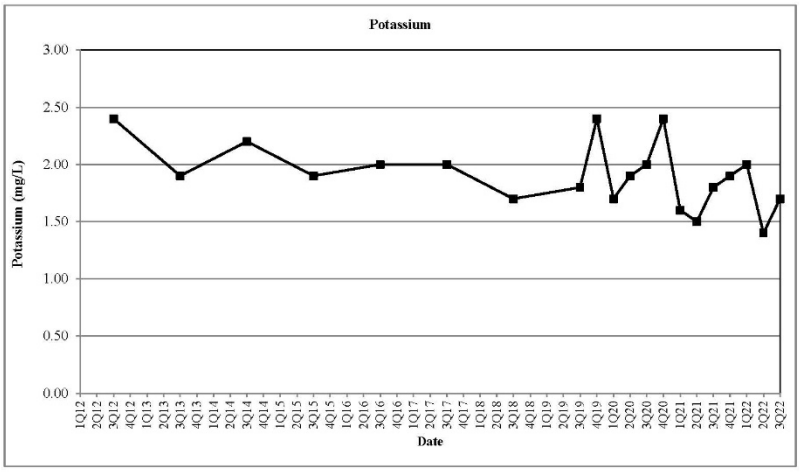




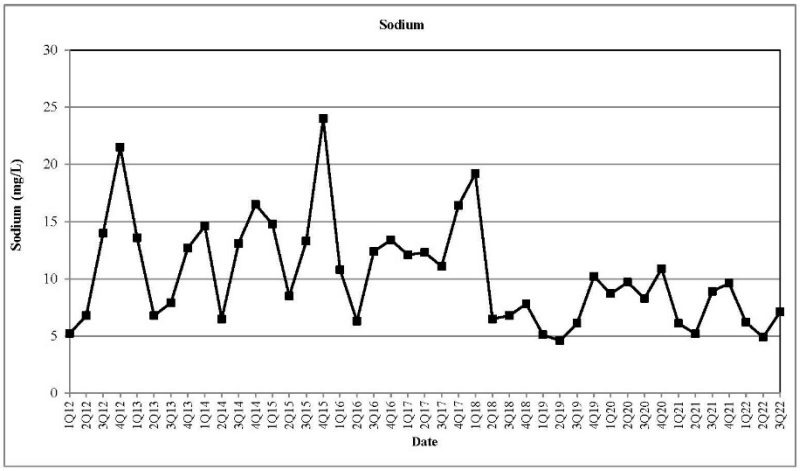
Chrin Brothers Sanitary Landfill
Monitoring Well MW-2

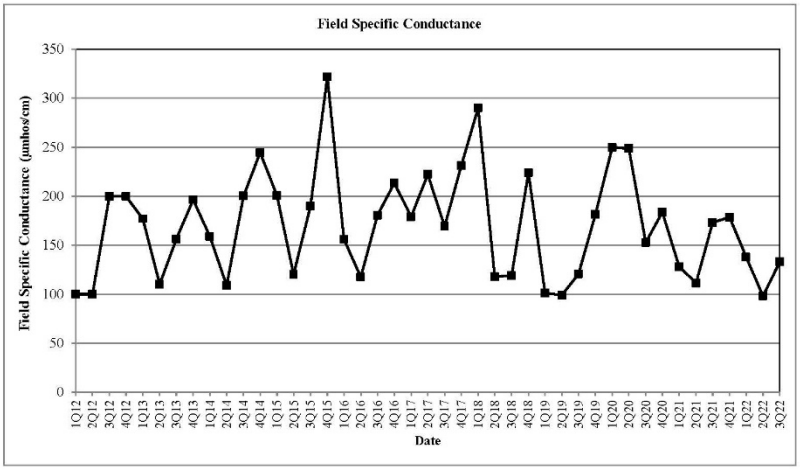


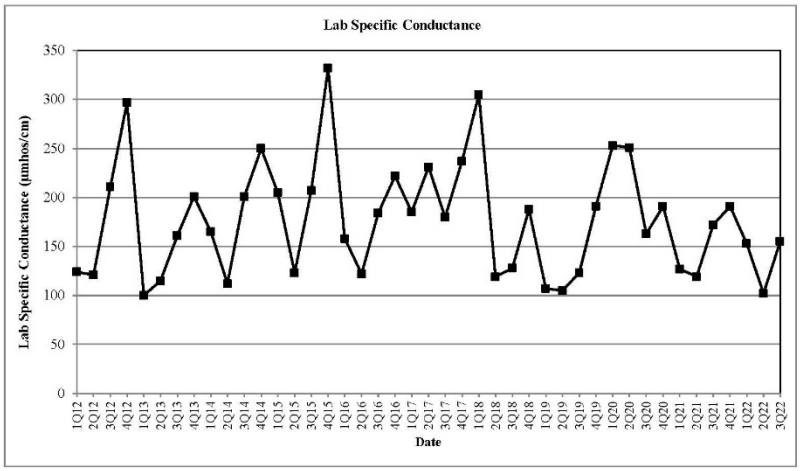




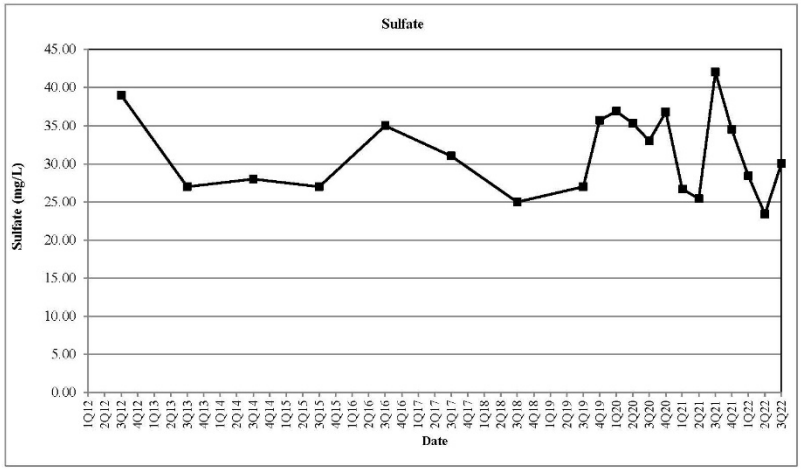
Chrin Brothers Sanitary Landfill
Monitoring Well MW-2

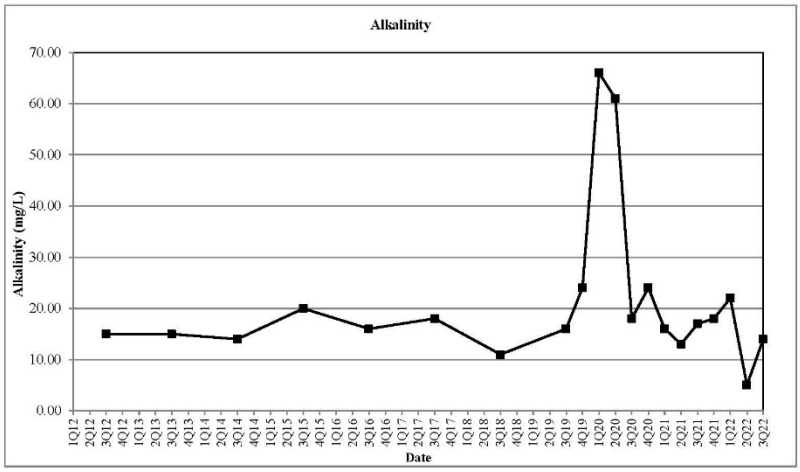


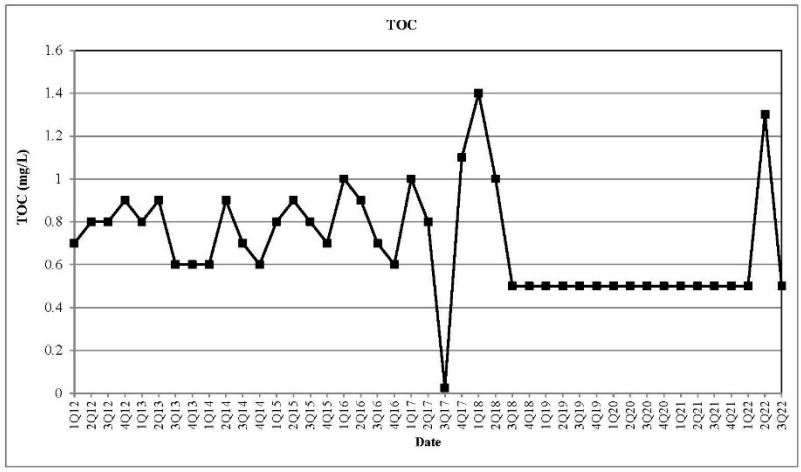




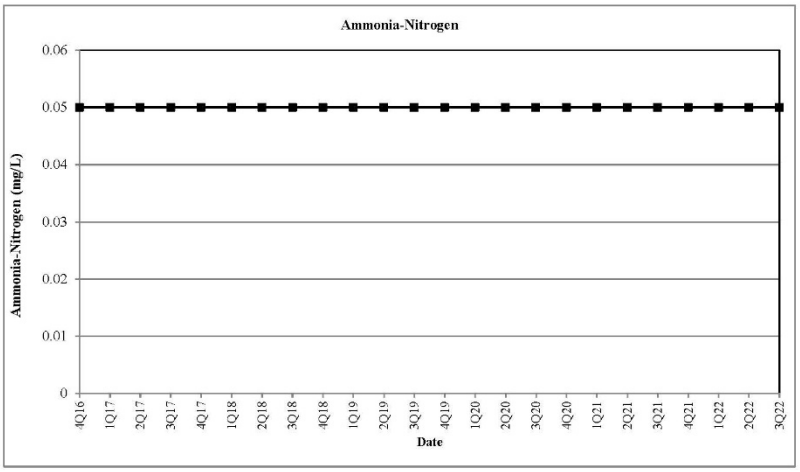
Chrin Brothers Sanitary Landfill
Monitoring Well MW-2

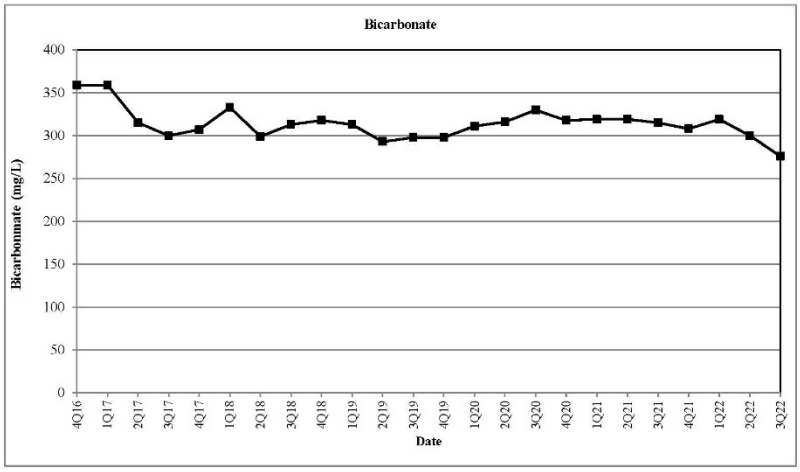


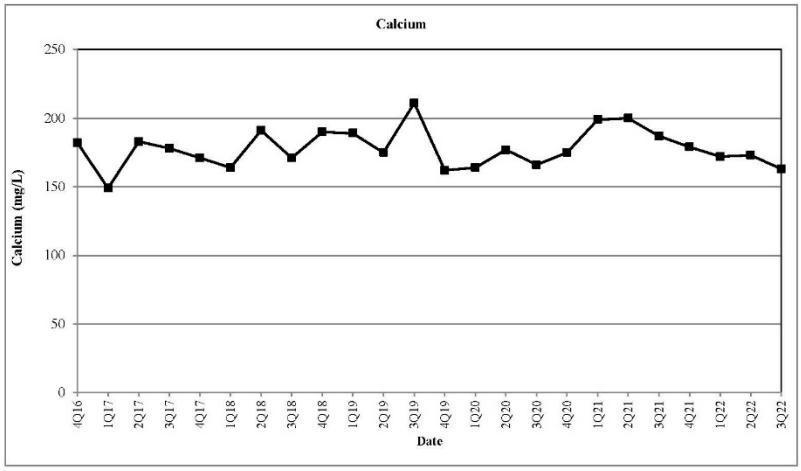




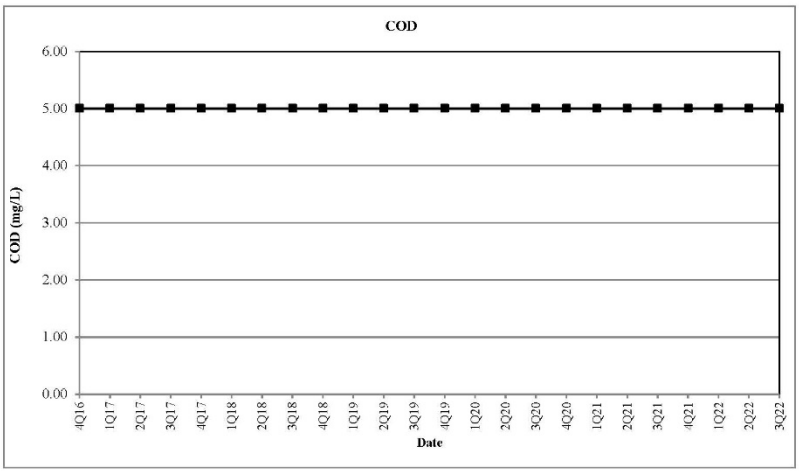
Chrin Brothers Sanitary Landfill
Monitoring Well MW-3M

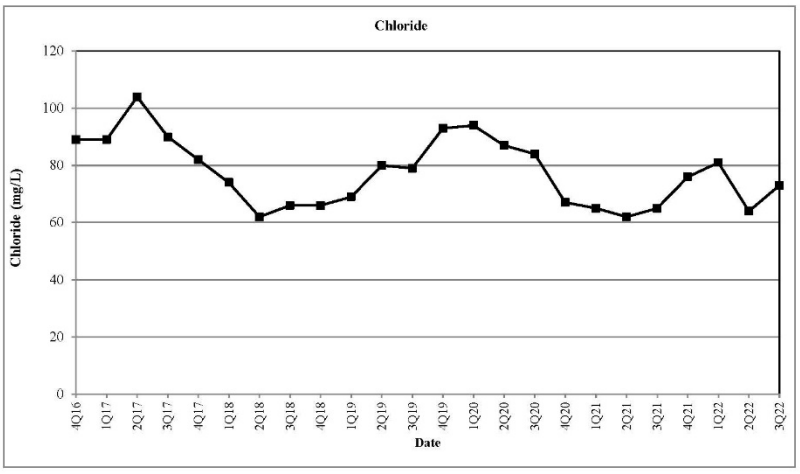


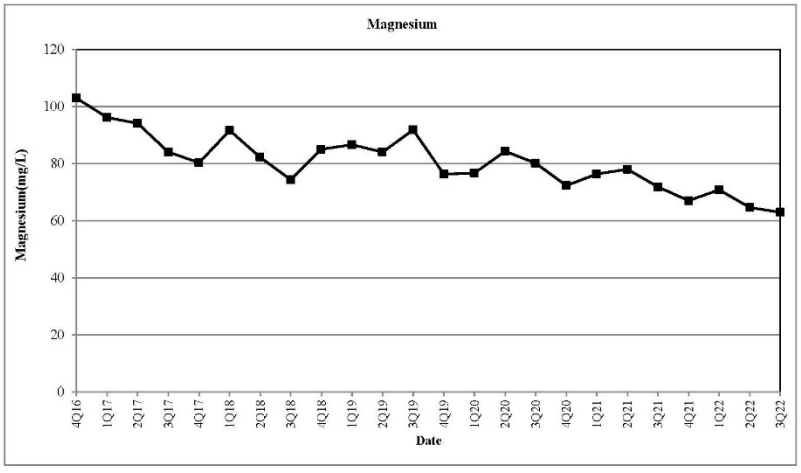




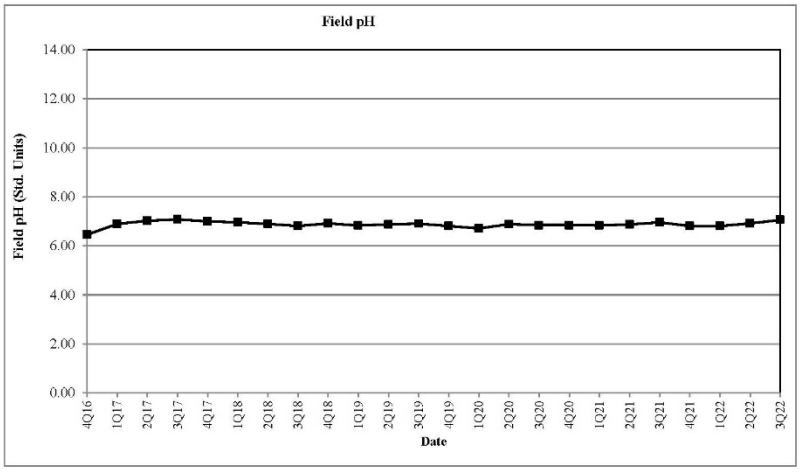
Chrin Brothers Sanitary Landfill
Monitoring Well MW-3M

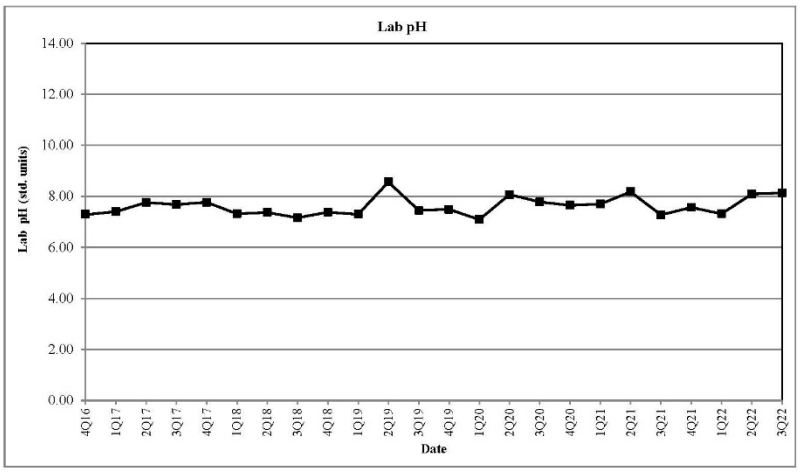


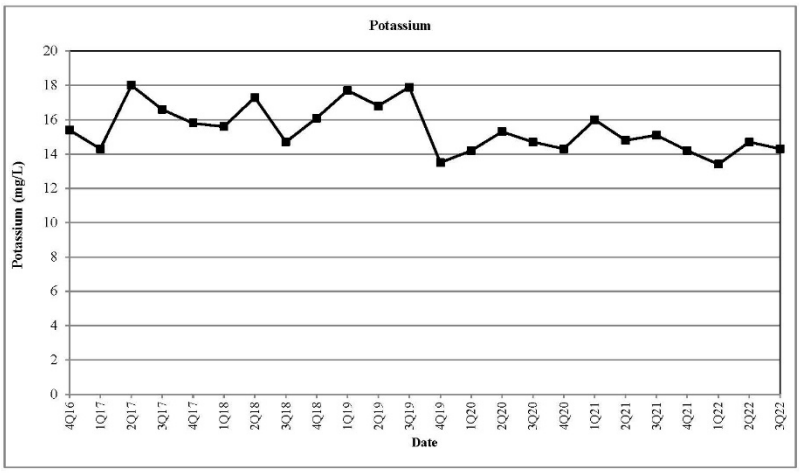




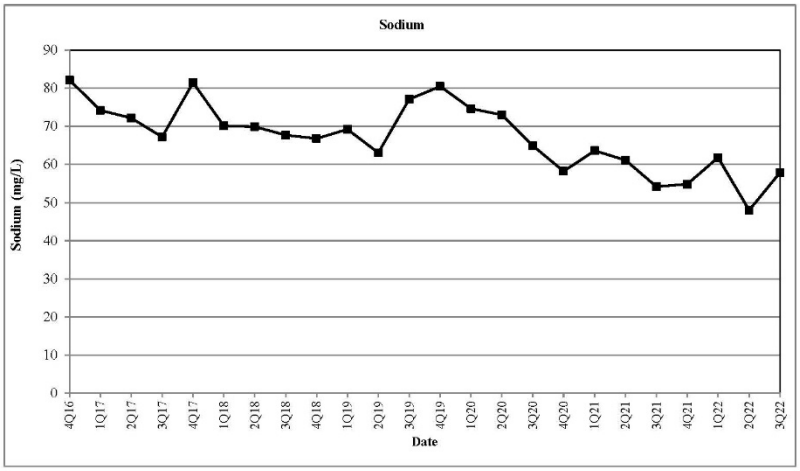
Chrin Brothers Sanitary Landfill
Monitoring Well MW-3M

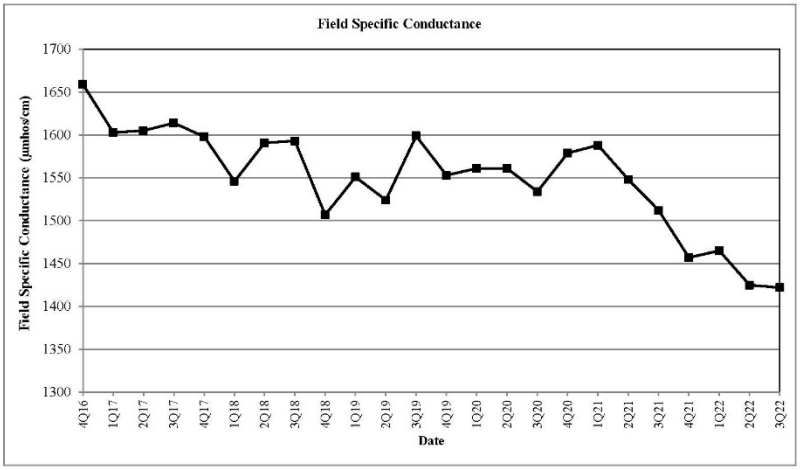


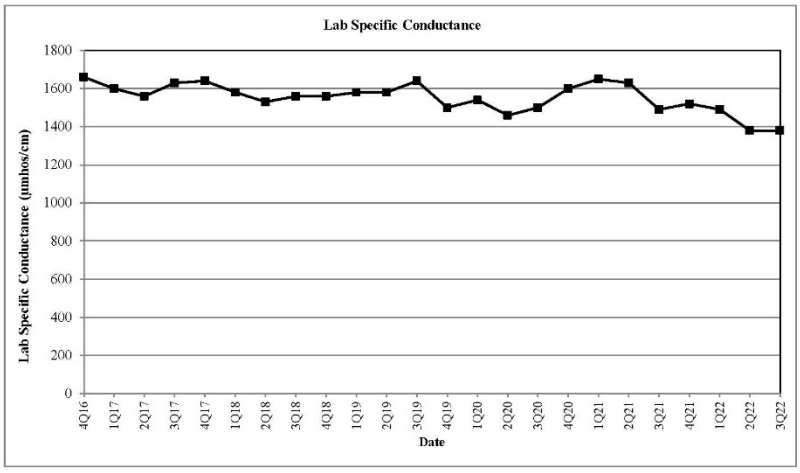




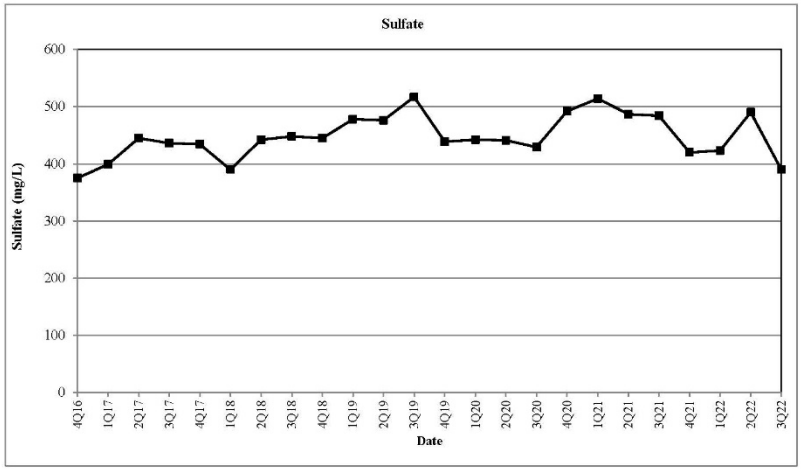
Chrin Brothers Sanitary Landfill
Monitoring Well MW-3M

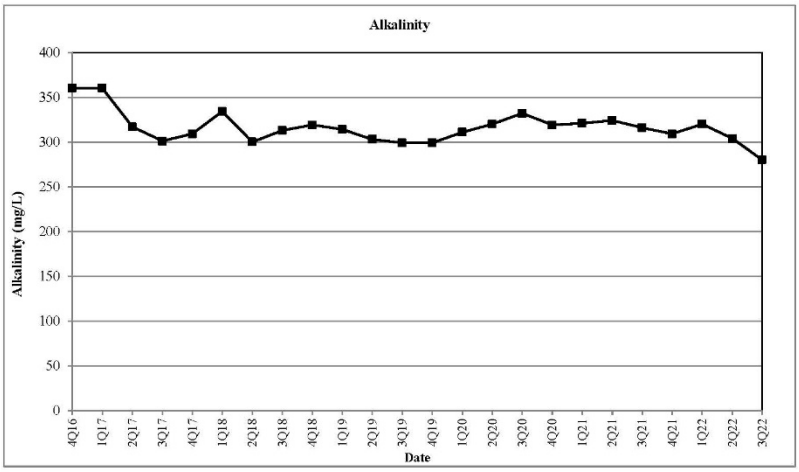


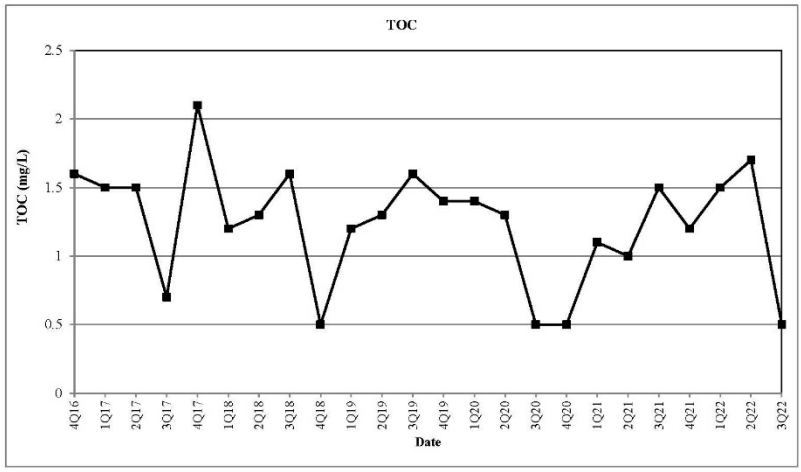




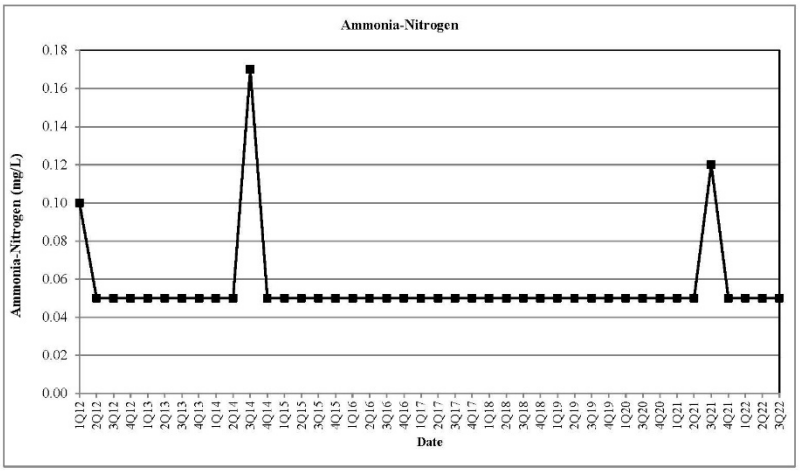
Chrin Brothers Sanitary Landfill
Monitoring Well MW-3M

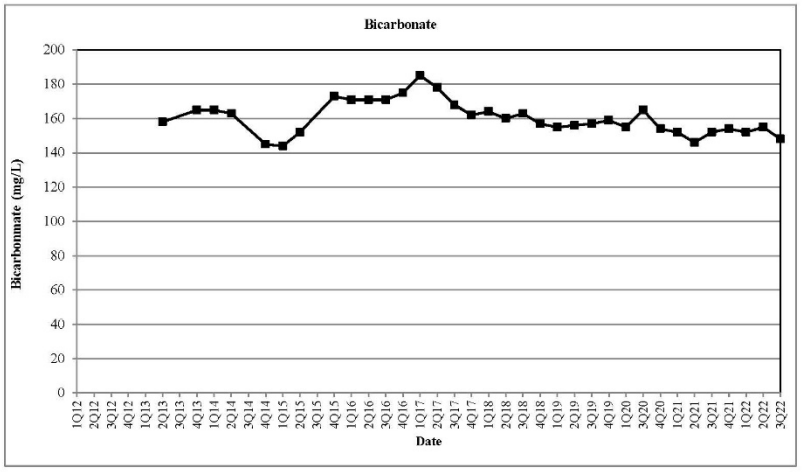


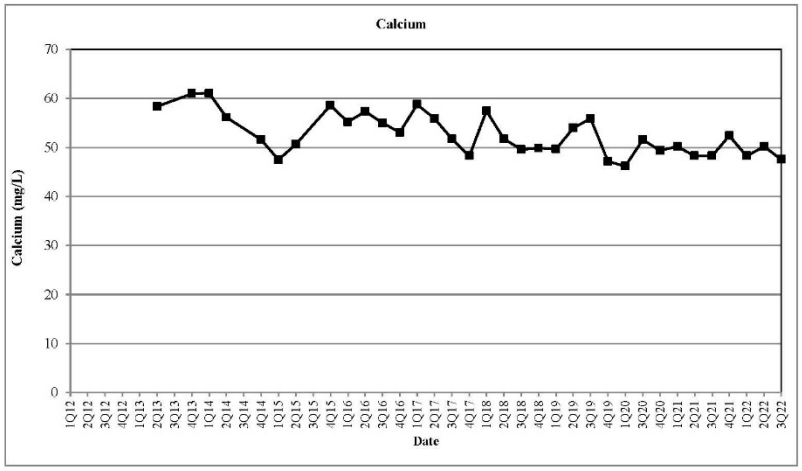




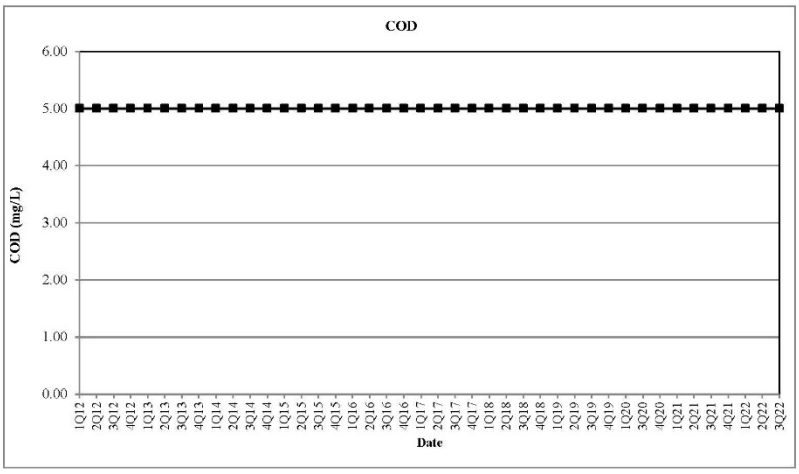
Chrin Brothers Sanitary Landfill
Monitoring Well MW-9

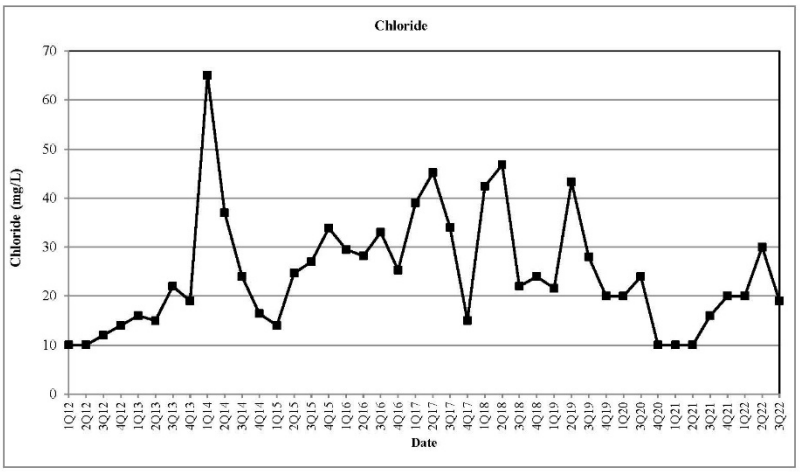


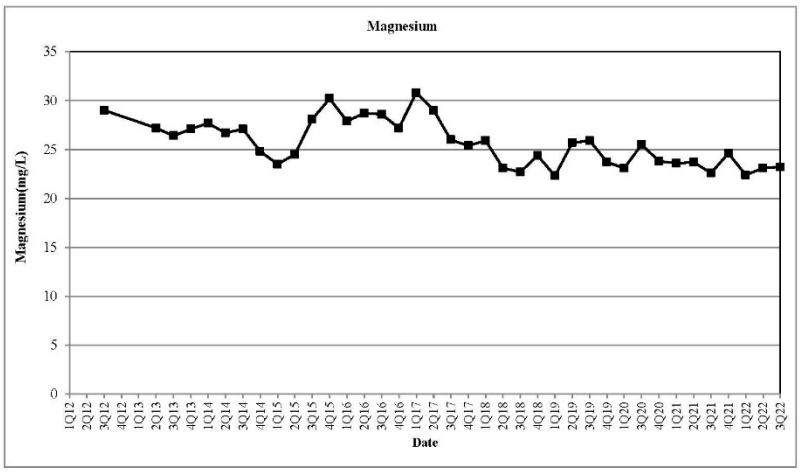




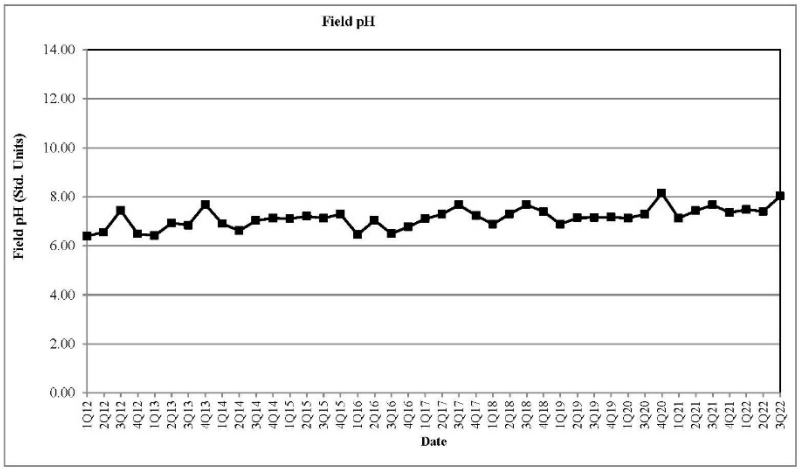
Chrin Brothers Sanitary Landfill
Monitoring Well MW-9

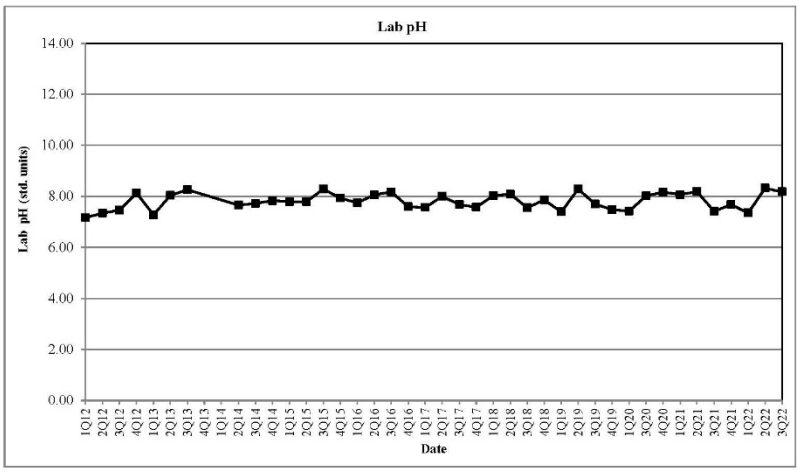


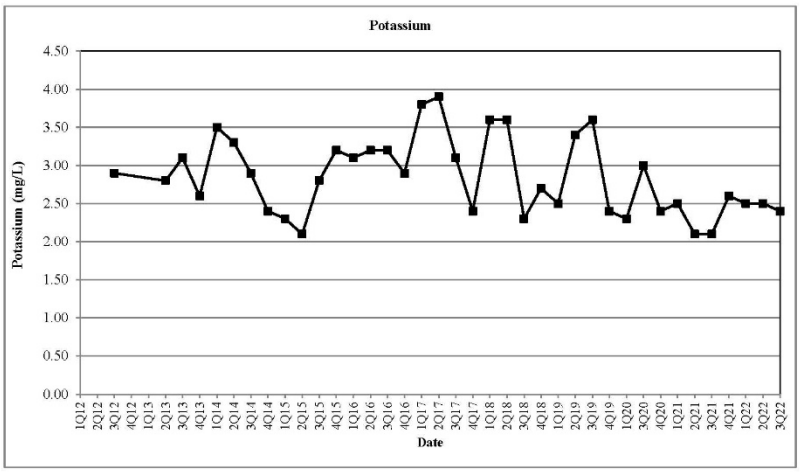




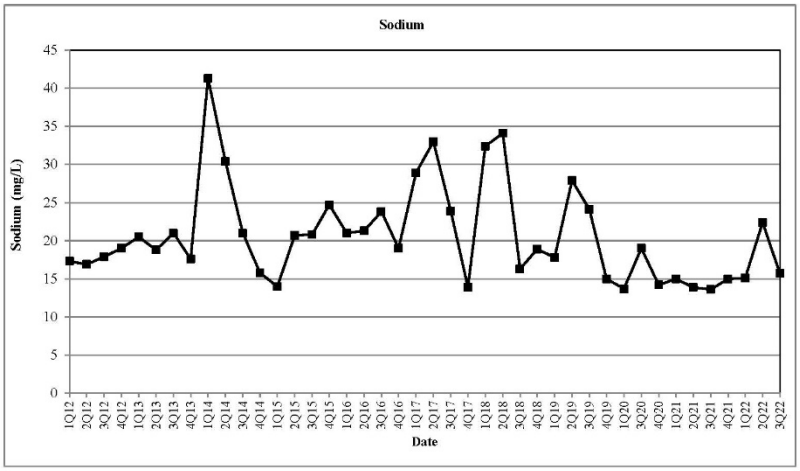
Chrin Brothers Sanitary Landfill
Monitoring Well MW-9

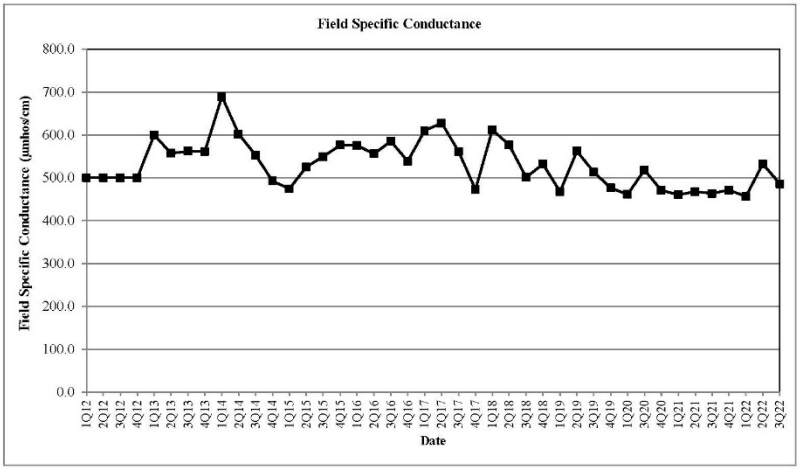


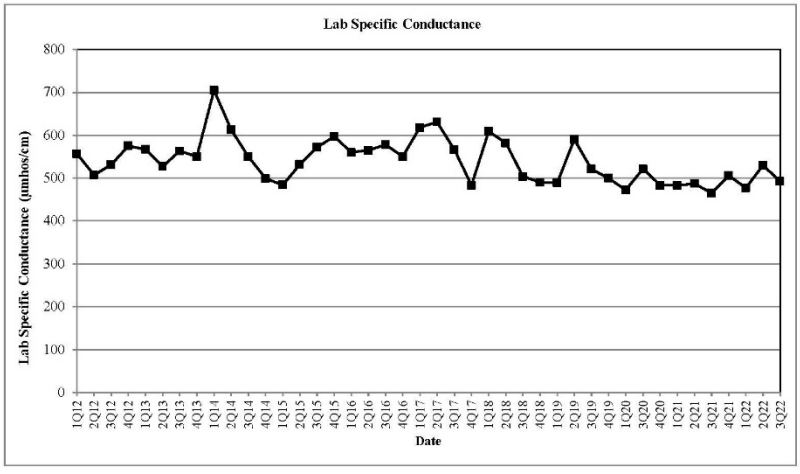




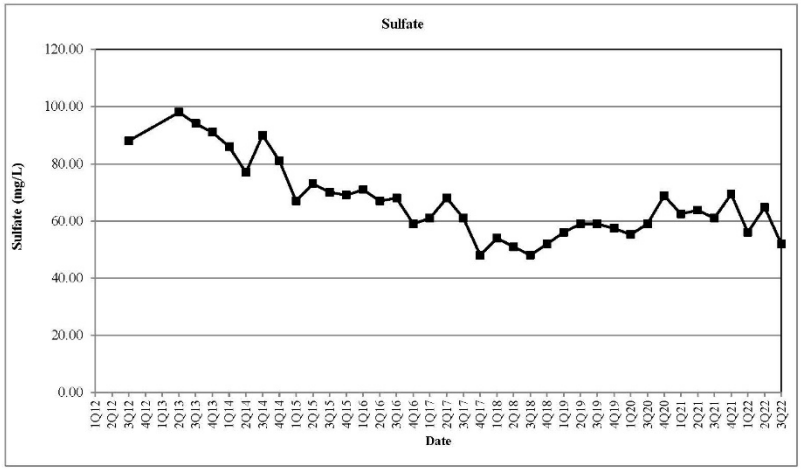
Chrin Brothers Sanitary Landfill
Monitoring Well MW-9

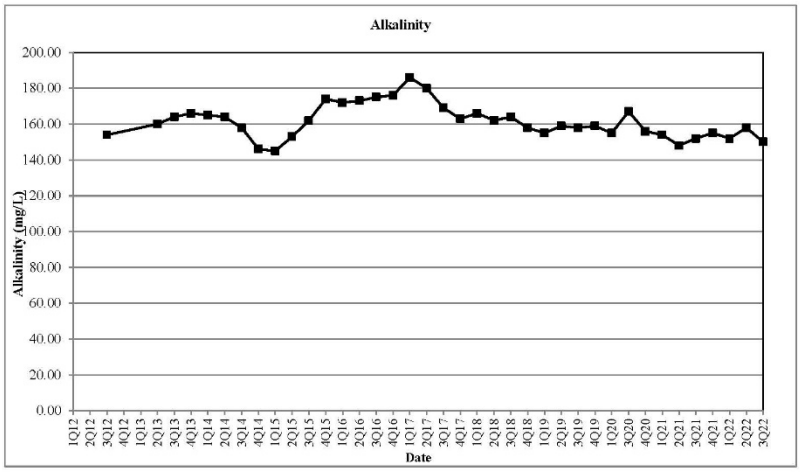


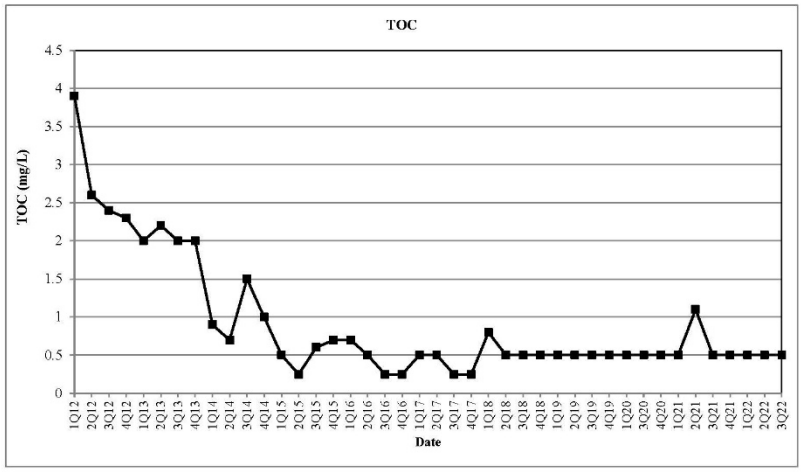




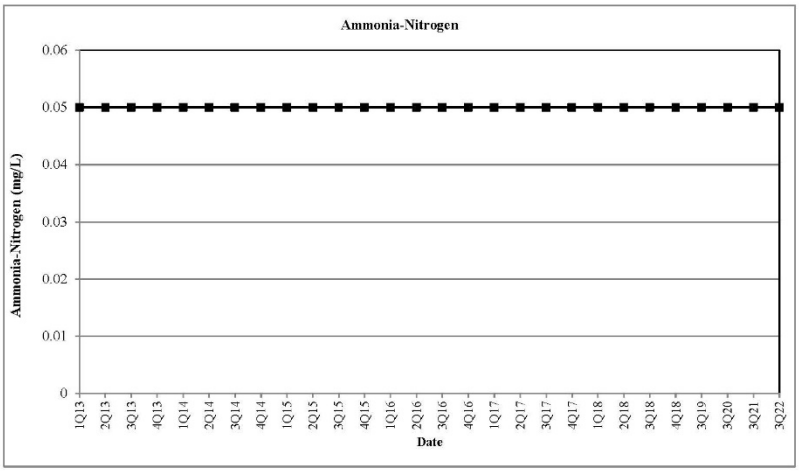
Chrin Brothers Sanitary Landfill
Monitoring Well MW-9

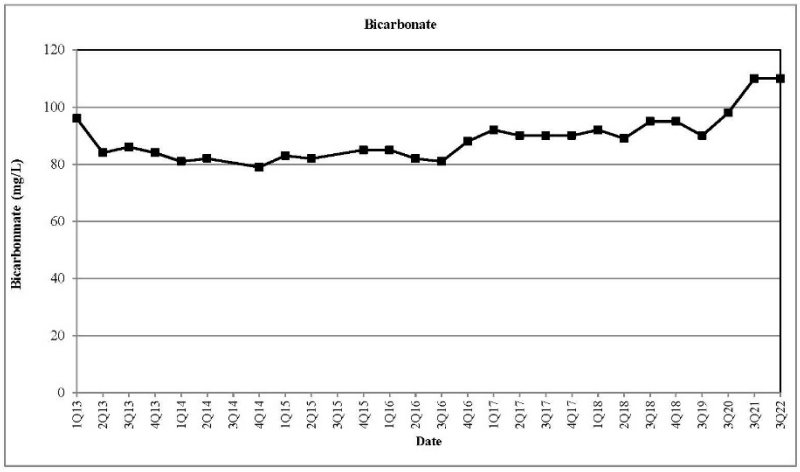


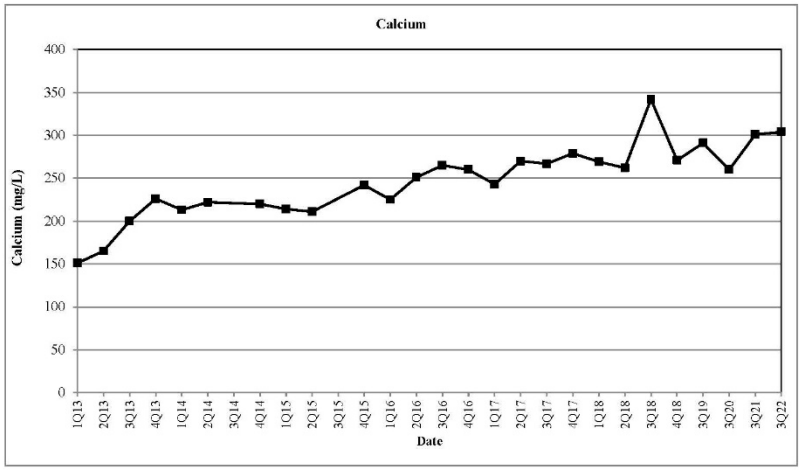




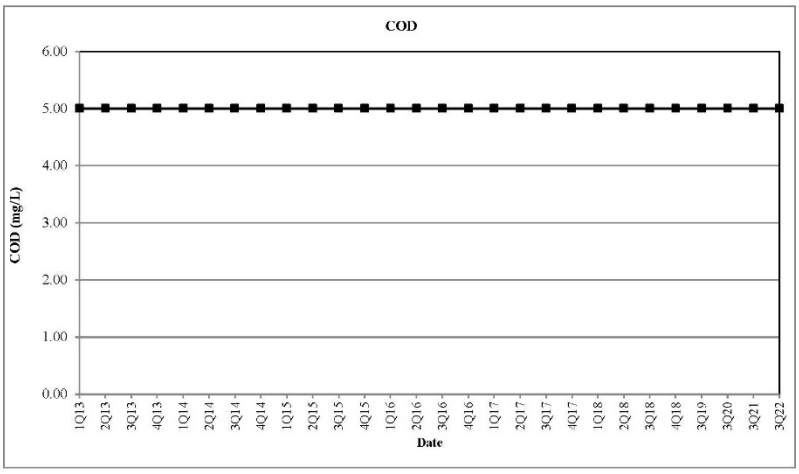
Chrin Brothers Sanitary Landfill
Monitoring Well MW-10R

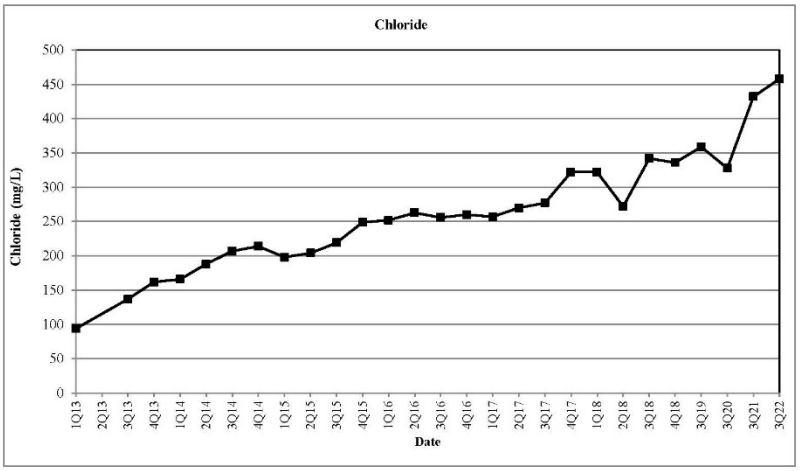


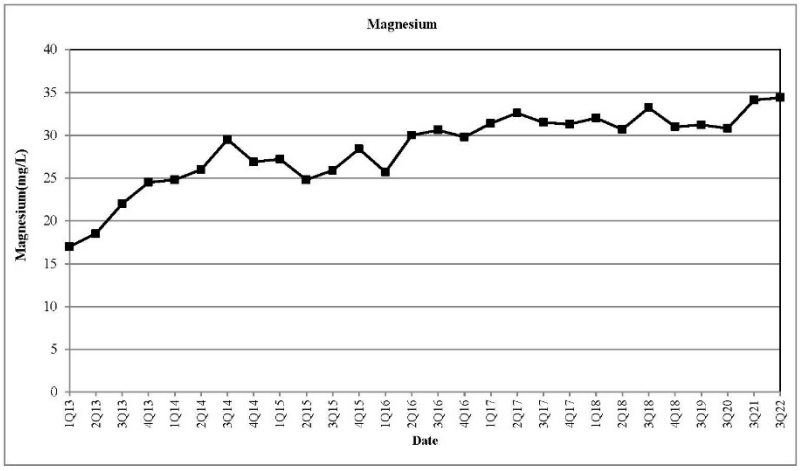




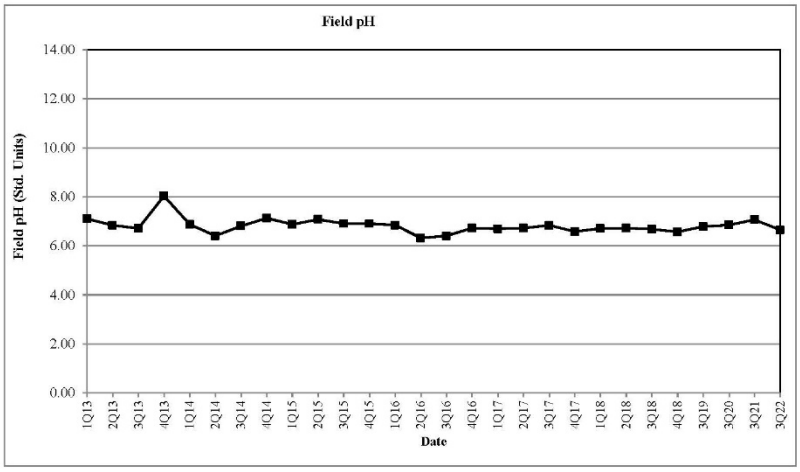
Chrin Brothers Sanitary Landfill
Monitoring Well MW-10R

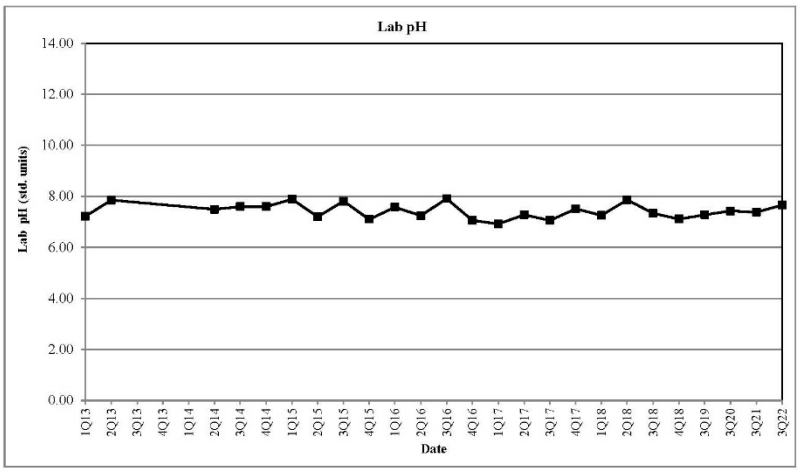


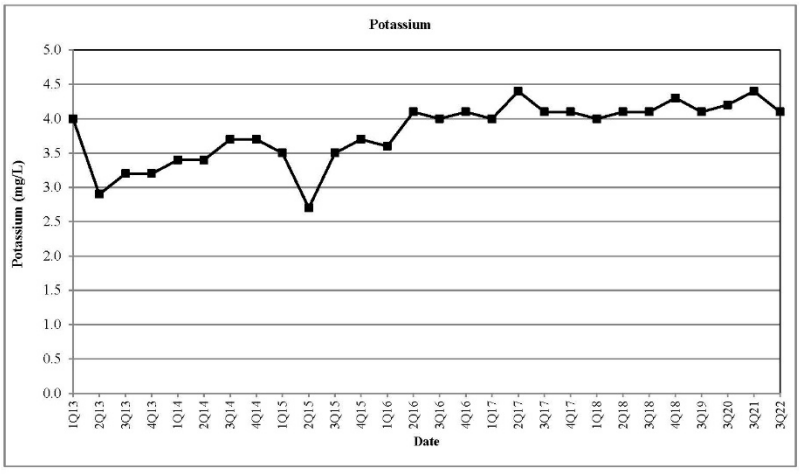




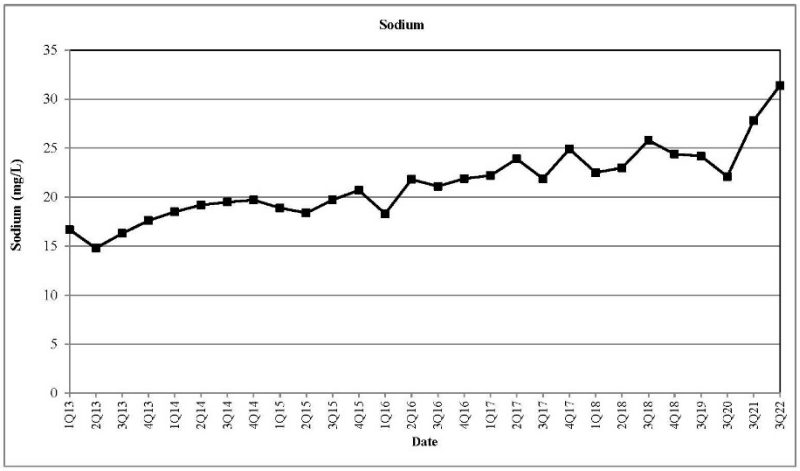
Chrin Brothers Sanitary Landfill
Monitoring Well MW-10R

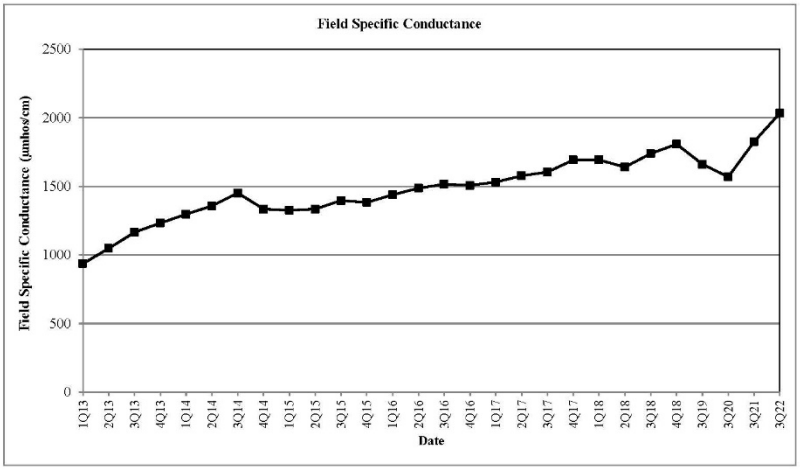


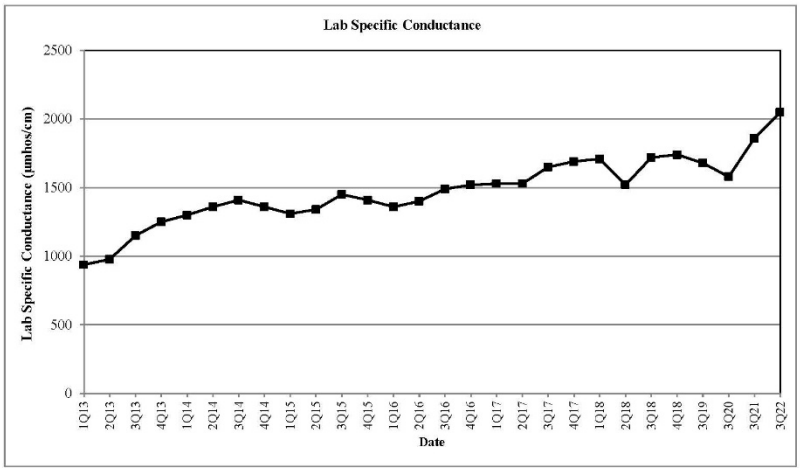




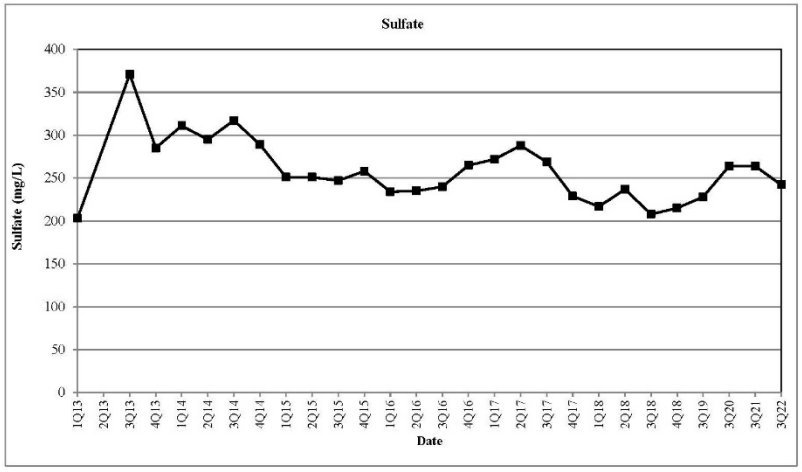
Chrin Brothers Sanitary Landfill
Monitoring Well MW-10R

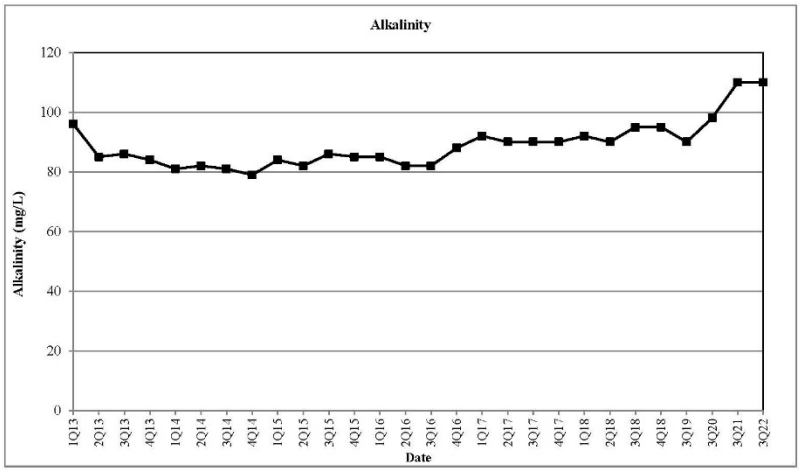


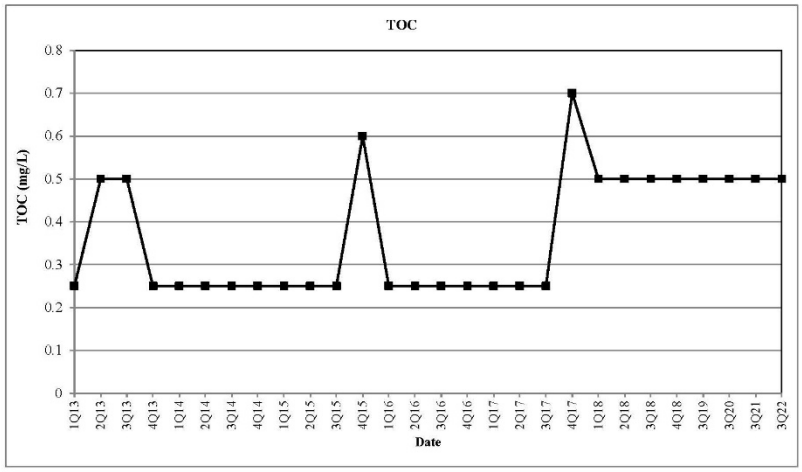




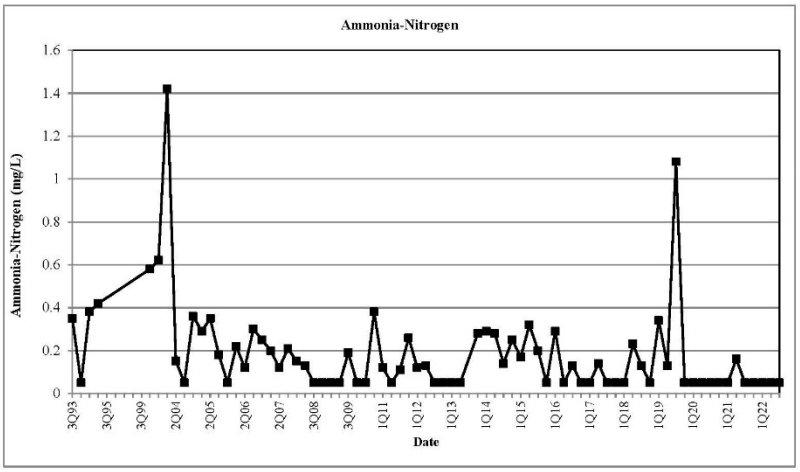
Chrin Brothers Sanitary Landfill
Monitoring Well MW-10R

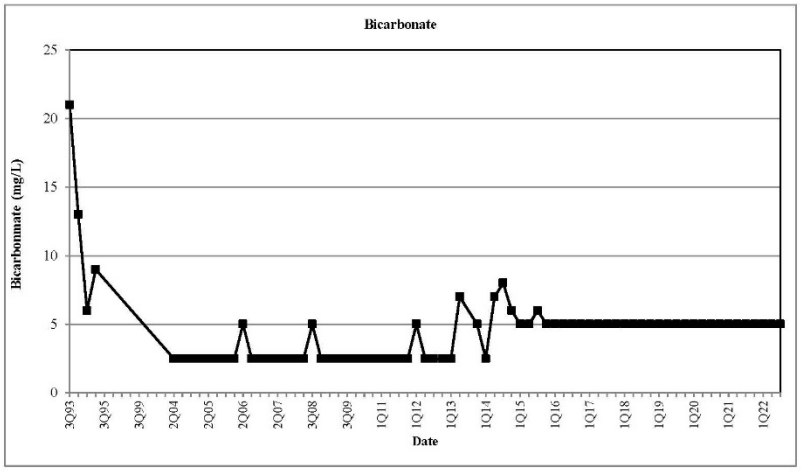


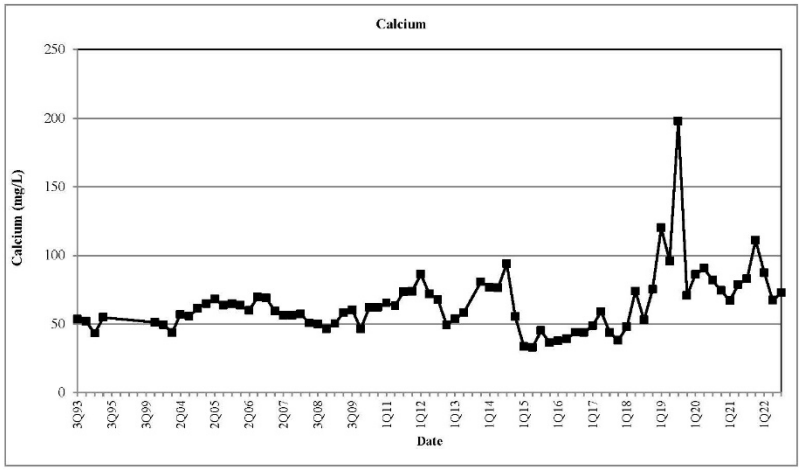




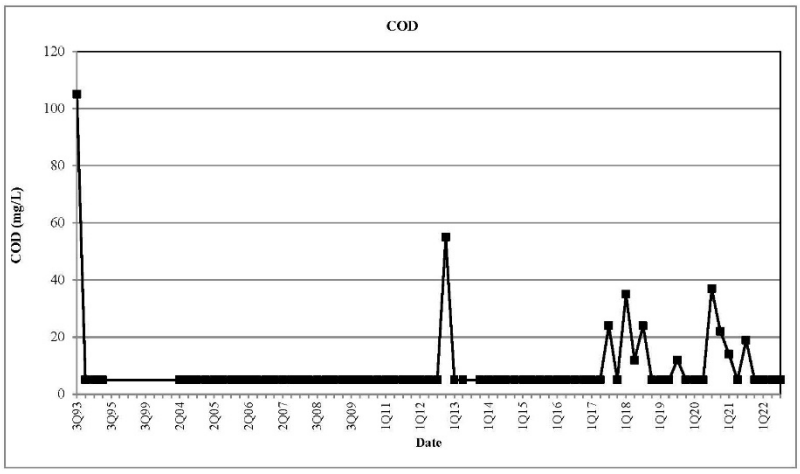
Chrin Brothers Sanitary Landfill
Monitoring Well MW-13

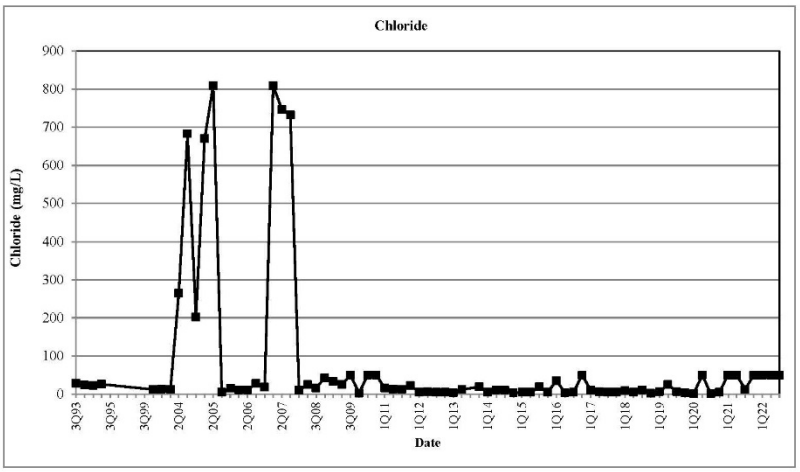


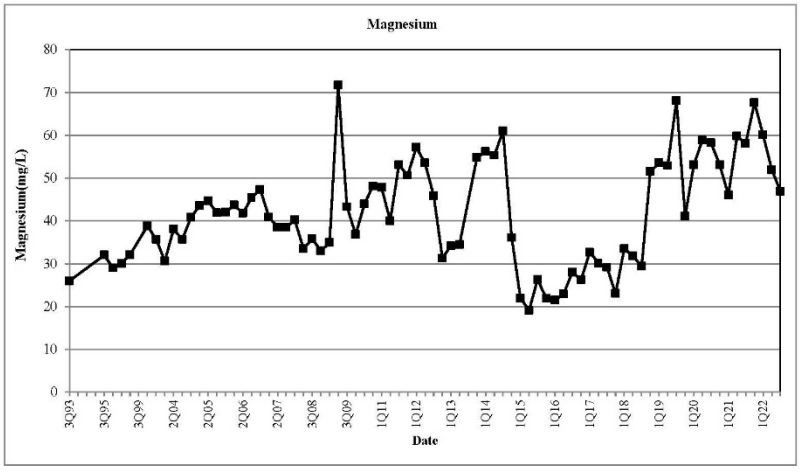




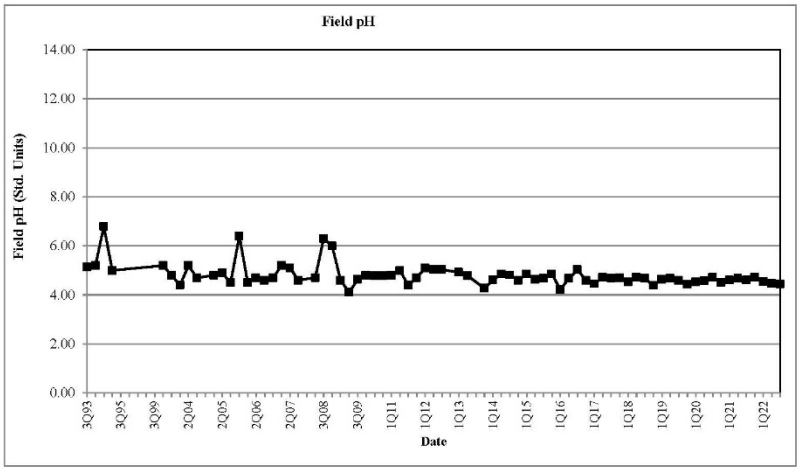
Chrin Brothers Sanitary Landfill
Monitoring Well MW-13

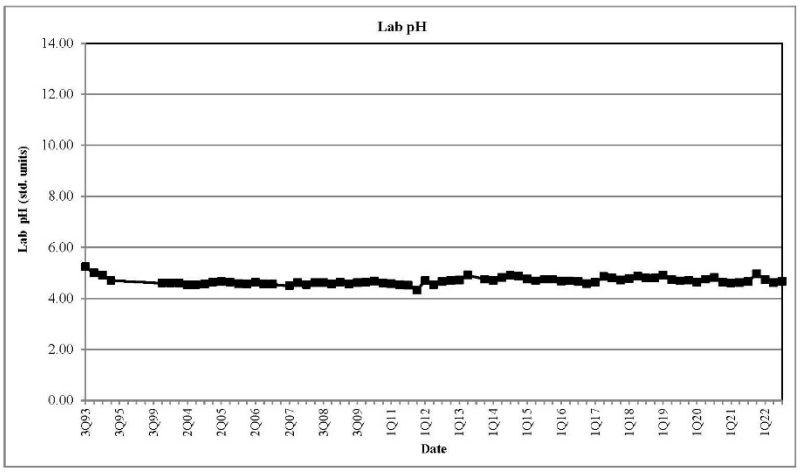


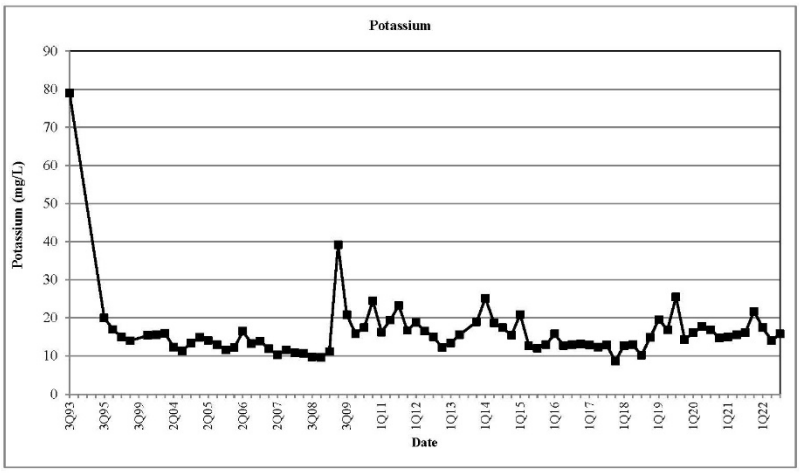




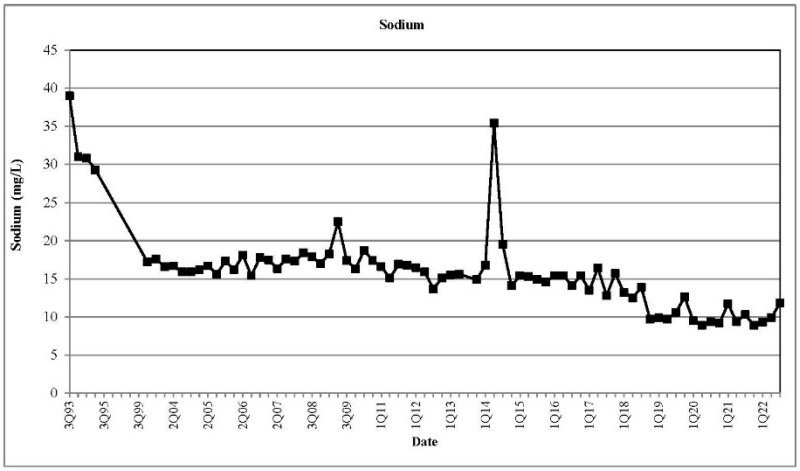
Chrin Brothers Sanitary Landfill
Monitoring Well MW-13

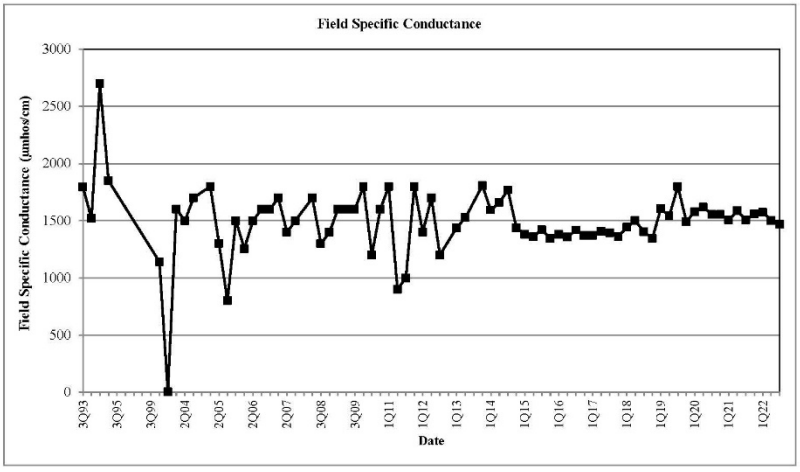


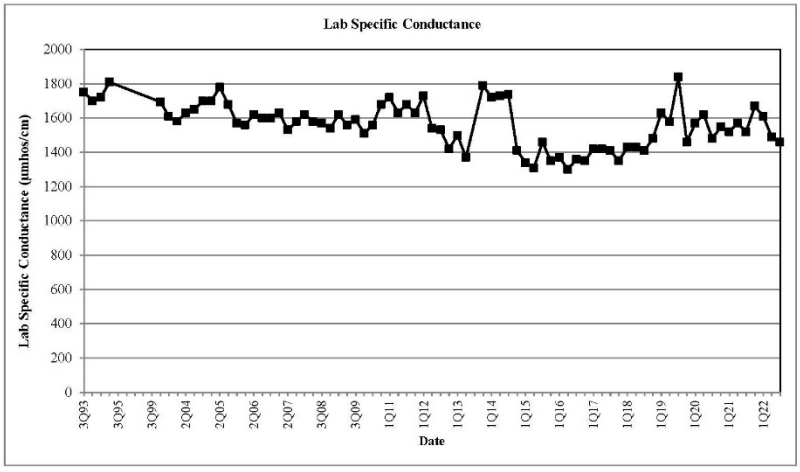




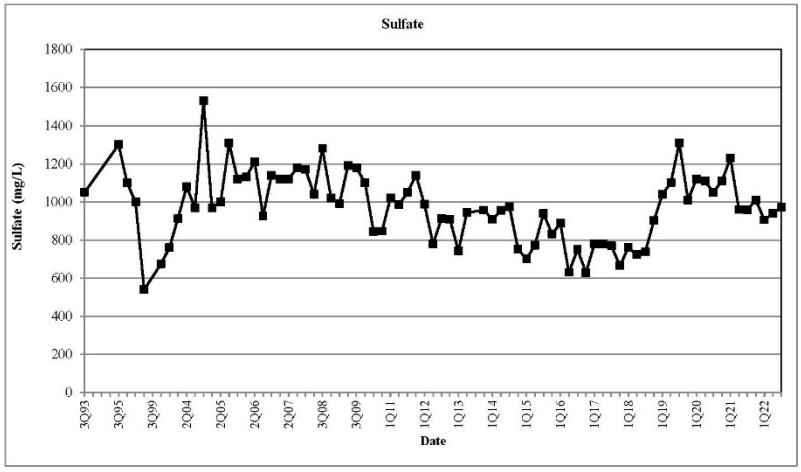
Chrin Brothers Sanitary Landfill
Monitoring Well MW-13

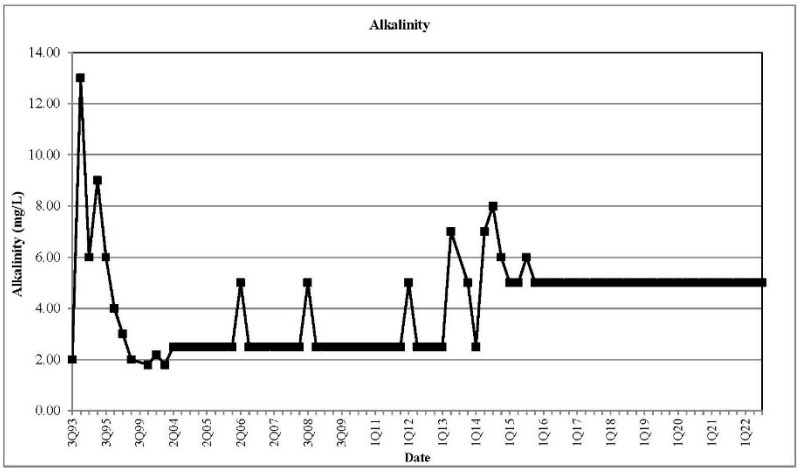


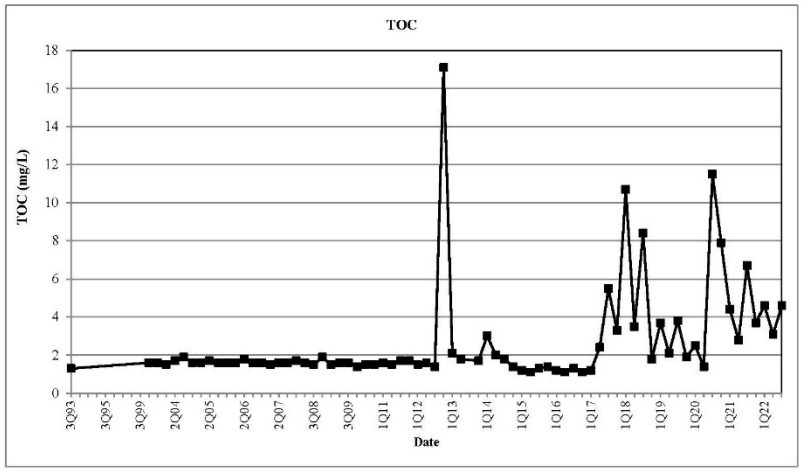




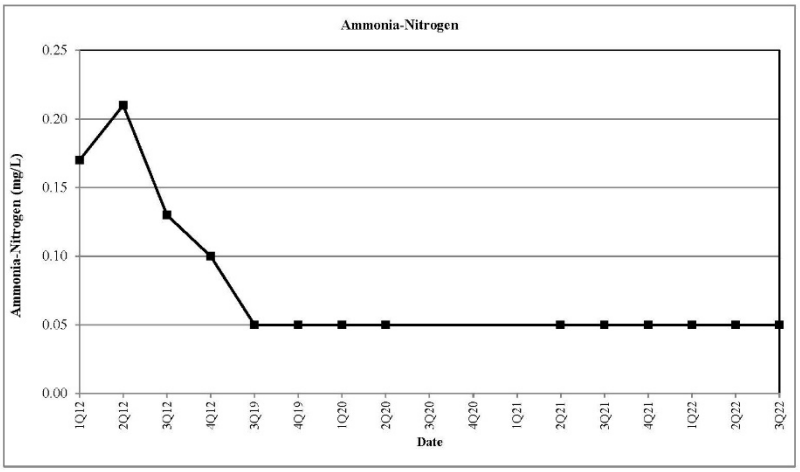
Chrin Brothers Sanitary Landfill
Monitoring Well MW-13

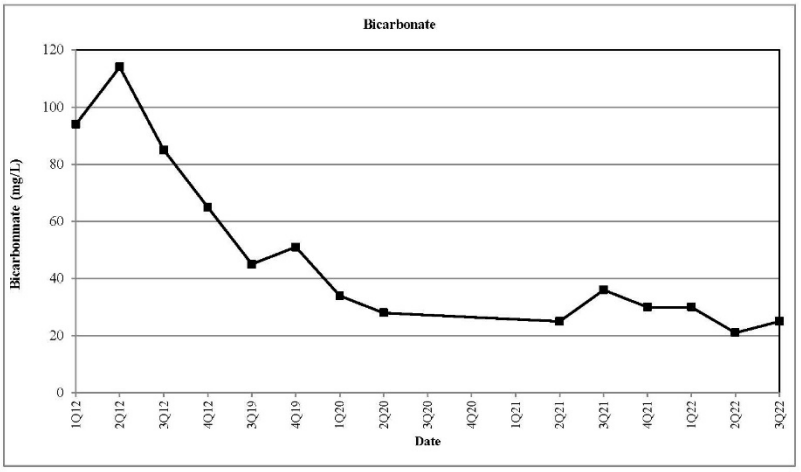


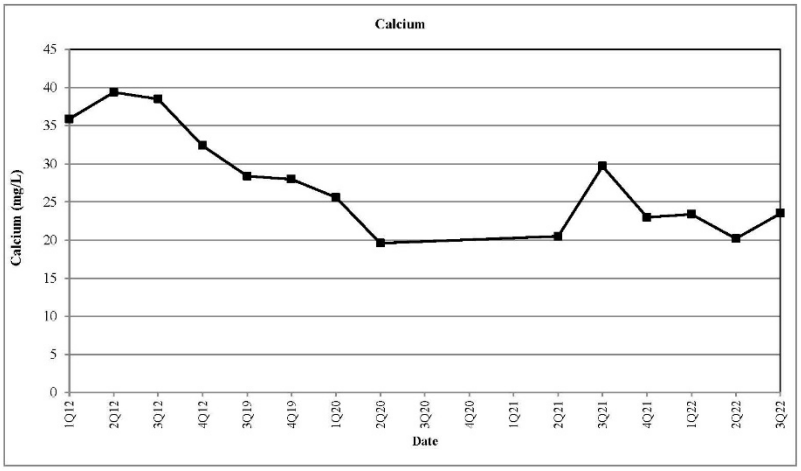




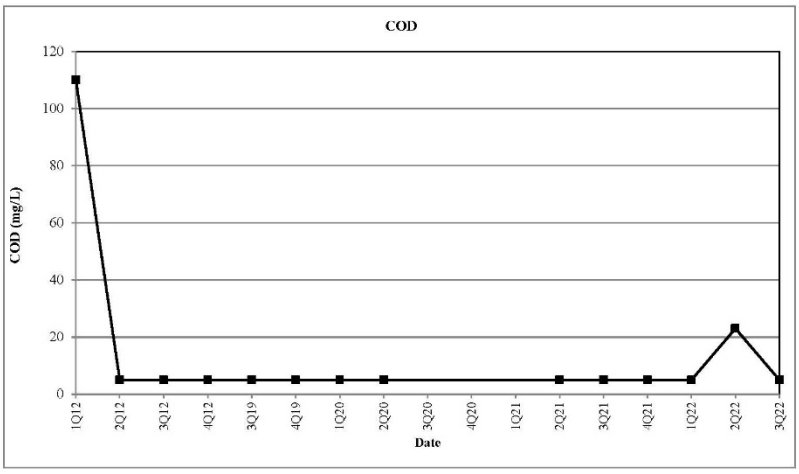
Chrin Brothers Sanitary Landfill
Monitoring Well MW-14

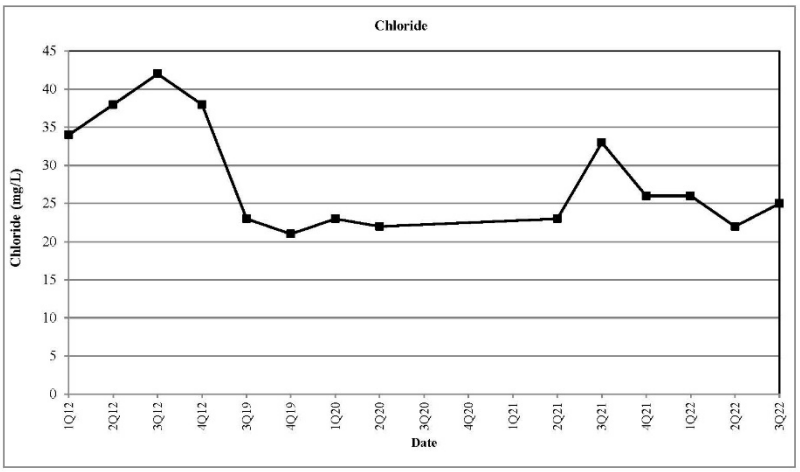


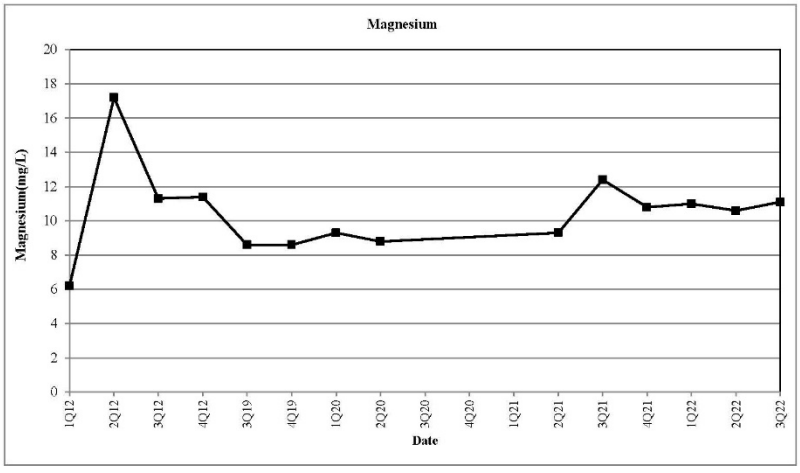




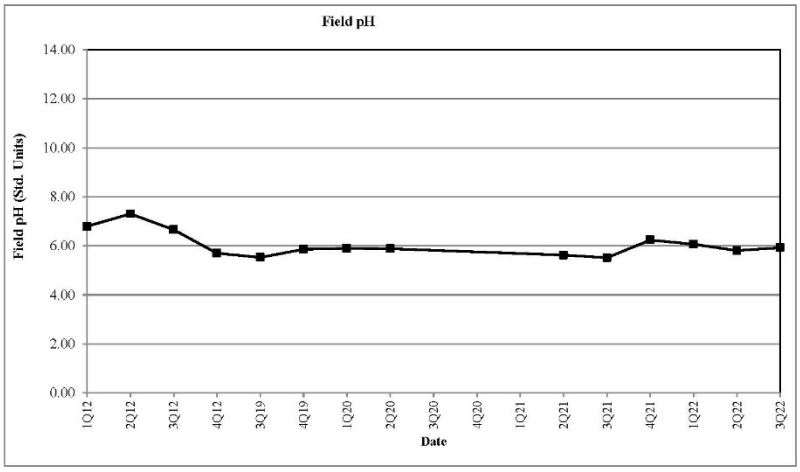
Chrin Brothers Sanitary Landfill
Monitoring Well MW-14

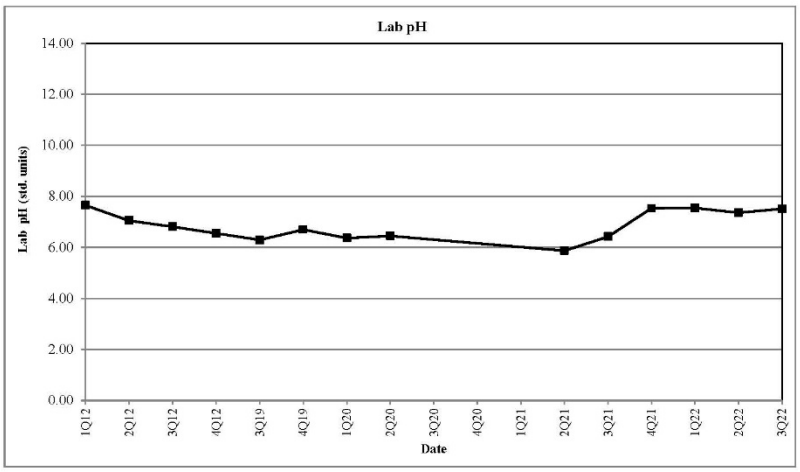


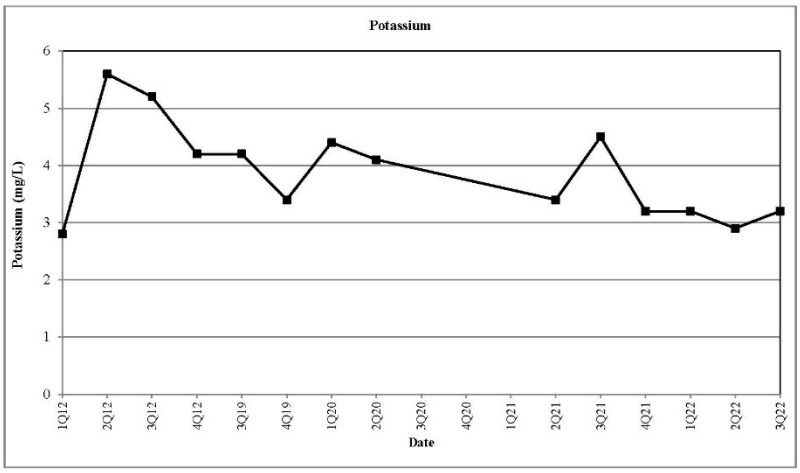




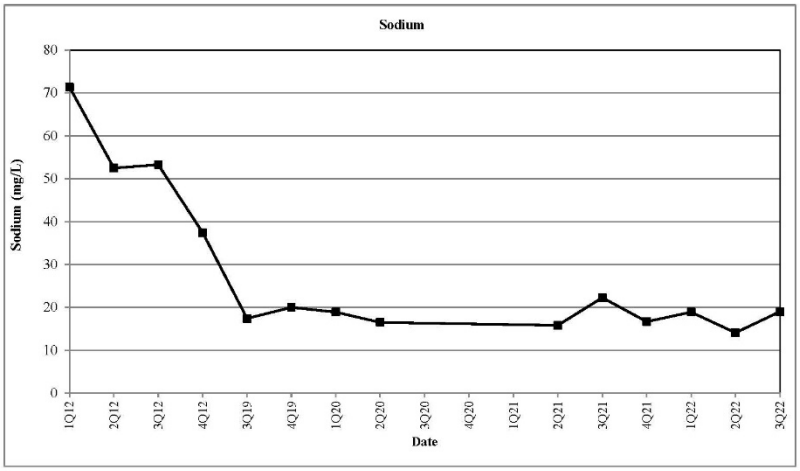
Chrin Brothers Sanitary Landfill
Monitoring Well MW-14

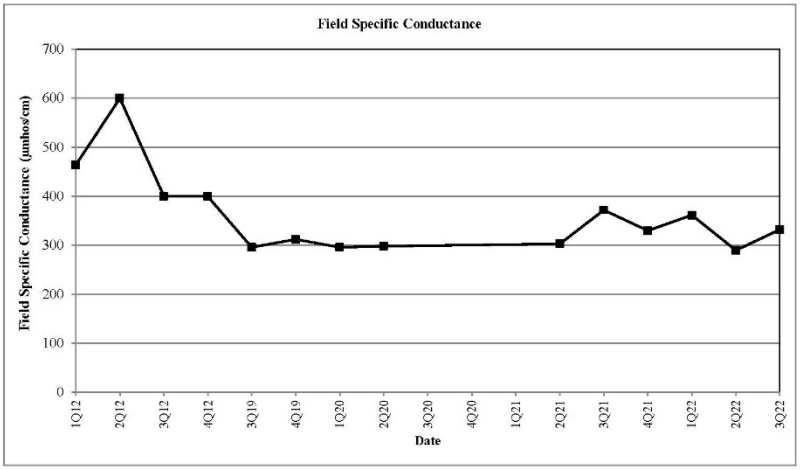


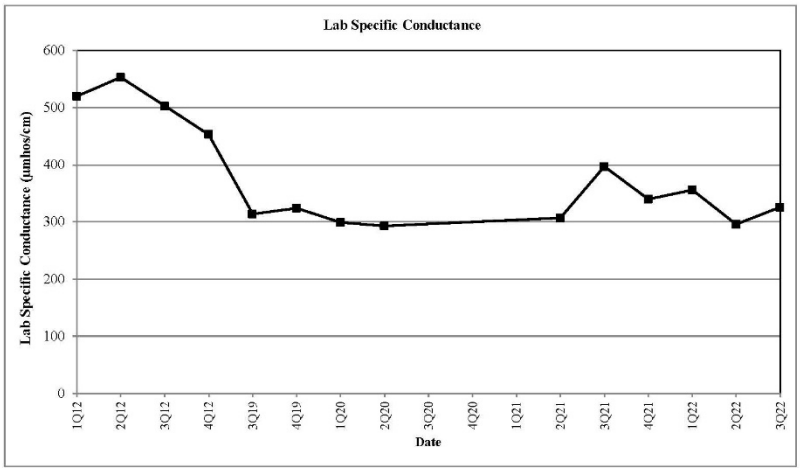




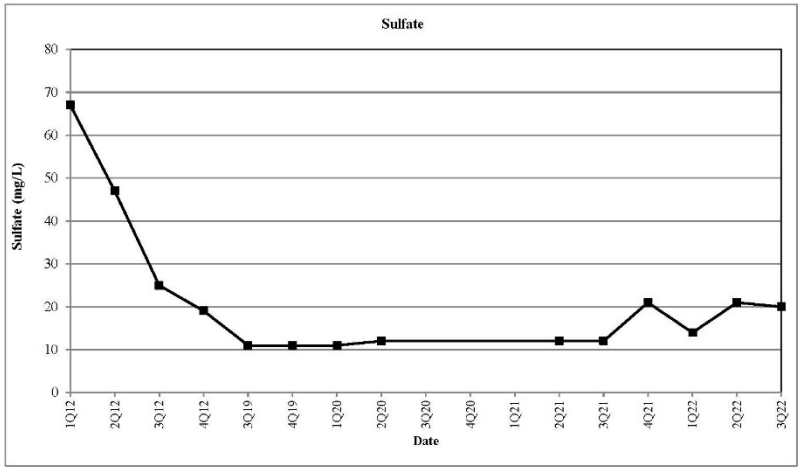
Chrin Brothers Sanitary Landfill
Monitoring Well MW-14

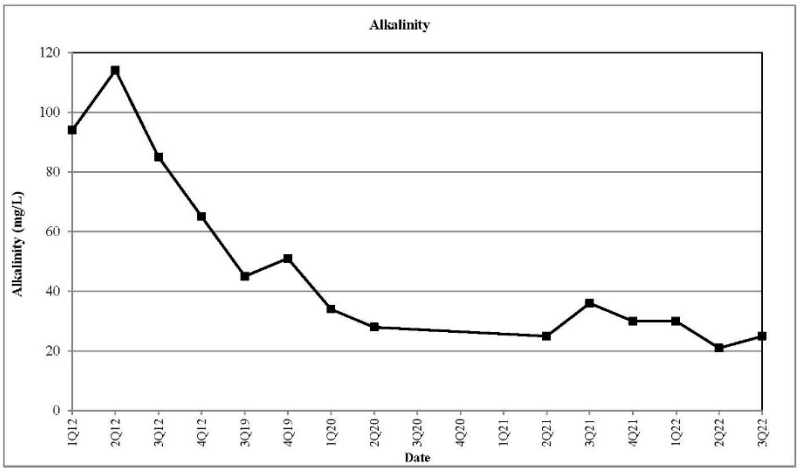


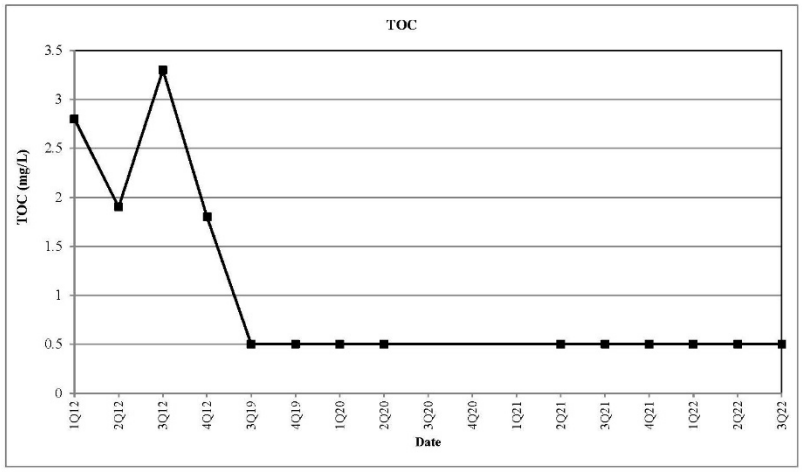




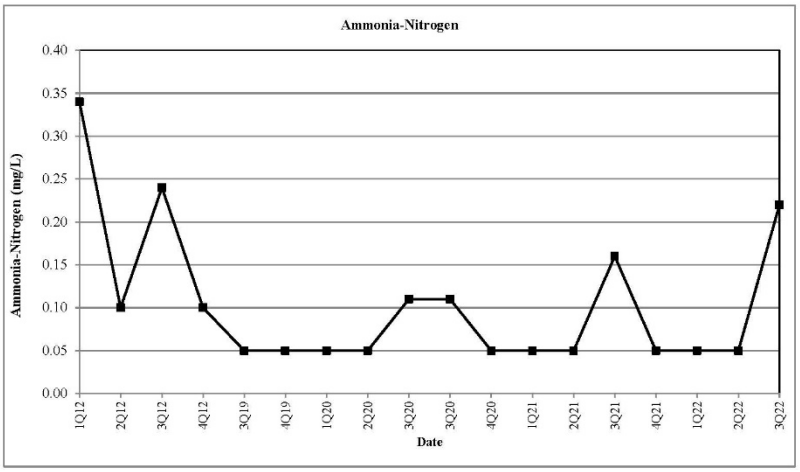
Chrin Brothers Sanitary Landfill
Monitoring Well MW-14

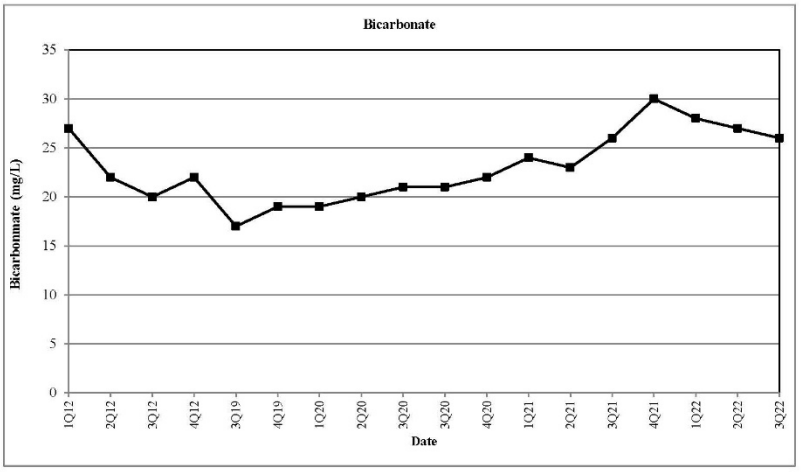


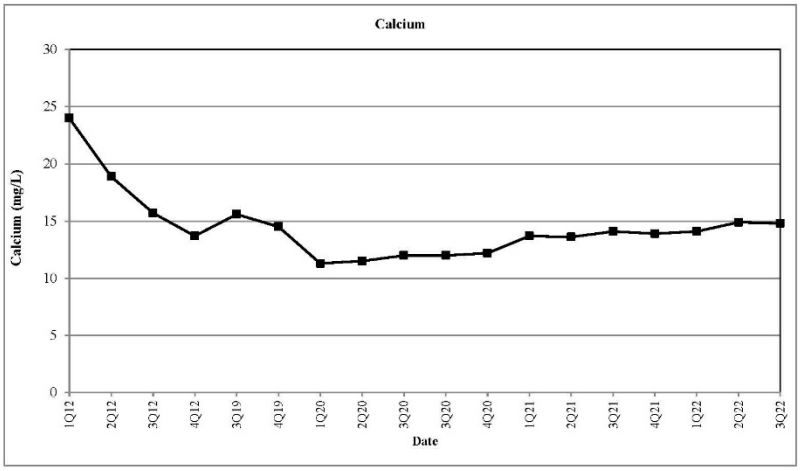




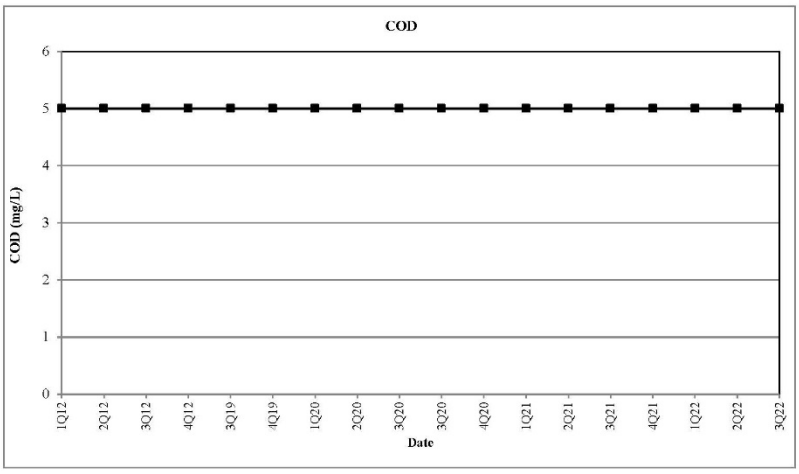
Chrin Brothers Sanitary Landfill
Monitoring Well MW-15

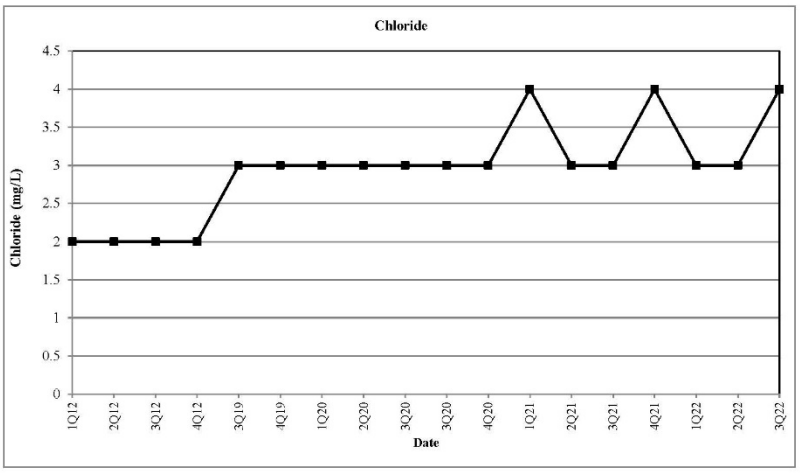


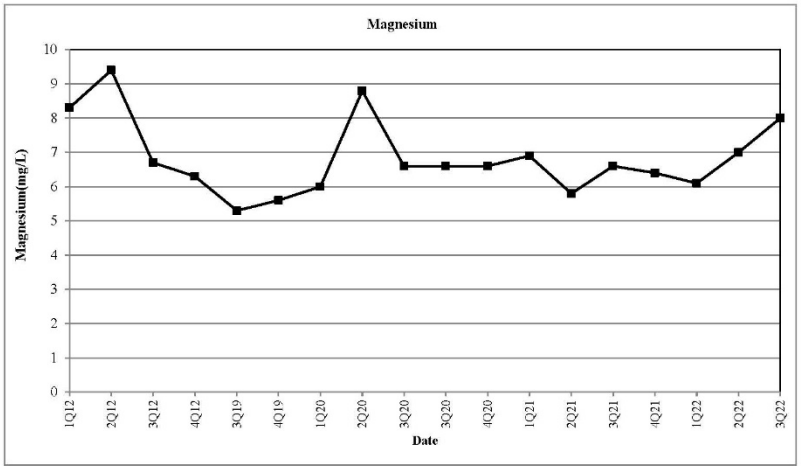




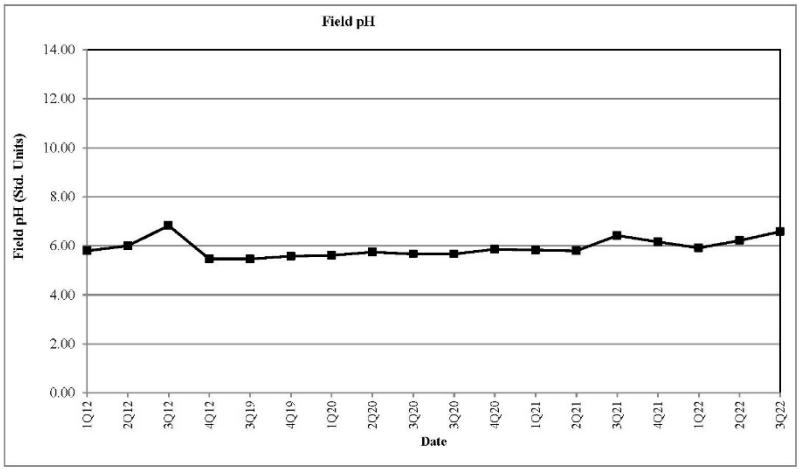
Chrin Brothers Sanitary Landfill
Monitoring Well MW-15

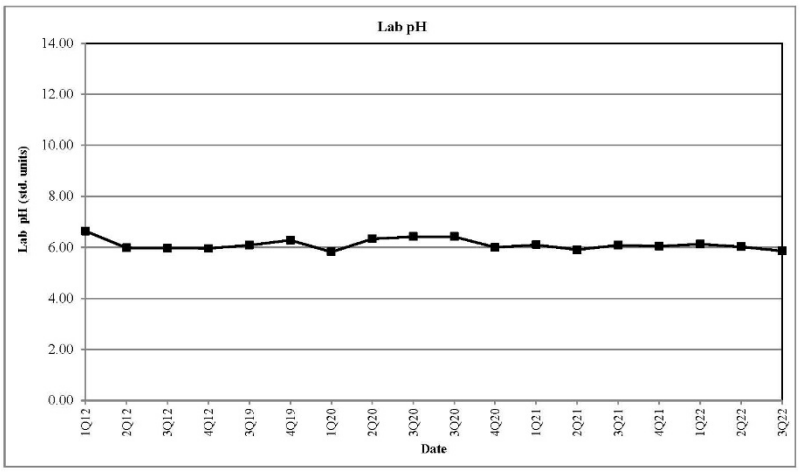


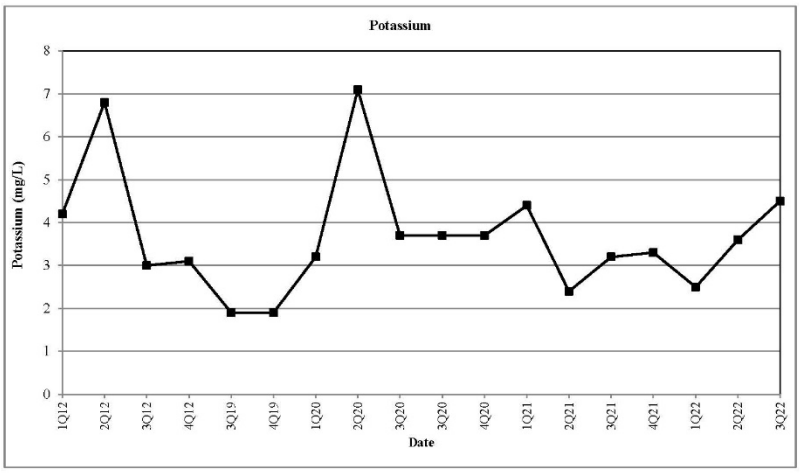




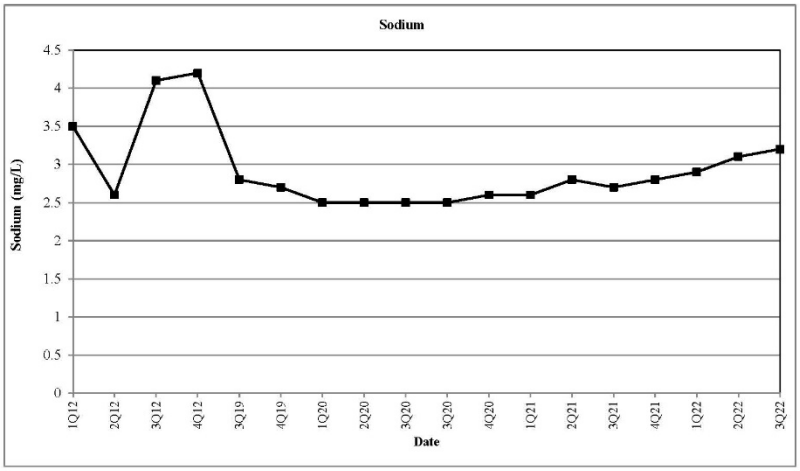
Chrin Brothers Sanitary Landfill
Monitoring Well MW-15

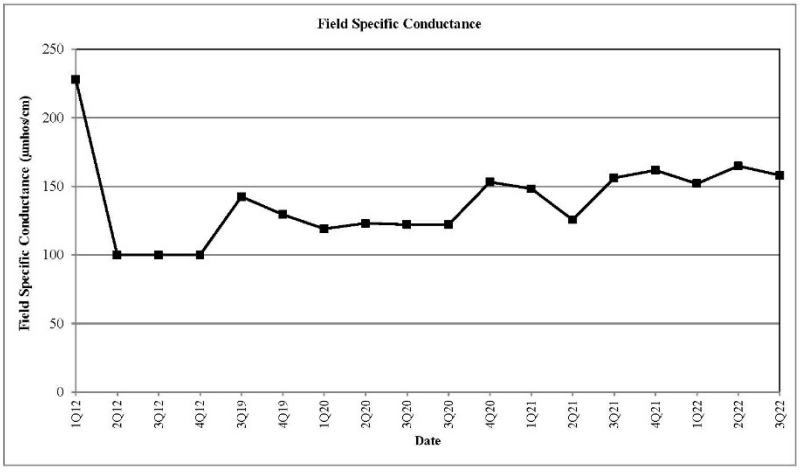


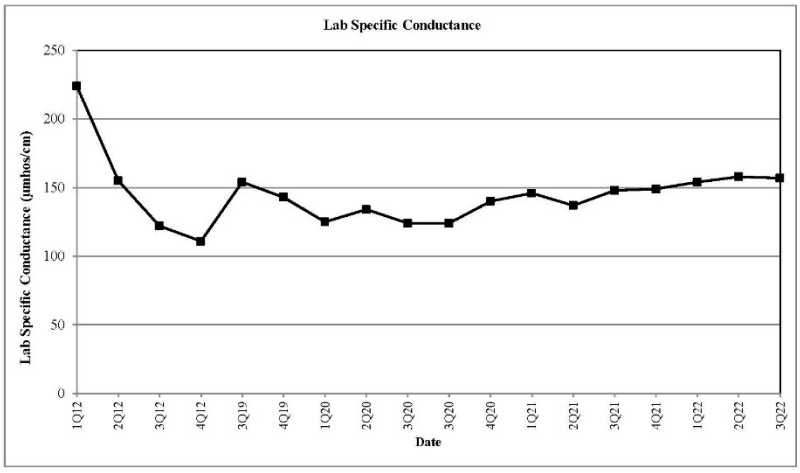




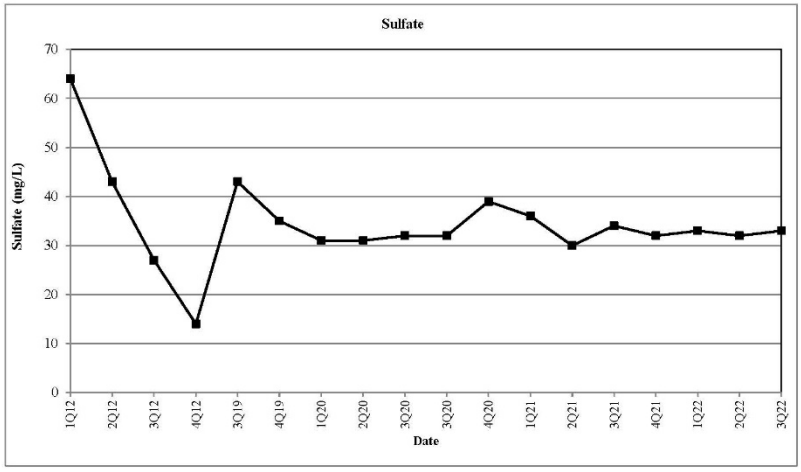
Chrin Brothers Sanitary Landfill
Monitoring Well MW-15

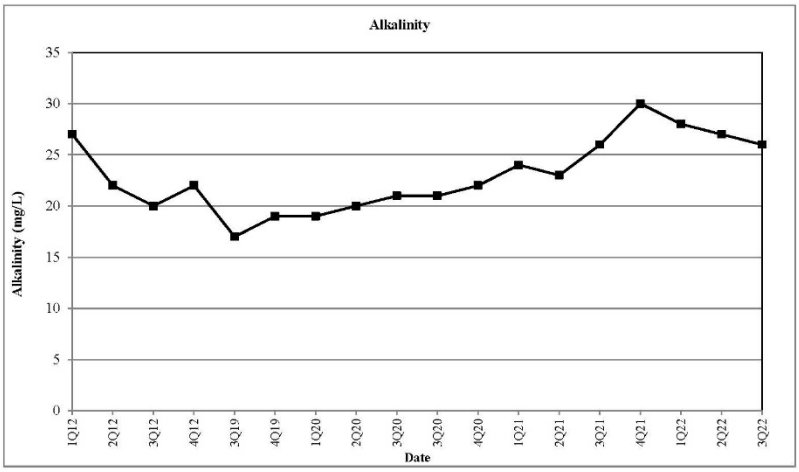


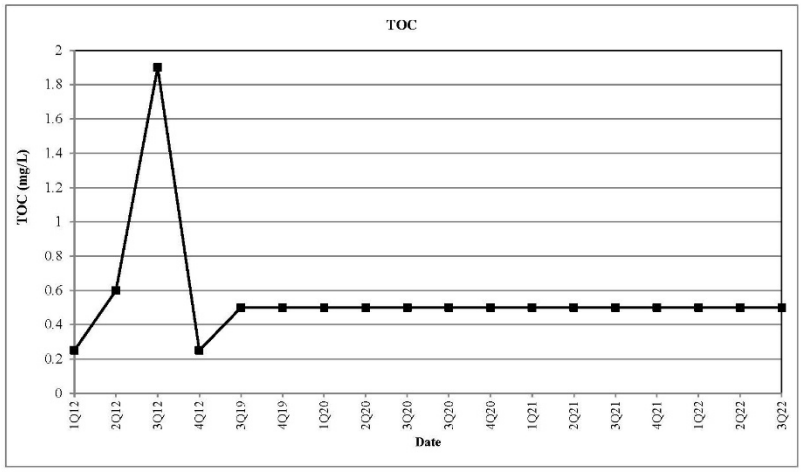




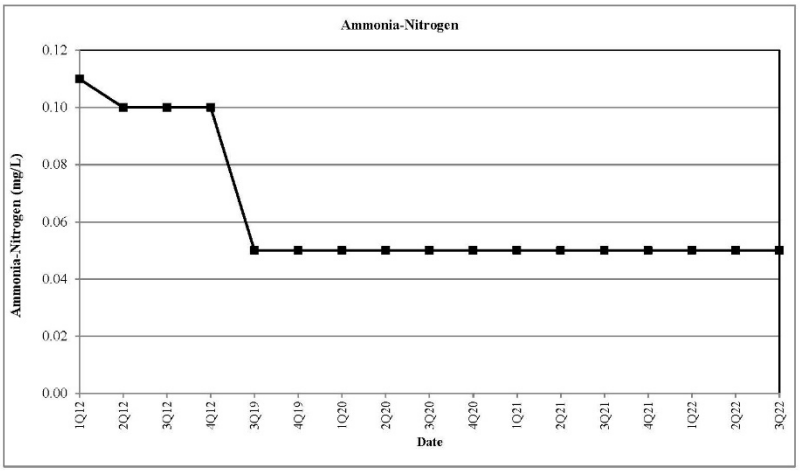
Chrin Brothers Sanitary Landfill
Monitoring Well MW-15

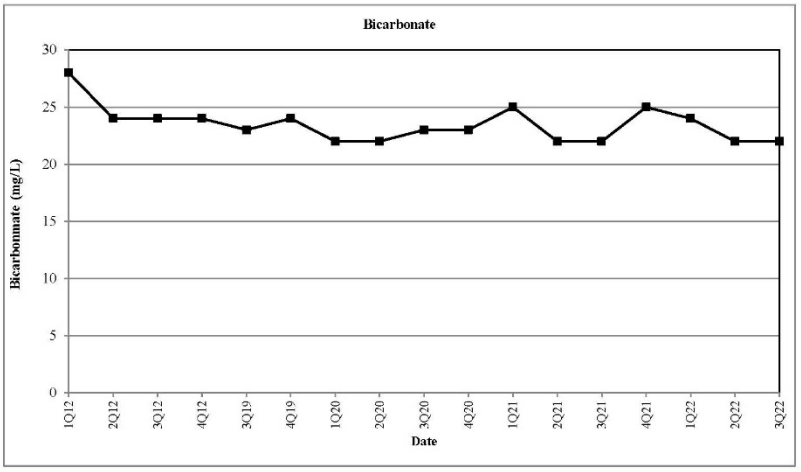


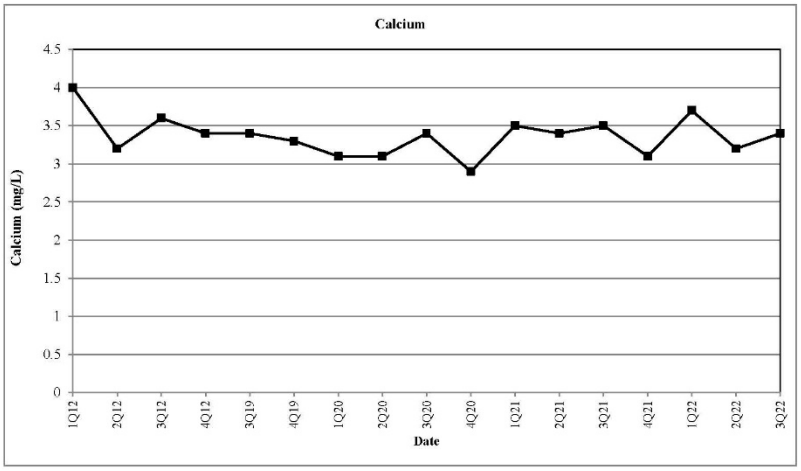




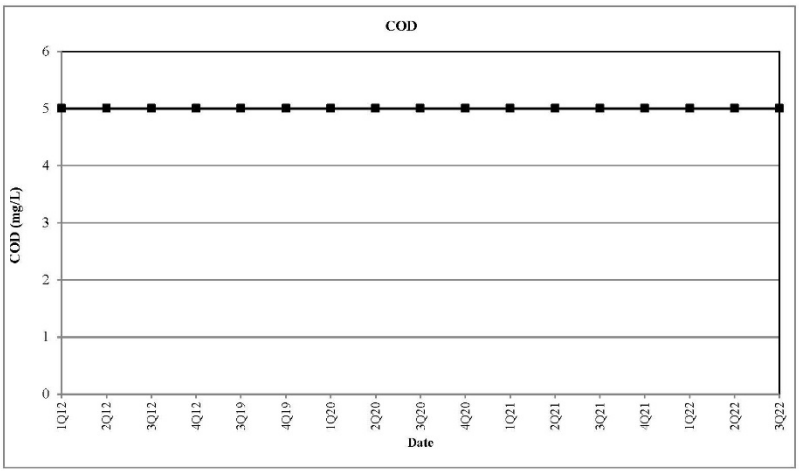
Chrin Brothers Sanitary Landfill
Monitoring Well MW-16

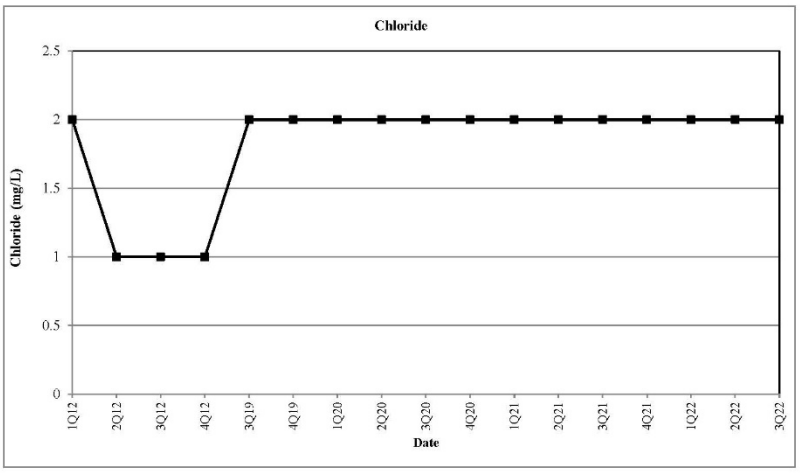


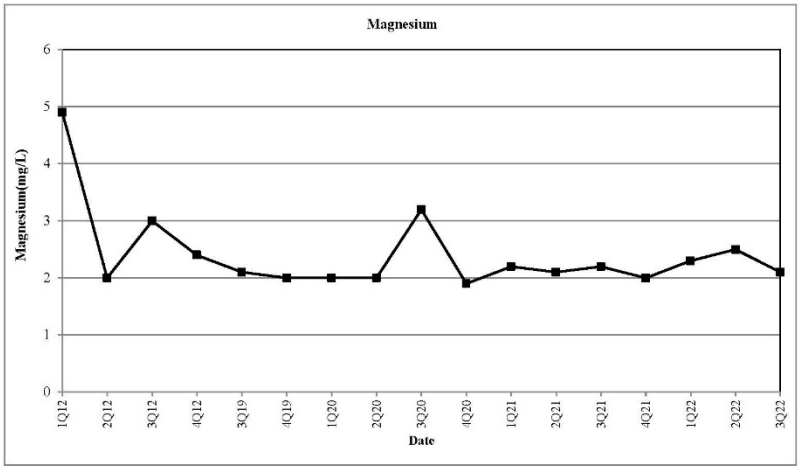




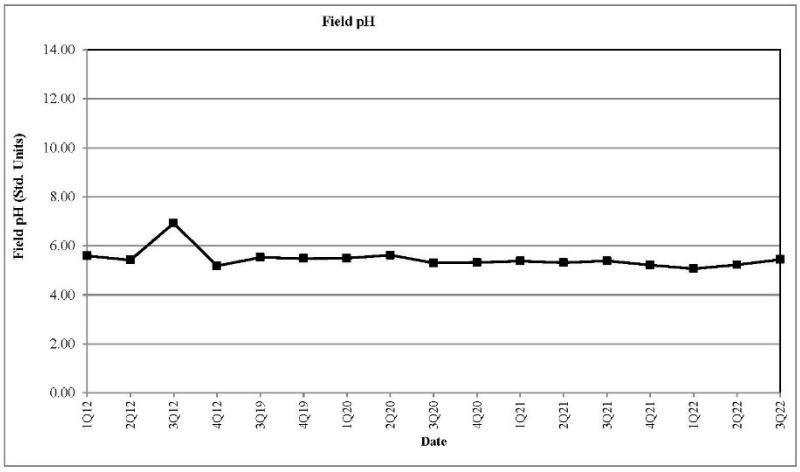
Chrin Brothers Sanitary Landfill
Monitoring Well MW-16

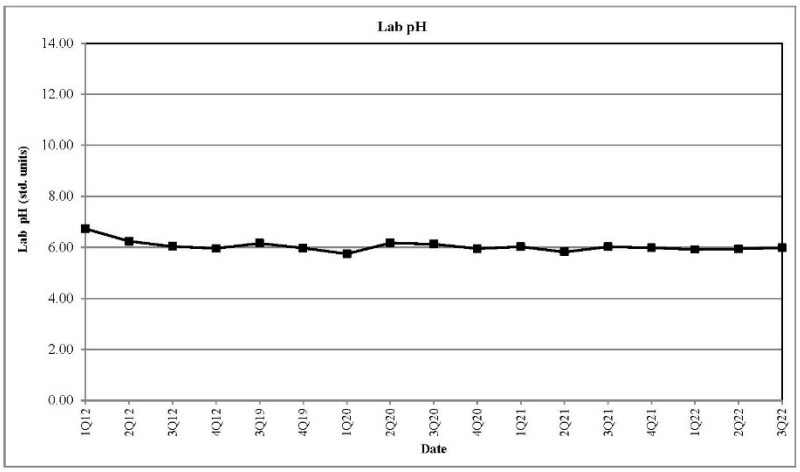


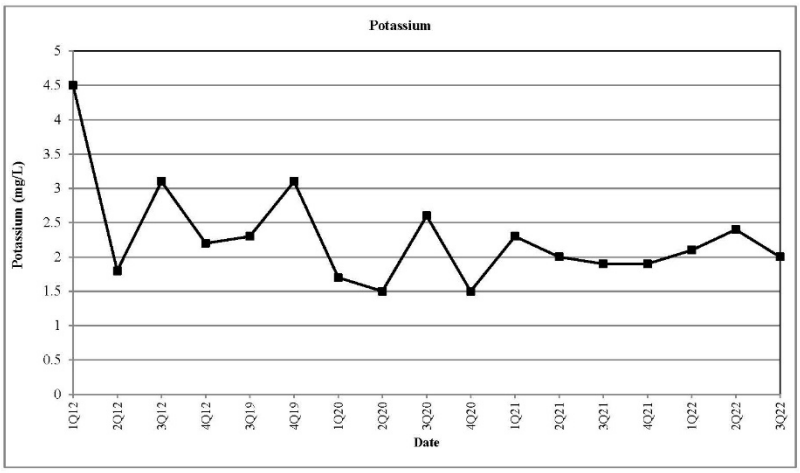




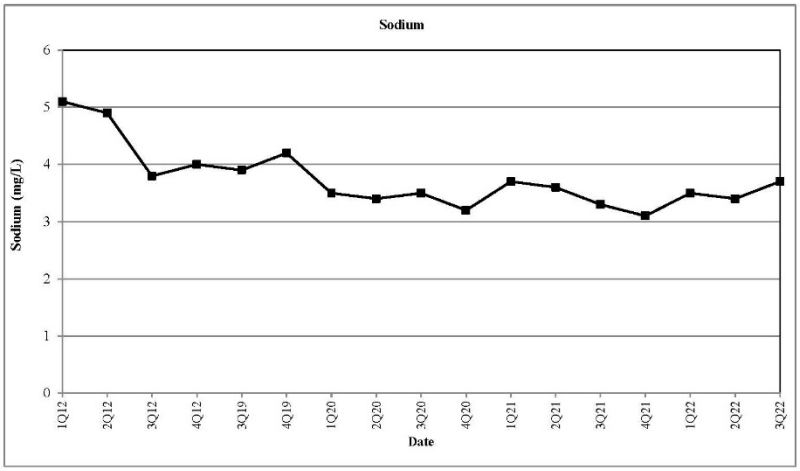
Chrin Brothers Sanitary Landfill
Monitoring Well MW-16

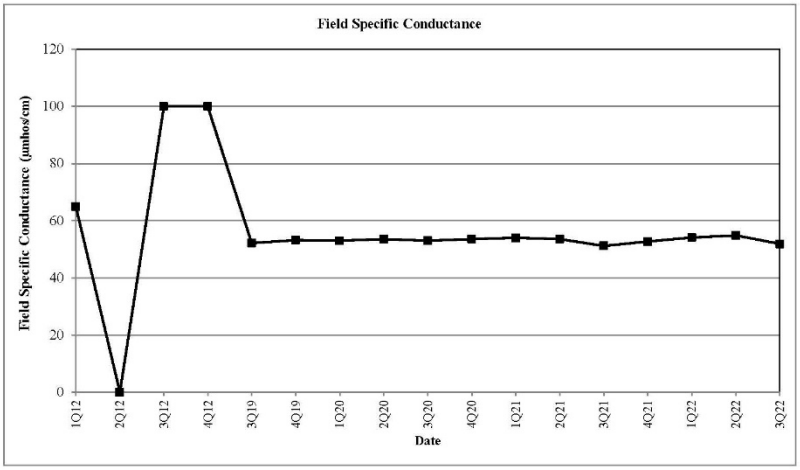


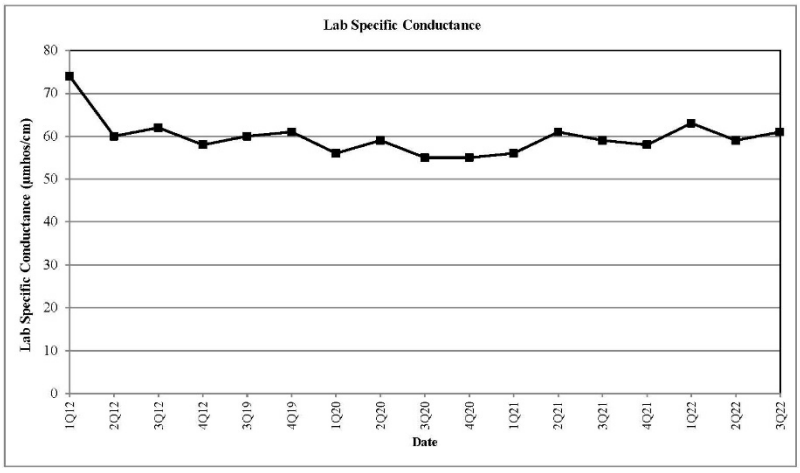




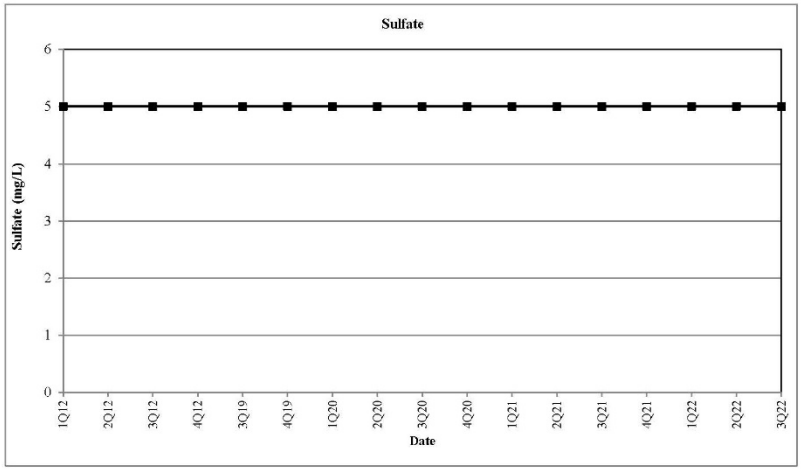
Chrin Brothers Sanitary Landfill
Monitoring Well MW-16

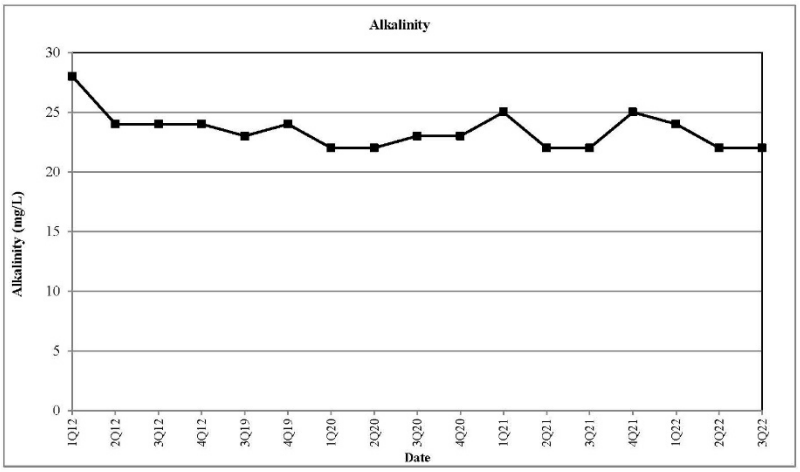


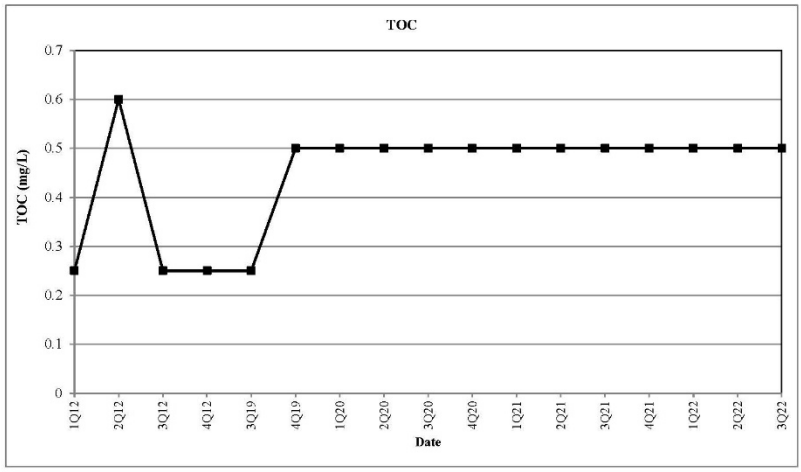




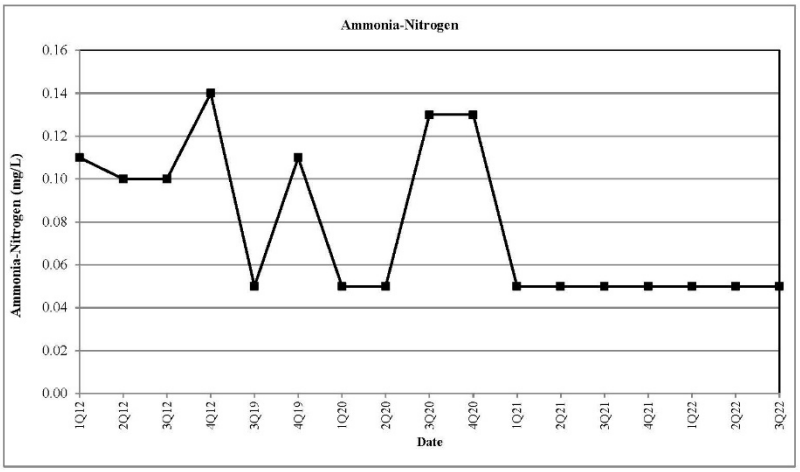
Chrin Brothers Sanitary Landfill
Monitoring Well MW-16

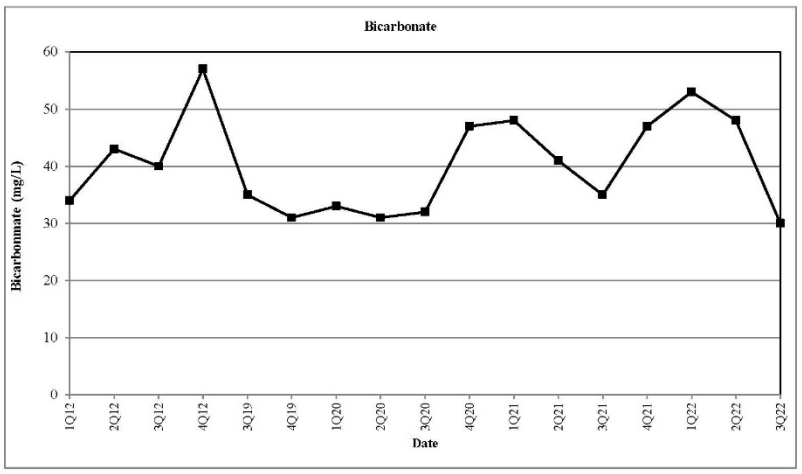


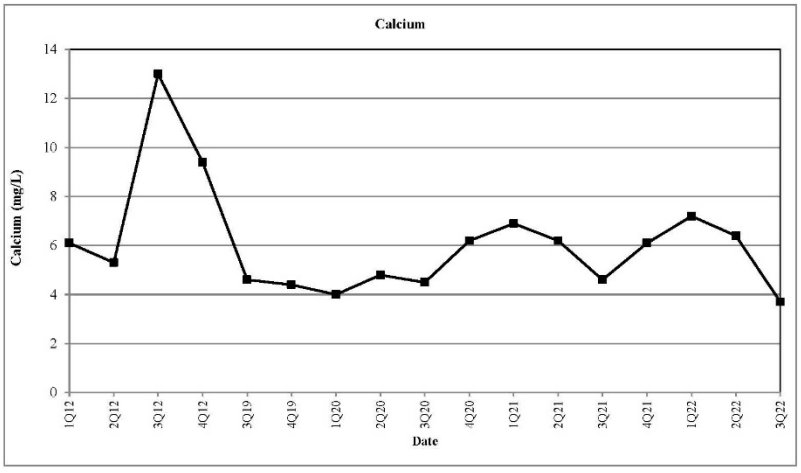




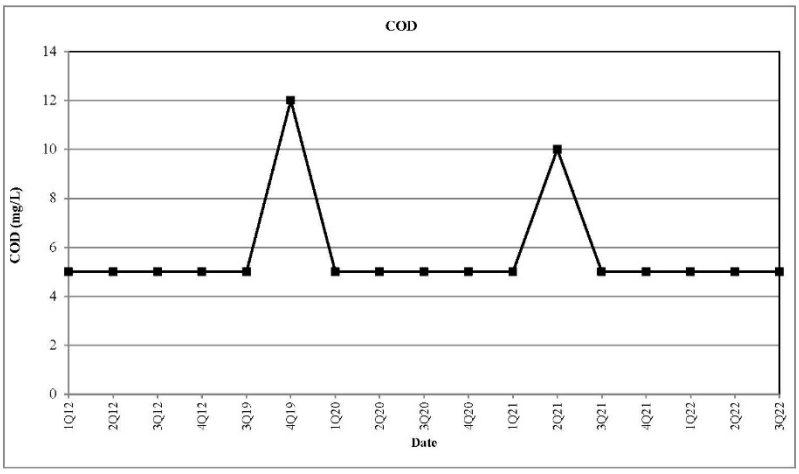
Chrin Brothers Sanitary Landfill
Monitoring Well MW-17

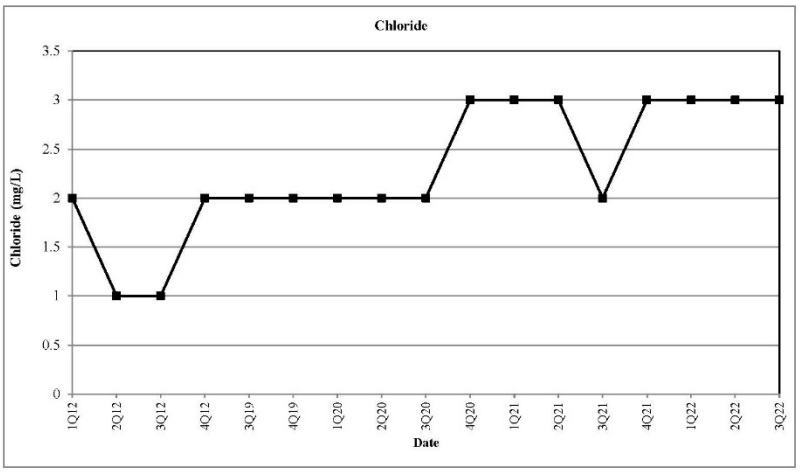


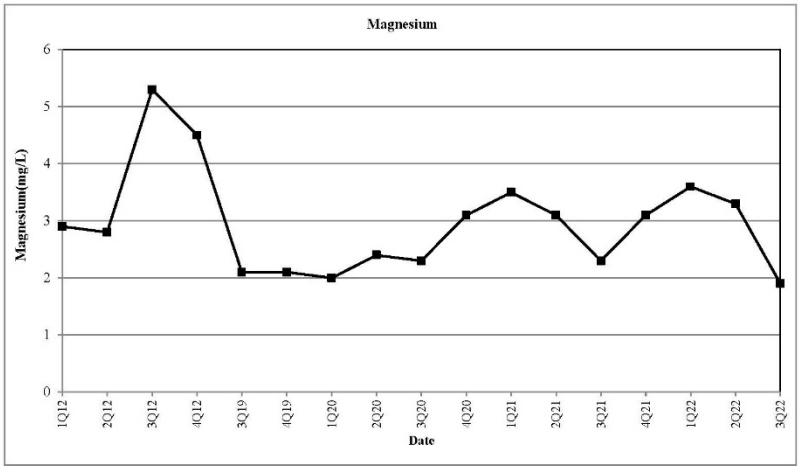




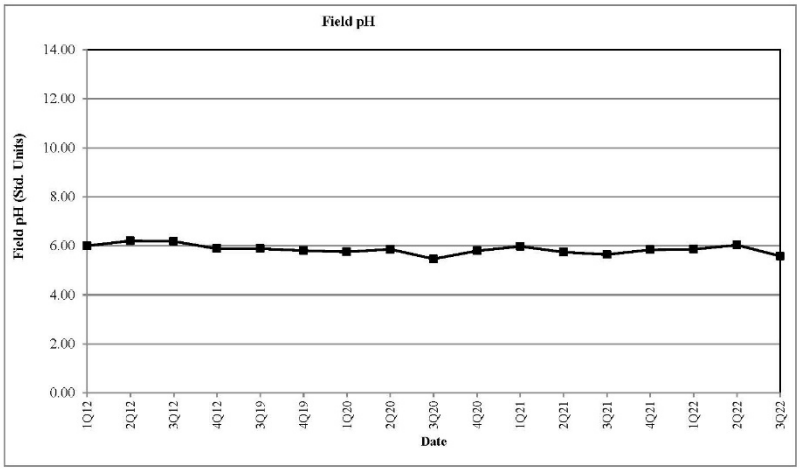
Chrin Brothers Sanitary Landfill
Monitoring Well MW-17

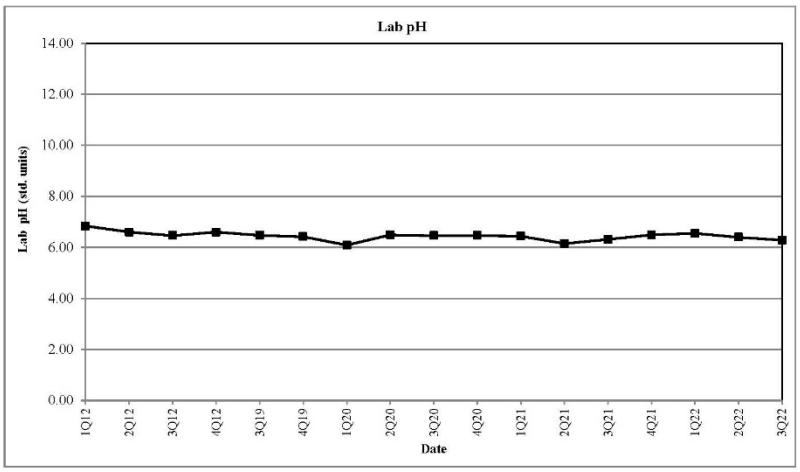


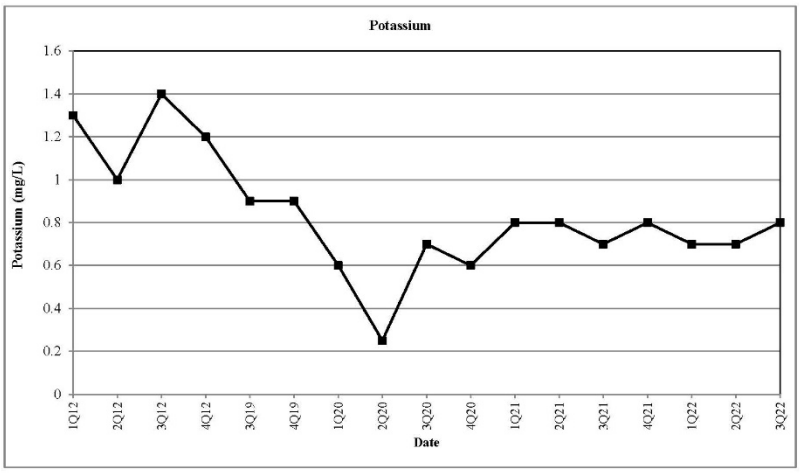




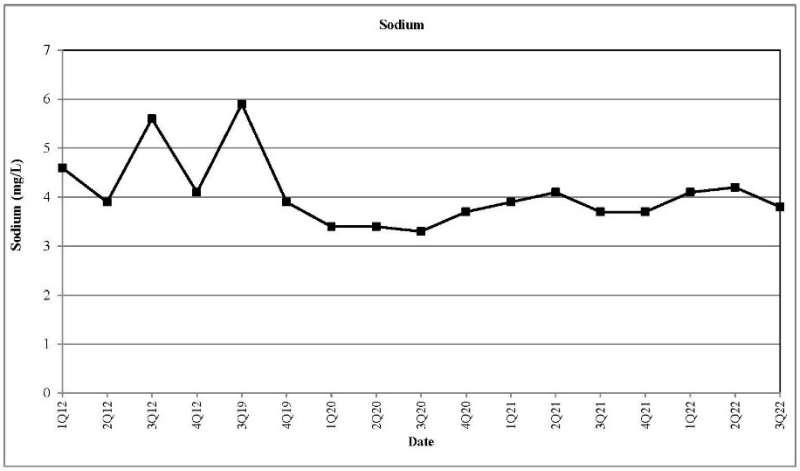
Chrin Brothers Sanitary Landfill
Monitoring Well MW-17

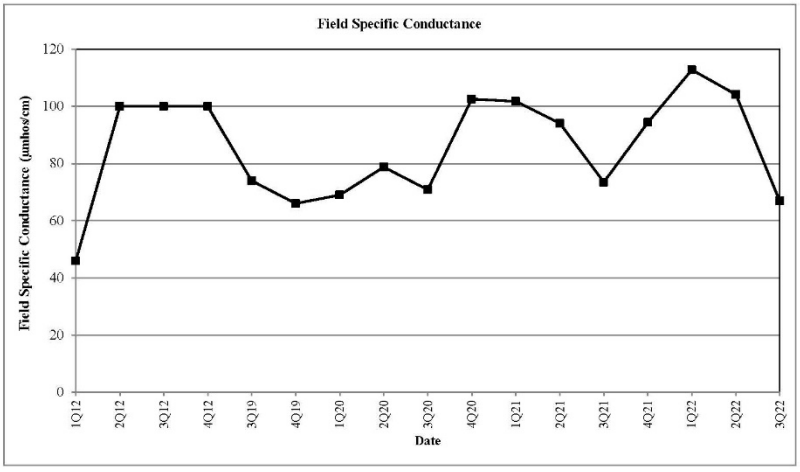


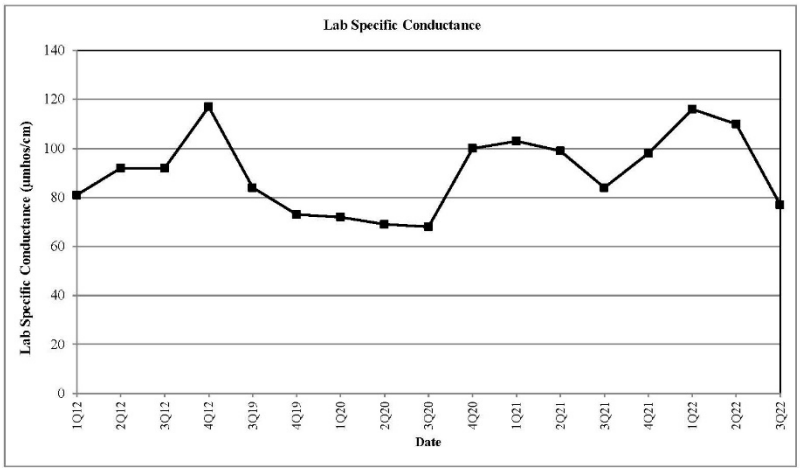




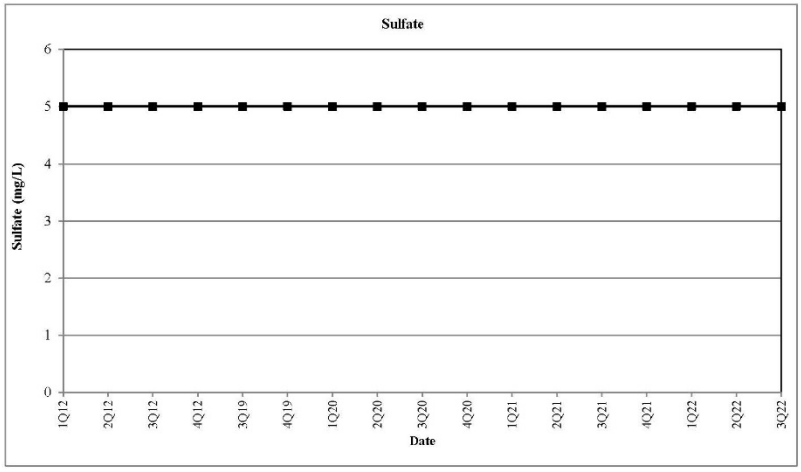
Chrin Brothers Sanitary Landfill
Monitoring Well MW-17

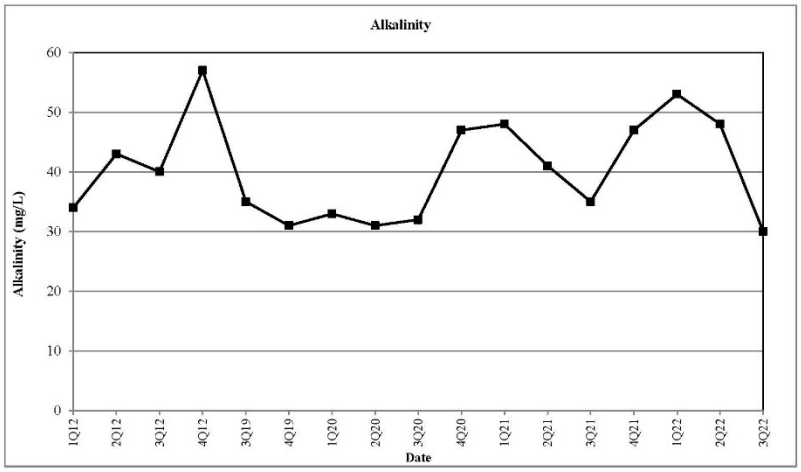


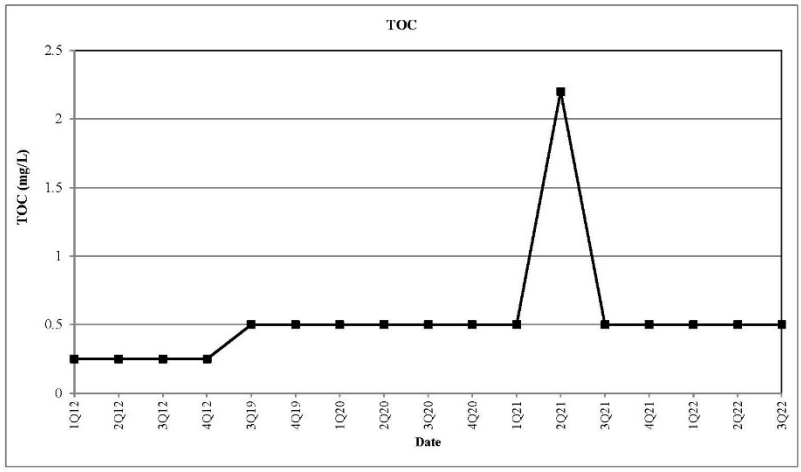




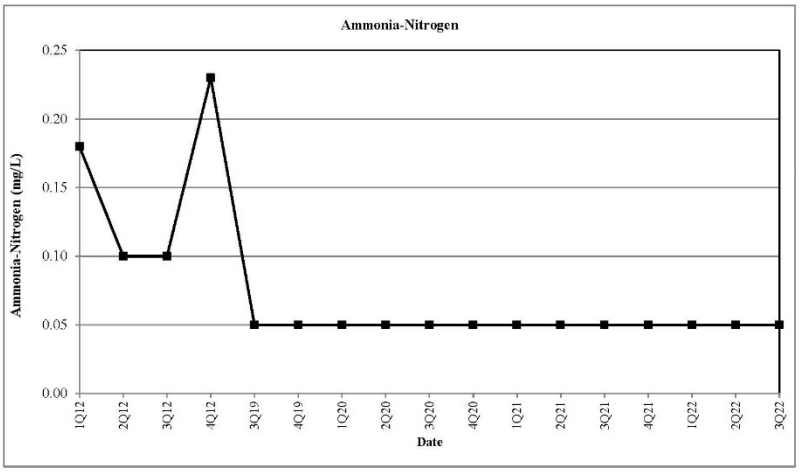
Chrin Brothers Sanitary Landfill
Monitoring Well MW-17

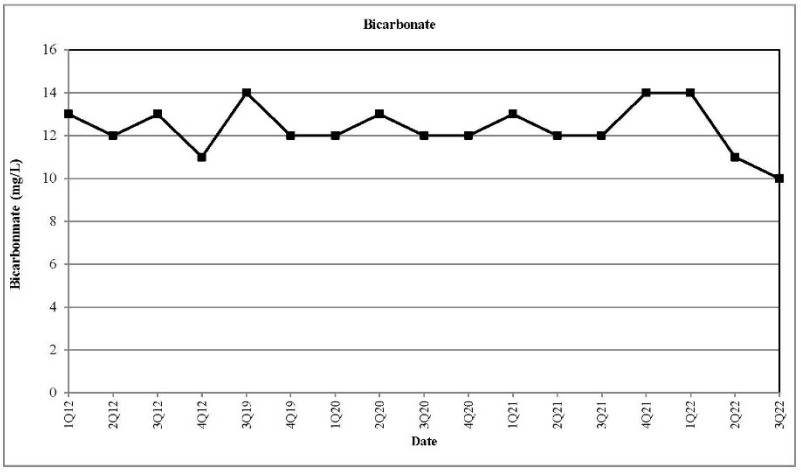


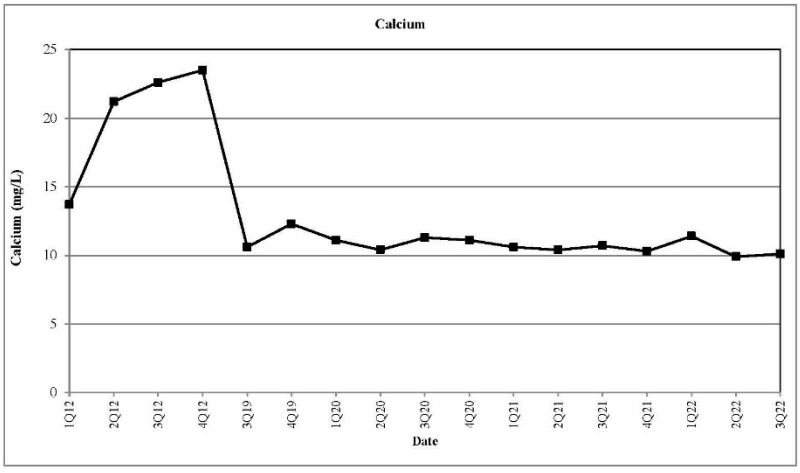




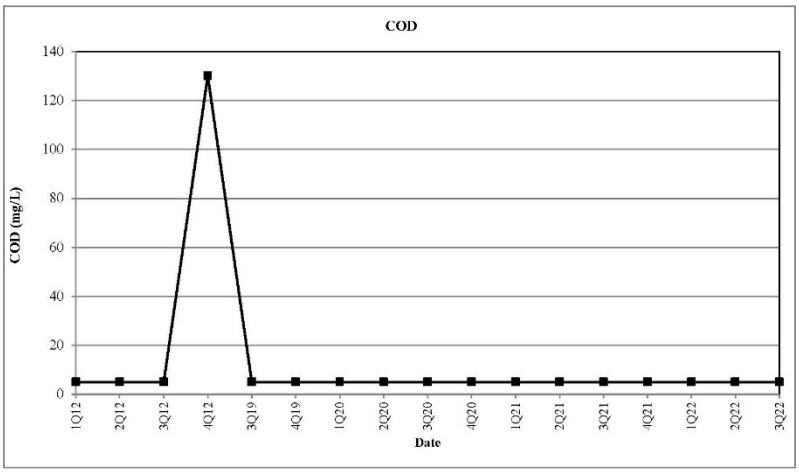
Chrin Brothers Sanitary Landfill
Monitoring Well MW-18

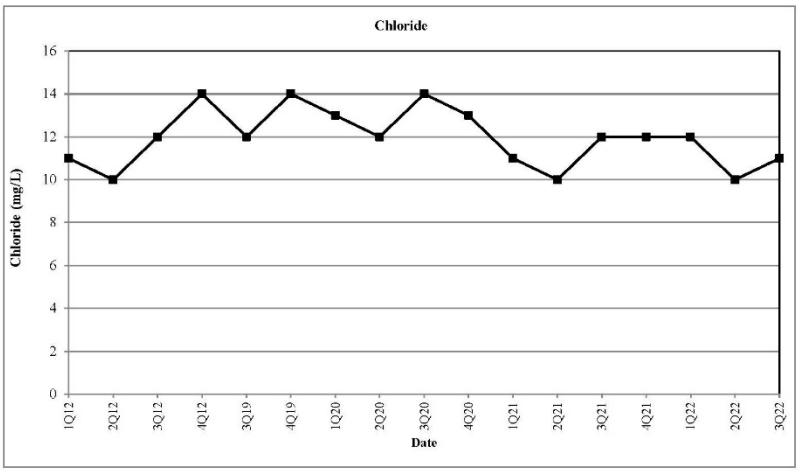


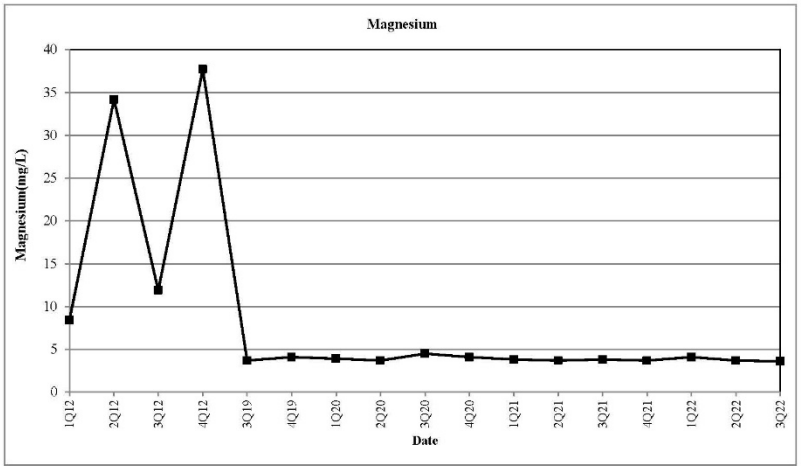




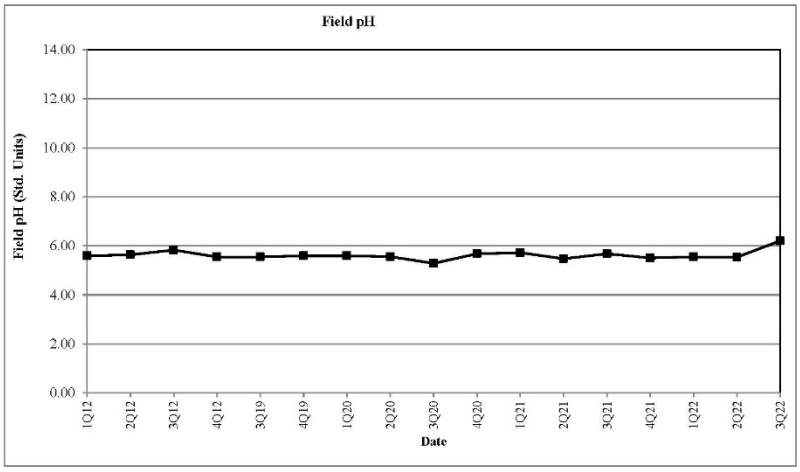
Chrin Brothers Sanitary Landfill
Monitoring Well MW-18

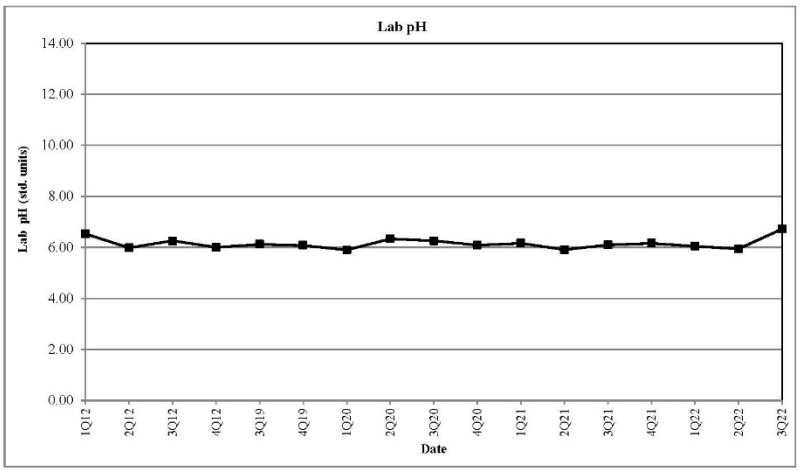


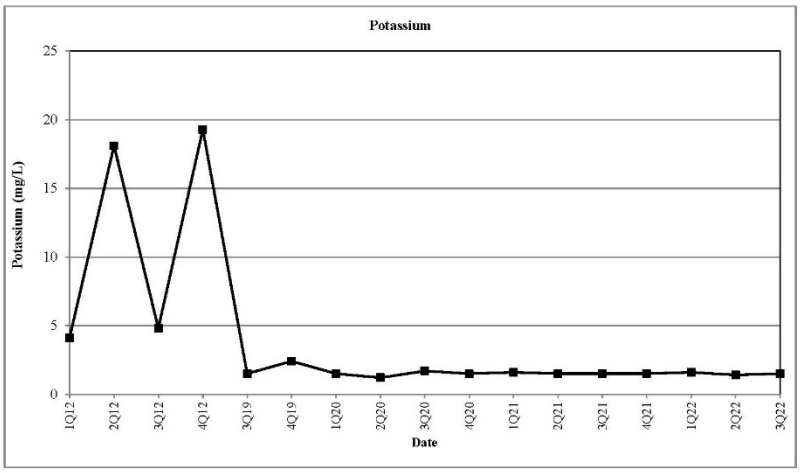




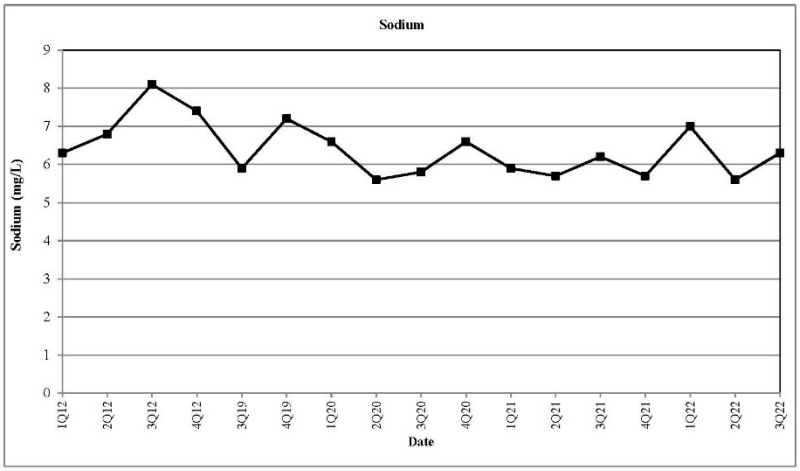
Chrin Brothers Sanitary Landfill
Monitoring Well MW-18

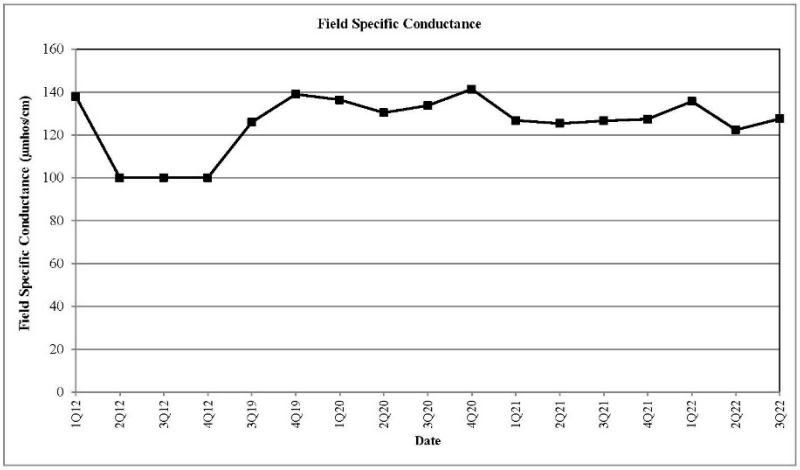


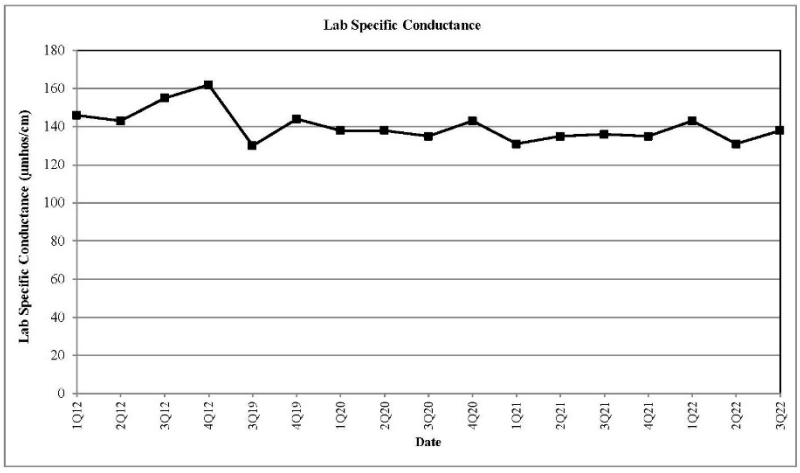




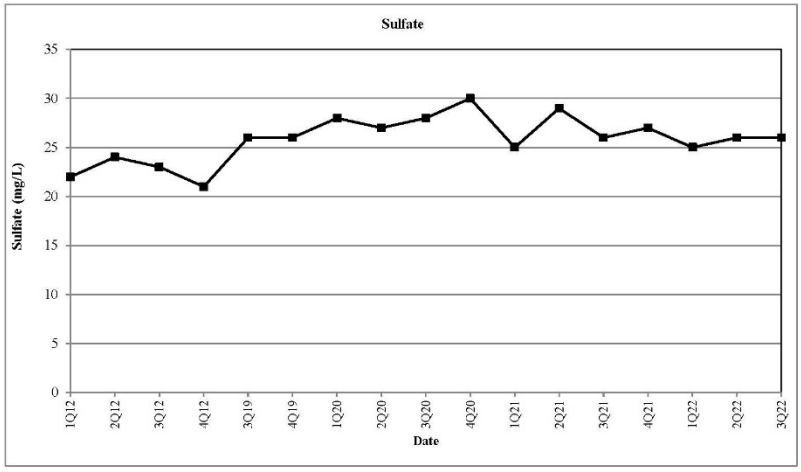
Chrin Brothers Sanitary Landfill
Monitoring Well MW-18

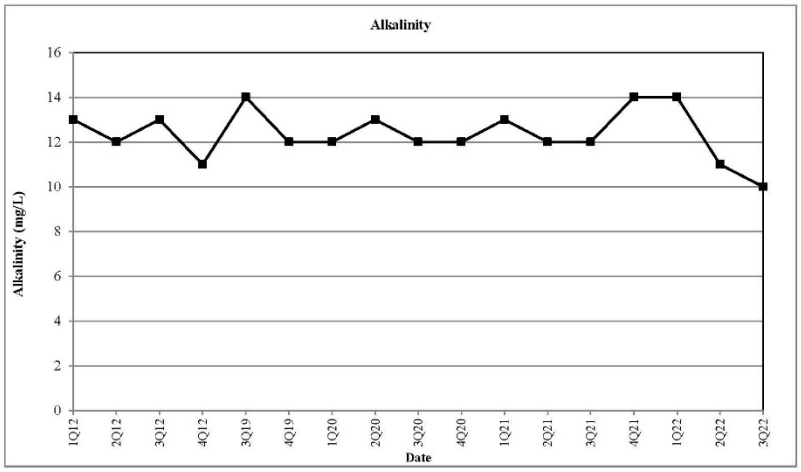


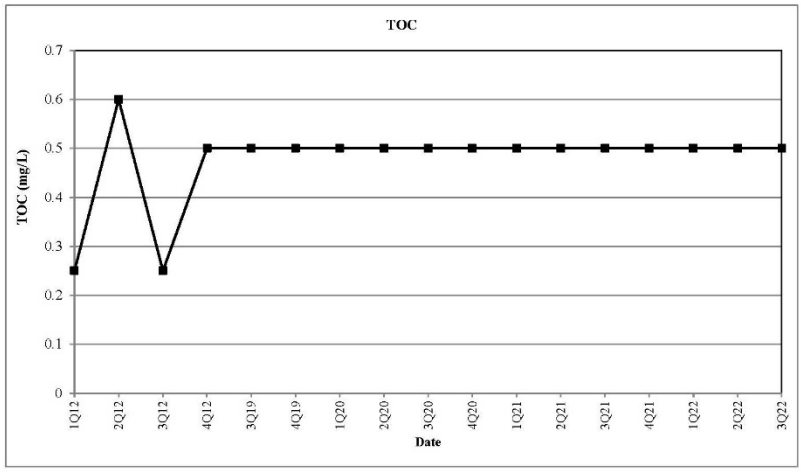




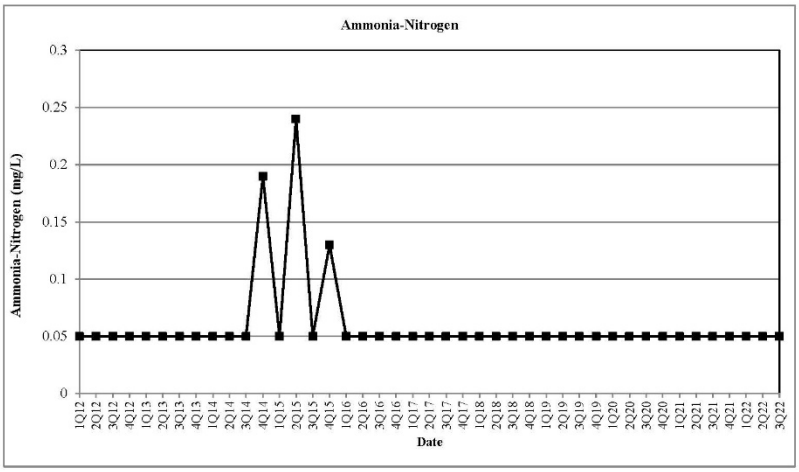
Chrin Brothers Sanitary Landfill
Monitoring Well MW-18

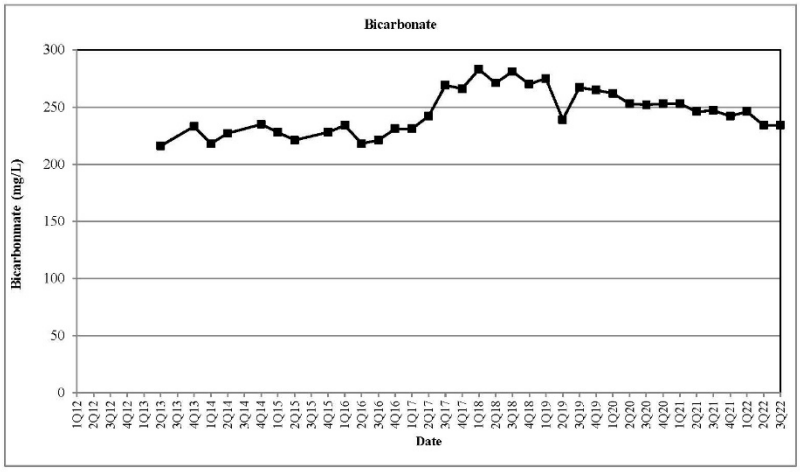


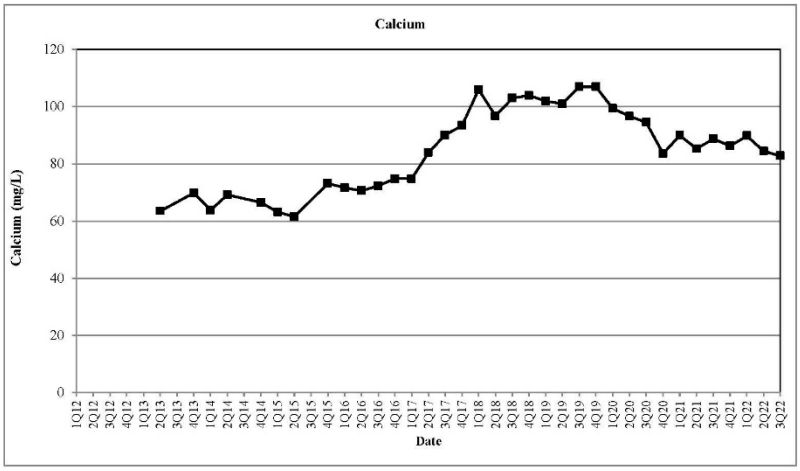




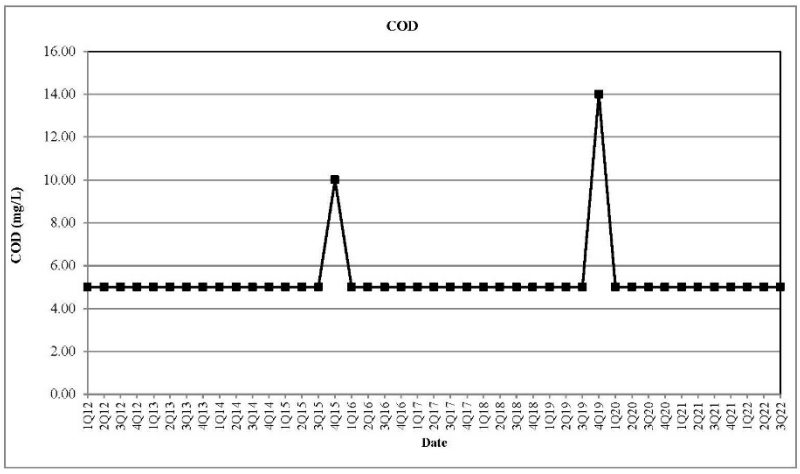
Chrin Brothers Sanitary Landfill
Monitoring Well PZ-3

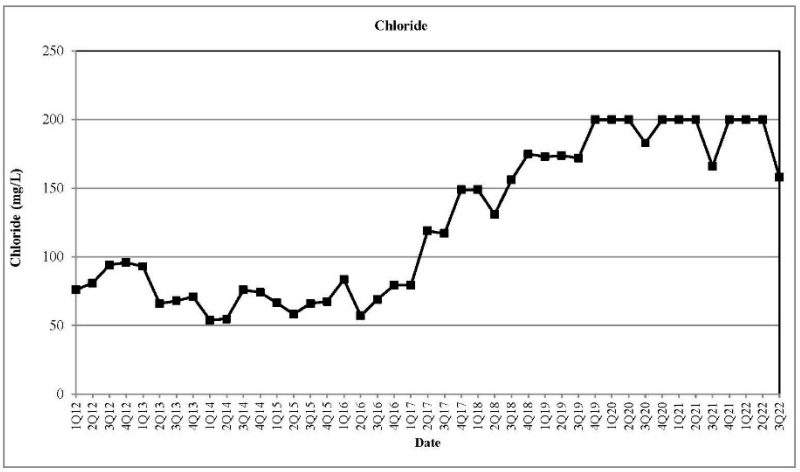


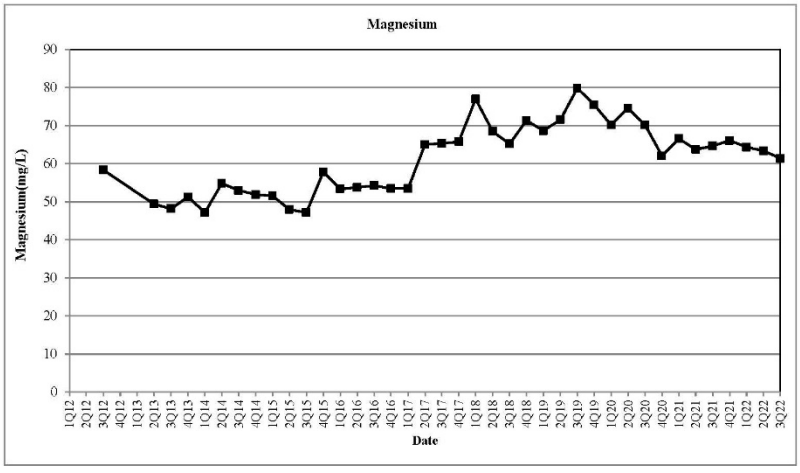




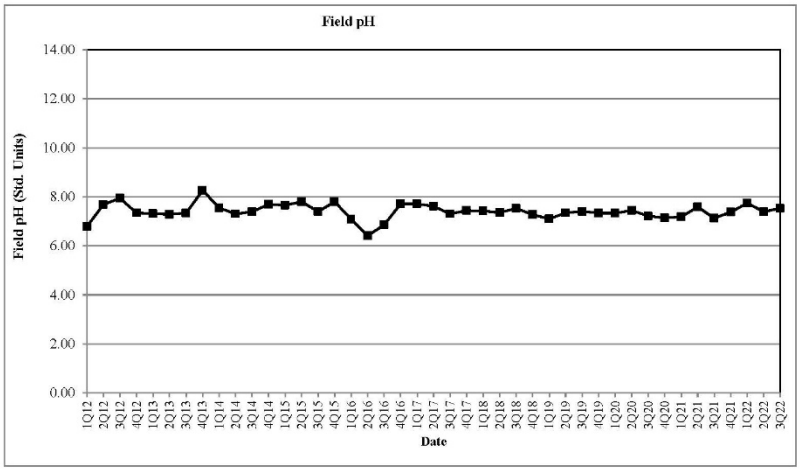
Chrin Brothers Sanitary Landfill
Monitoring Well PZ-3

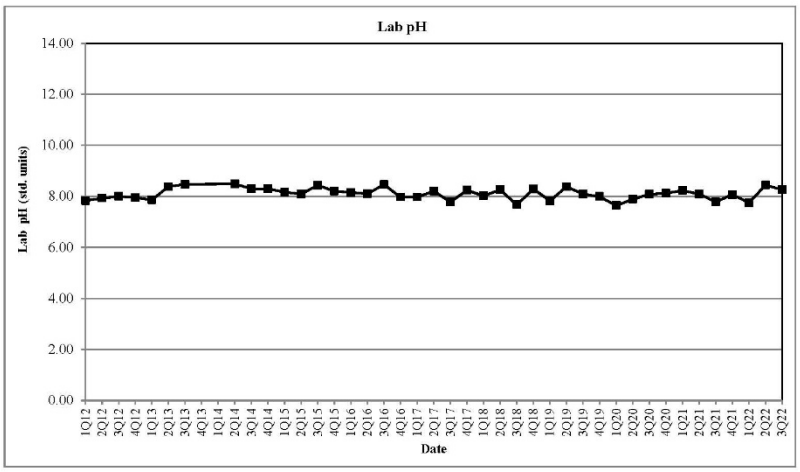


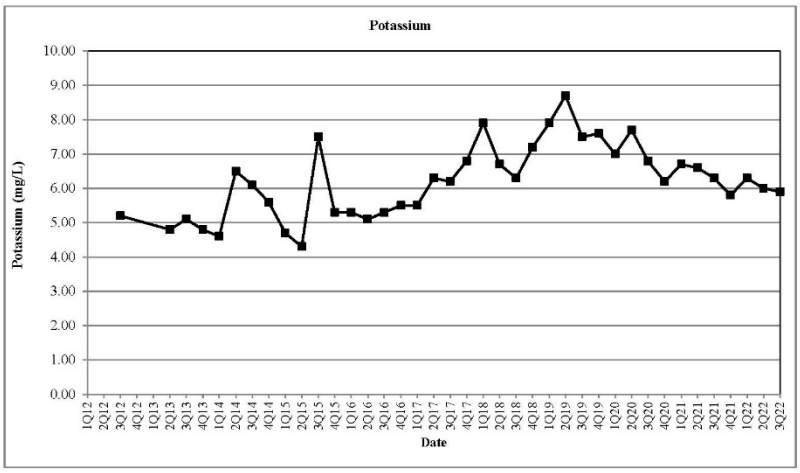




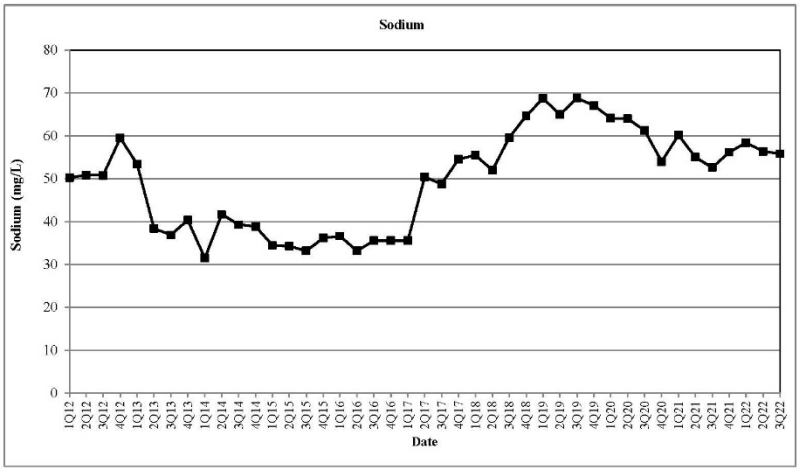
Chrin Brothers Sanitary Landfill
Monitoring Well PZ-3

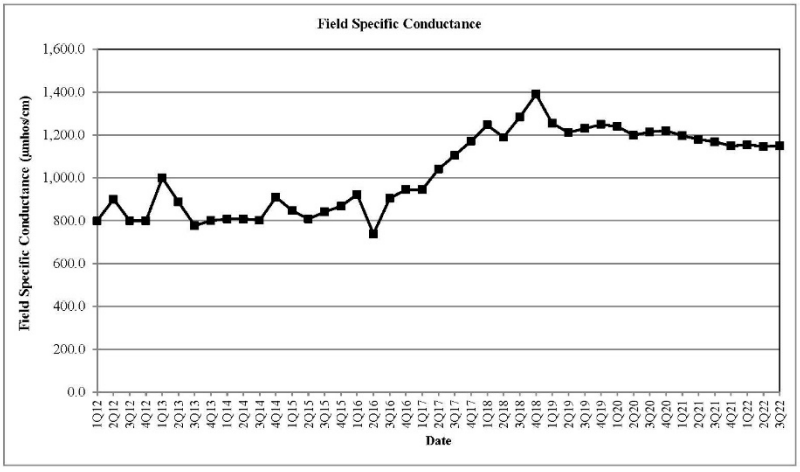


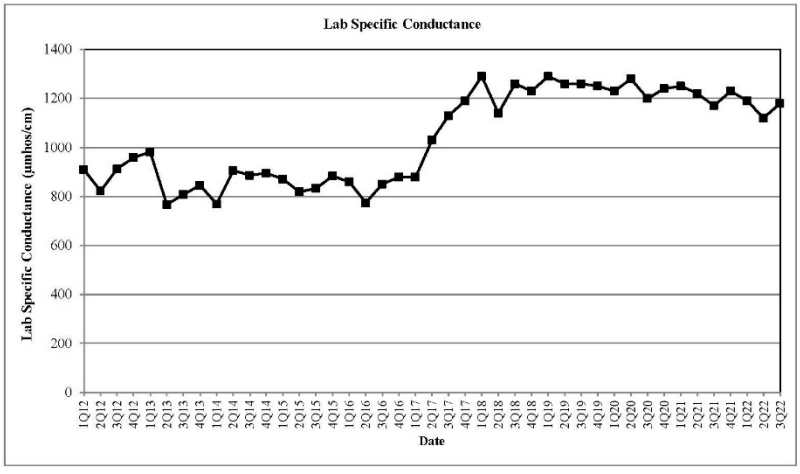




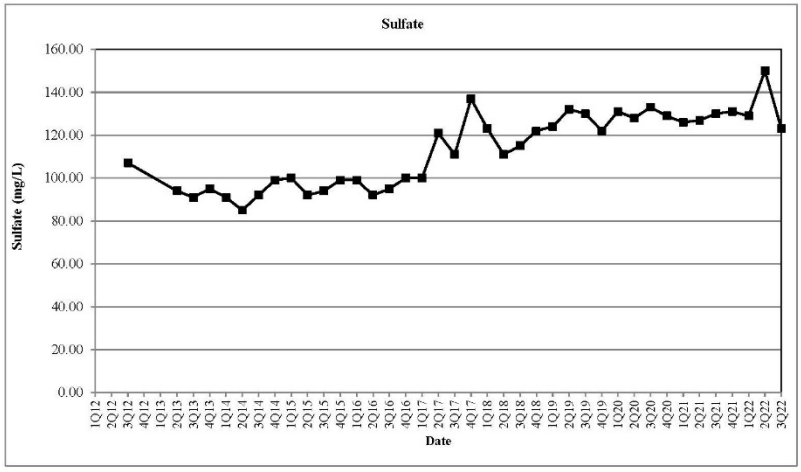
Chrin Brothers Sanitary Landfill
Monitoring Well PZ-3

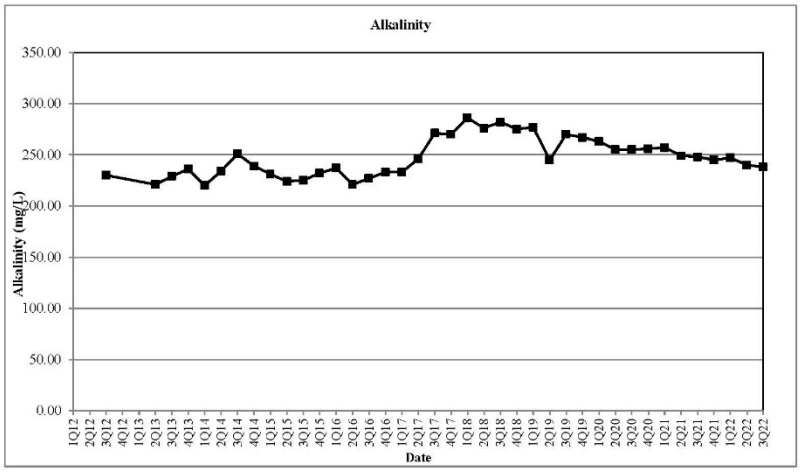


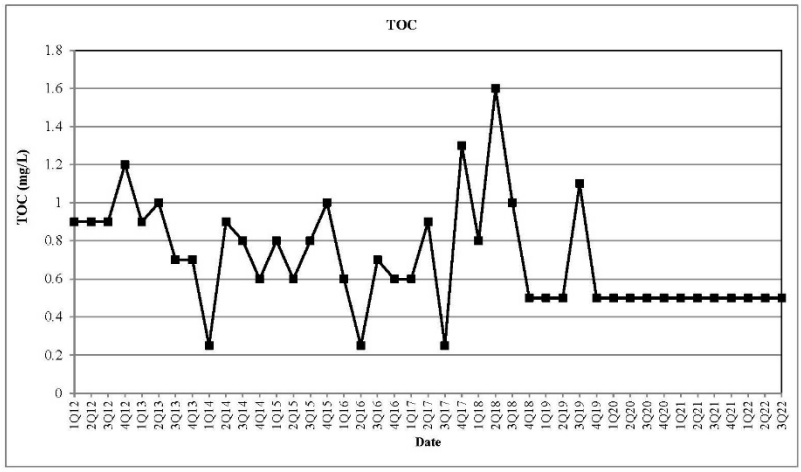




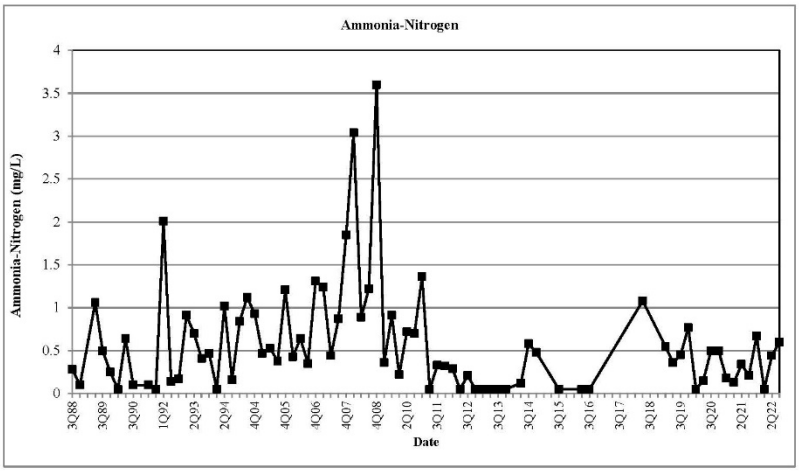
Chrin Brothers Sanitary Landfill
Monitoring Well PZ-3

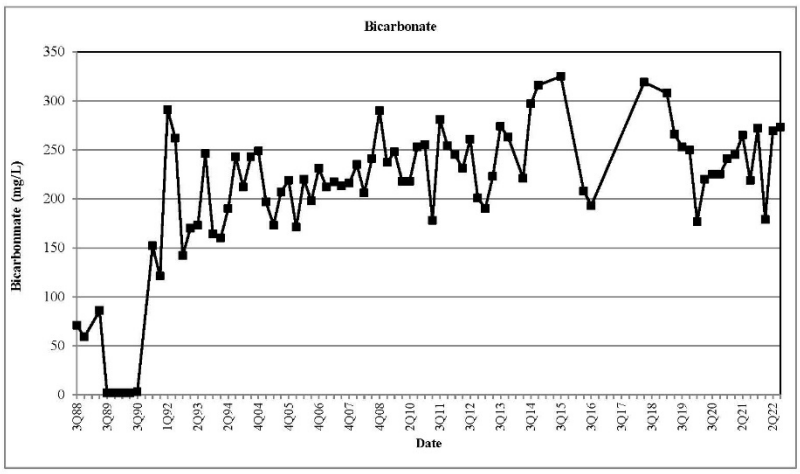


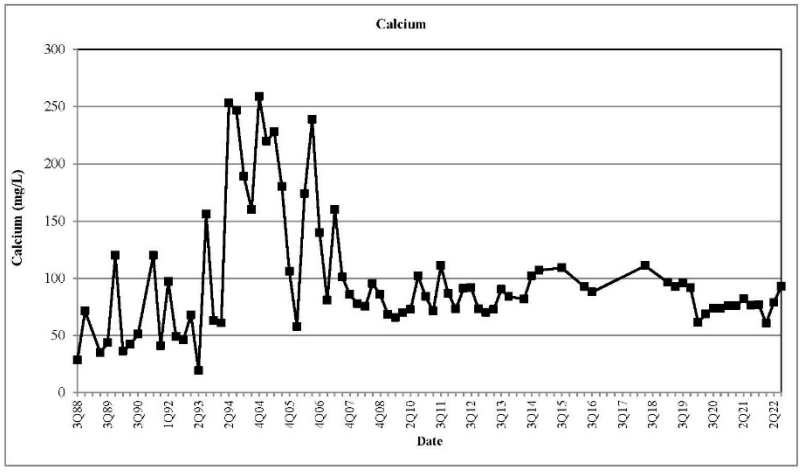




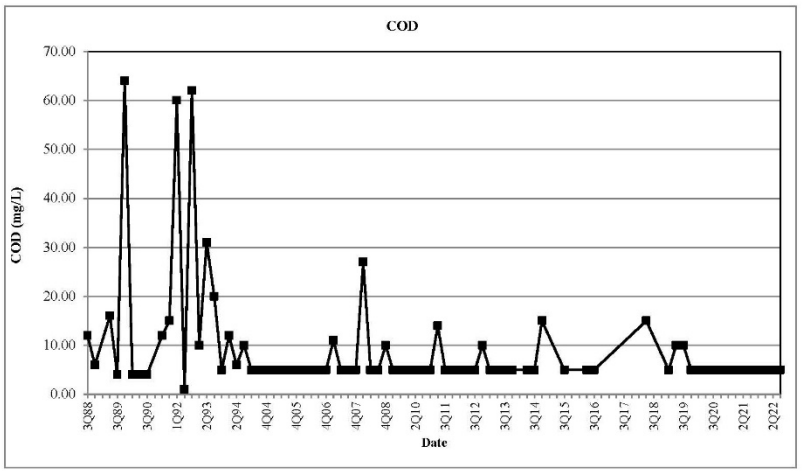
Chrin Brothers Sanitary Landfill
Soil Underdrain Monitoring Point SW-1

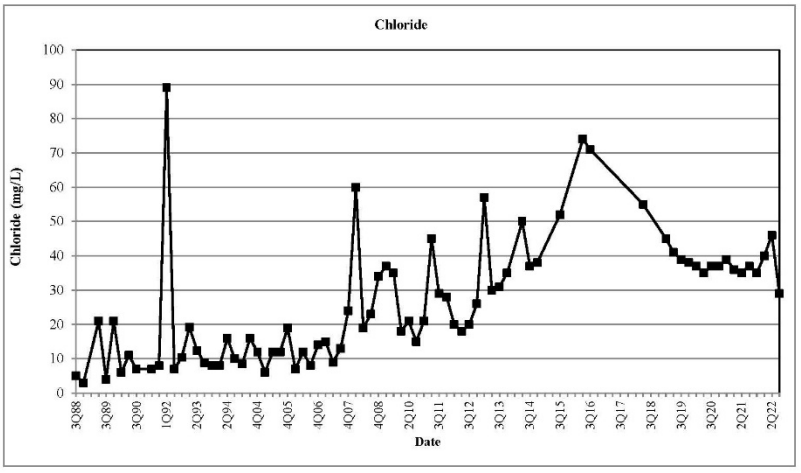


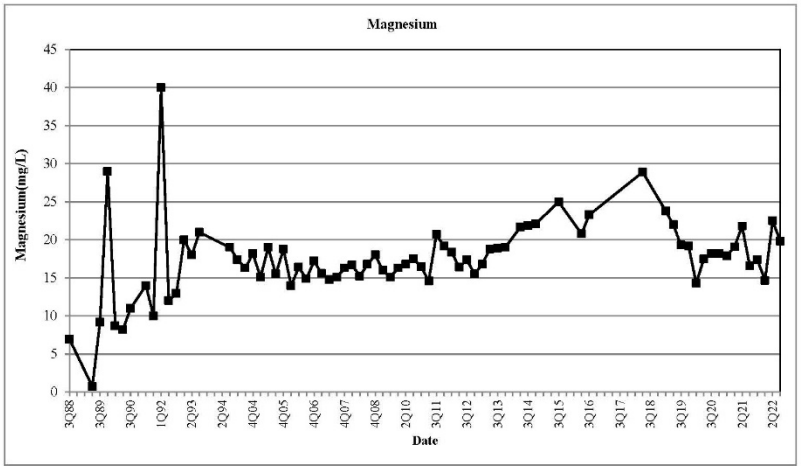




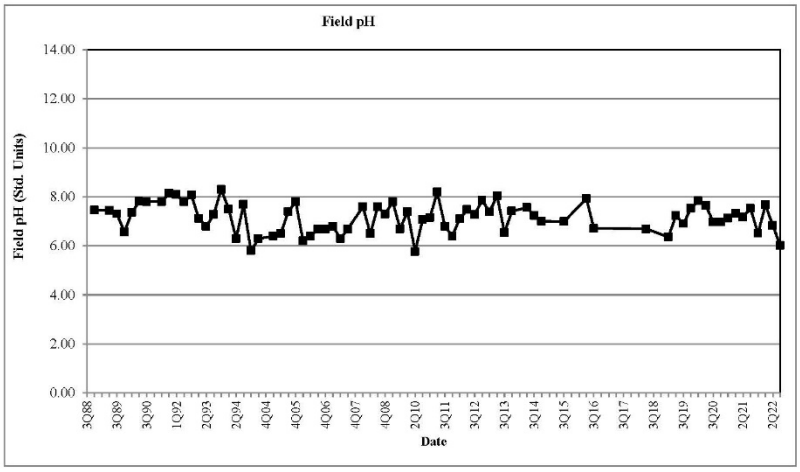
Chrin Brothers Sanitary Landfill
Soil Underdrain Monitoring Point SW-1

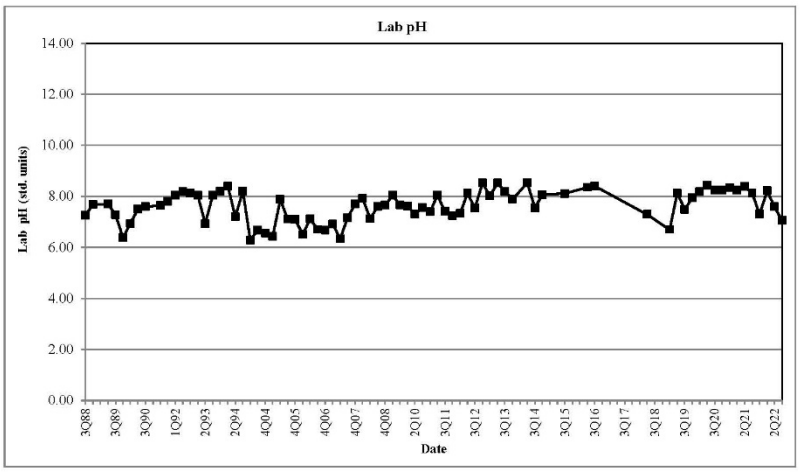


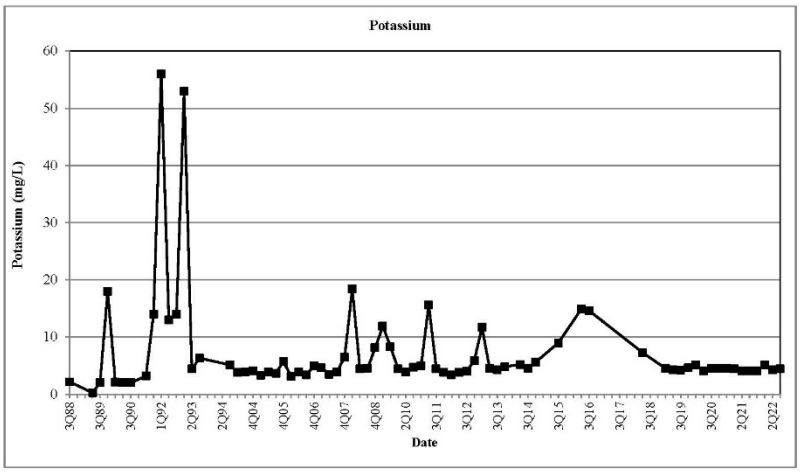




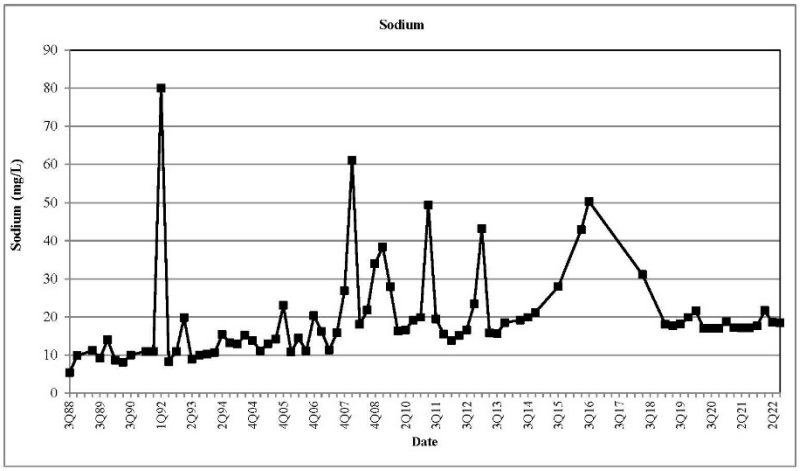
Chrin Brothers Sanitary Landfill
Soil Underdrain Monitoring Point SW-1

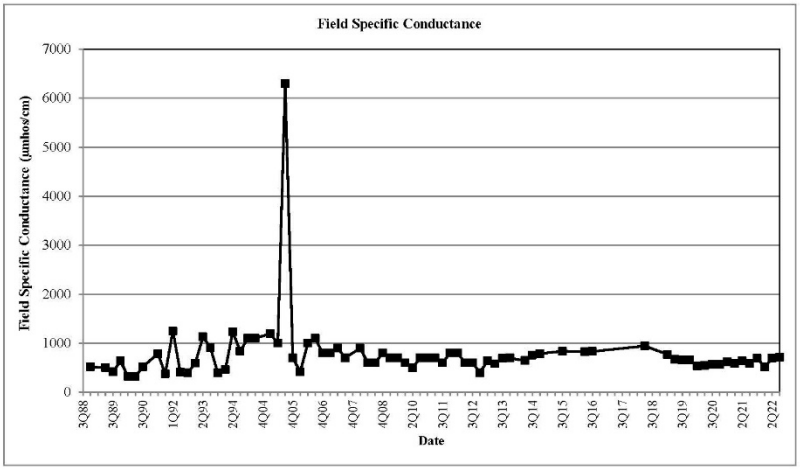


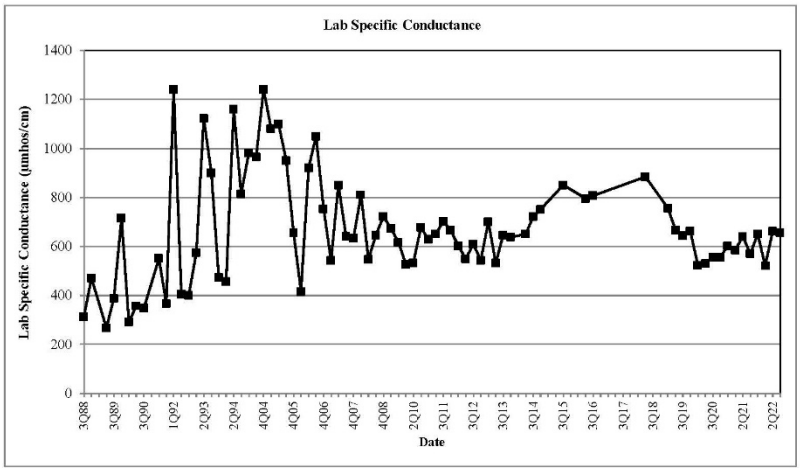




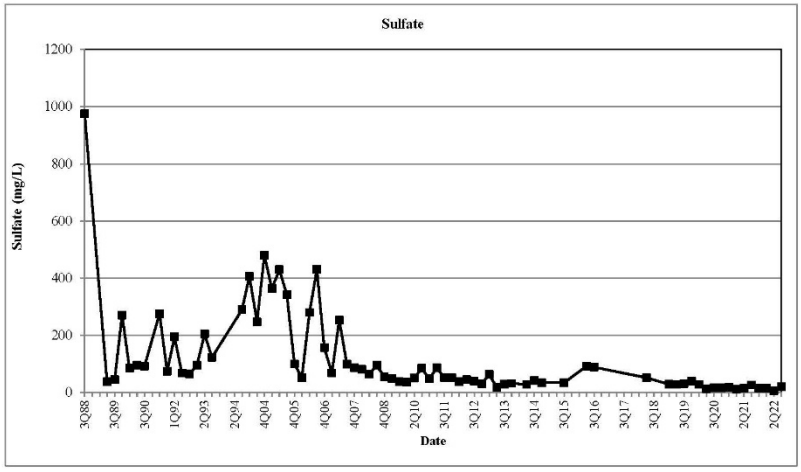
Chrin Brothers Sanitary Landfill
Soil Underdrain Monitoring Point SW-1

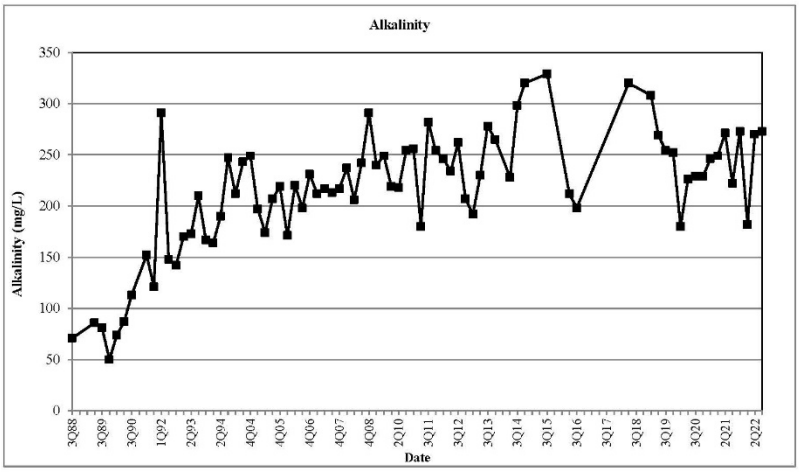


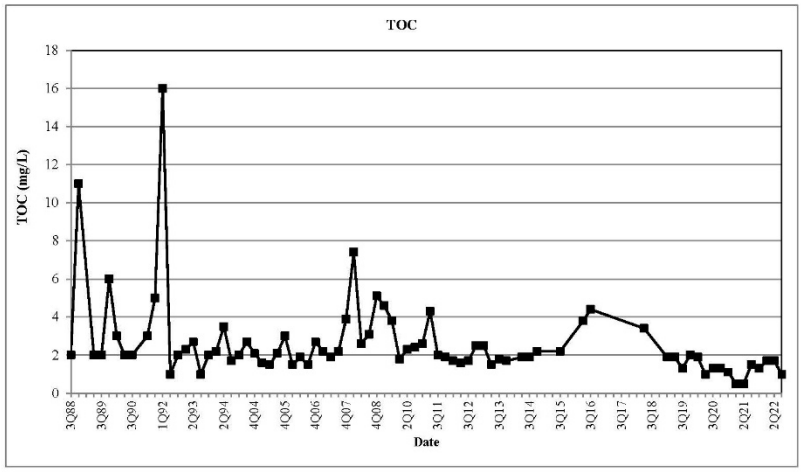




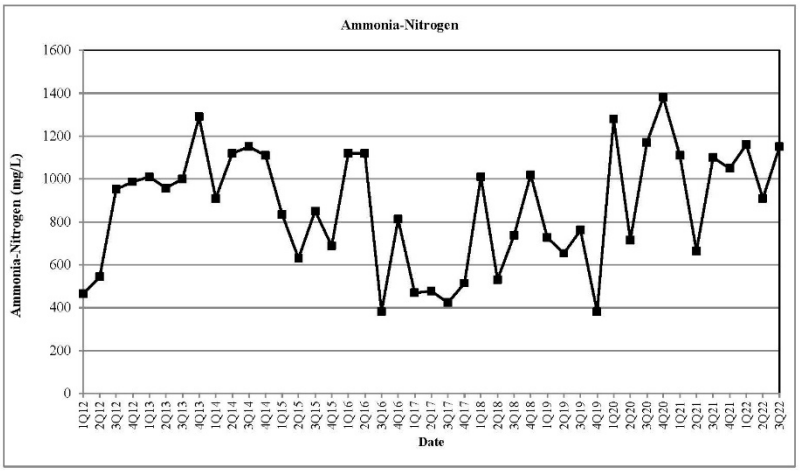
Chrin Brothers Sanitary Landfill
Soil Underdrain Monitoring Point SW-1

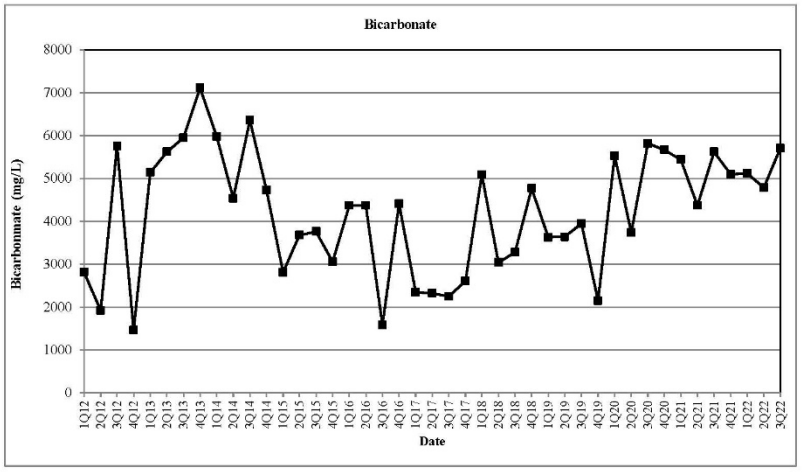


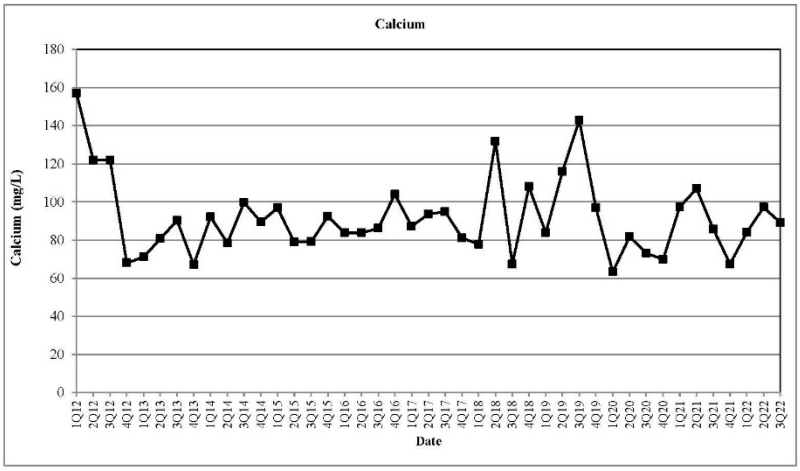




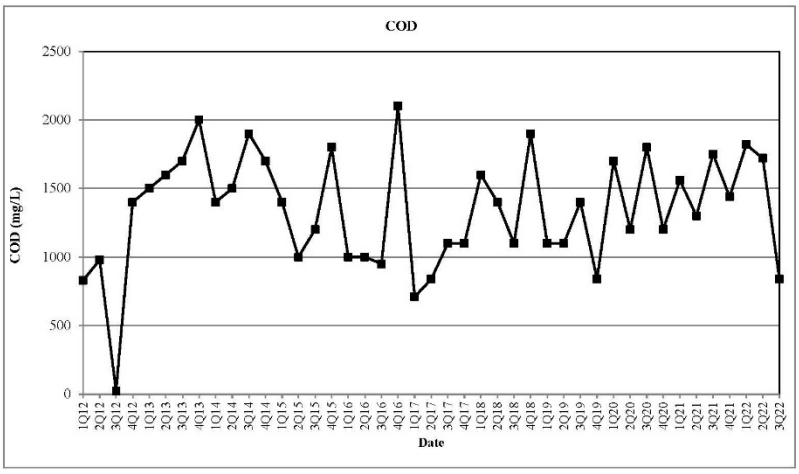
Chrin Brothers Sanitary Landfill
Primary Leachate Monitoring Point LEACHATE

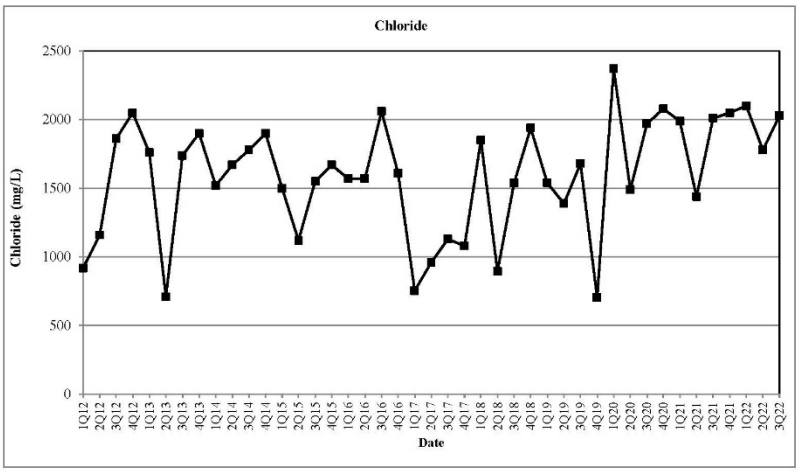


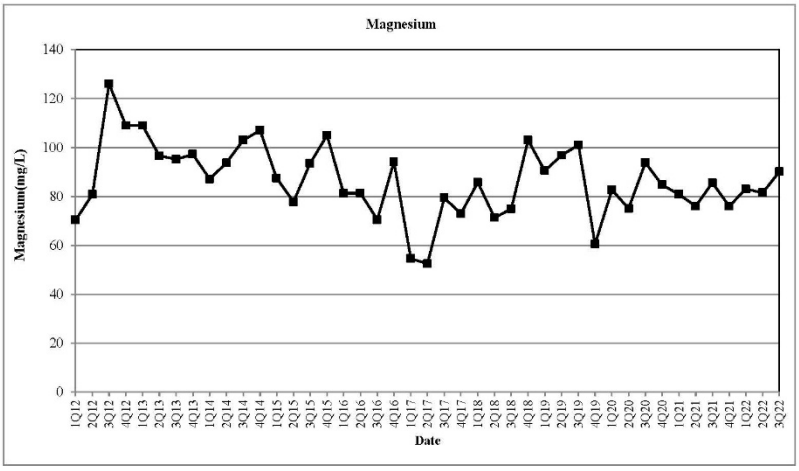




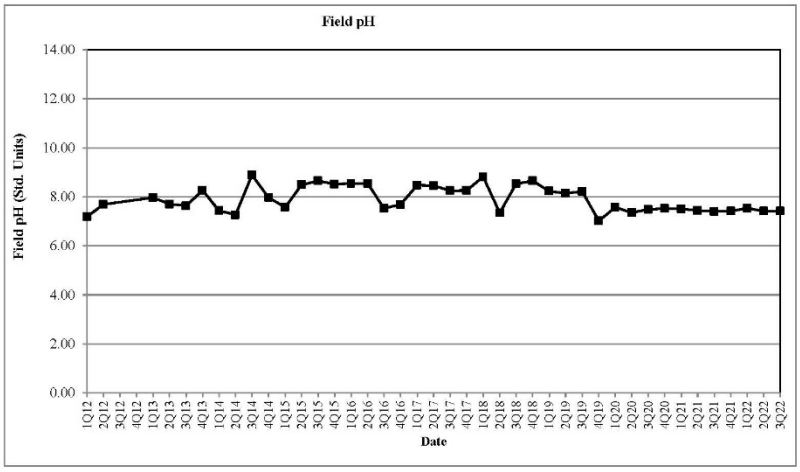
Chrin Brothers Sanitary Landfill
Primary Leachate Monitoring Point LEACHATE

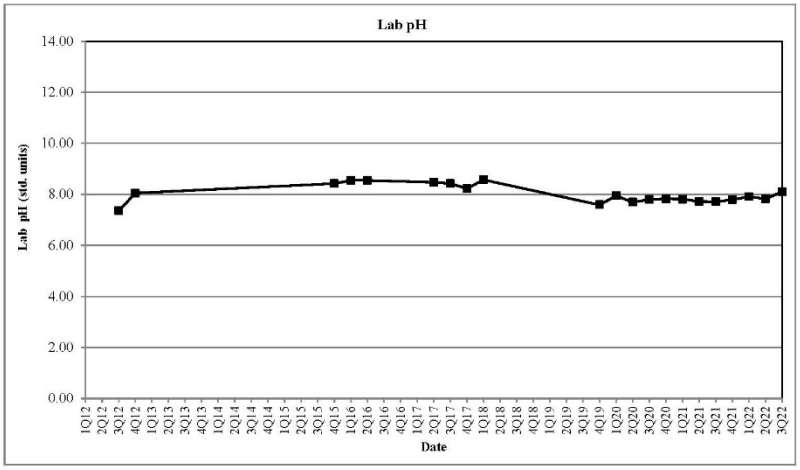


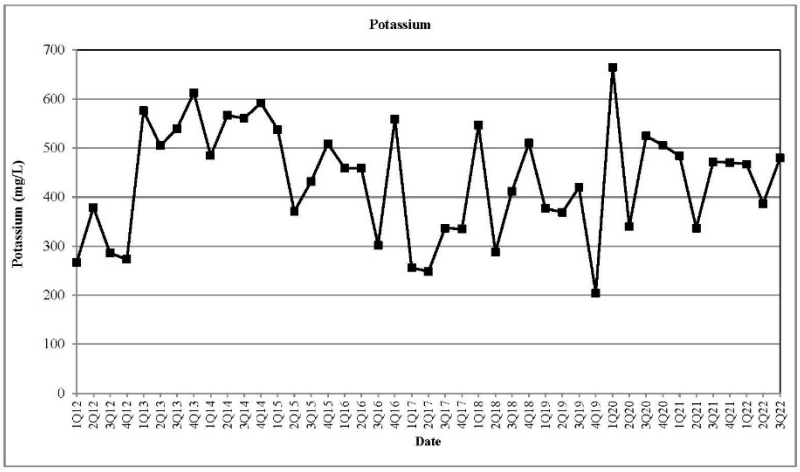




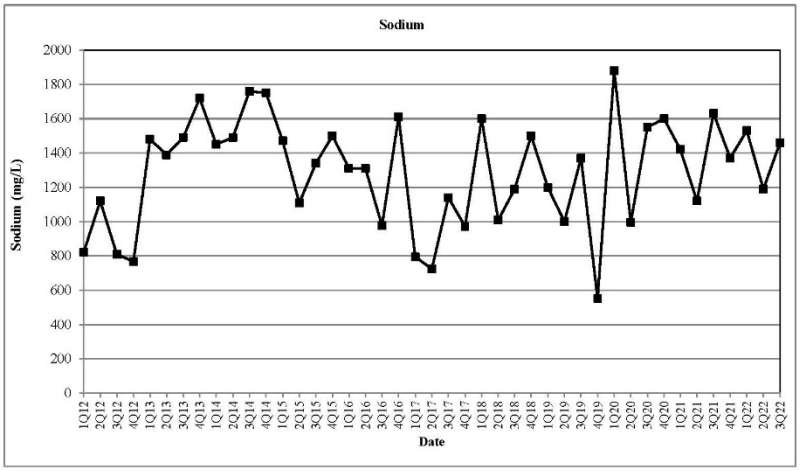
Chrin Brothers Sanitary Landfill
Primary Leachate Monitoring Point LEACHATE

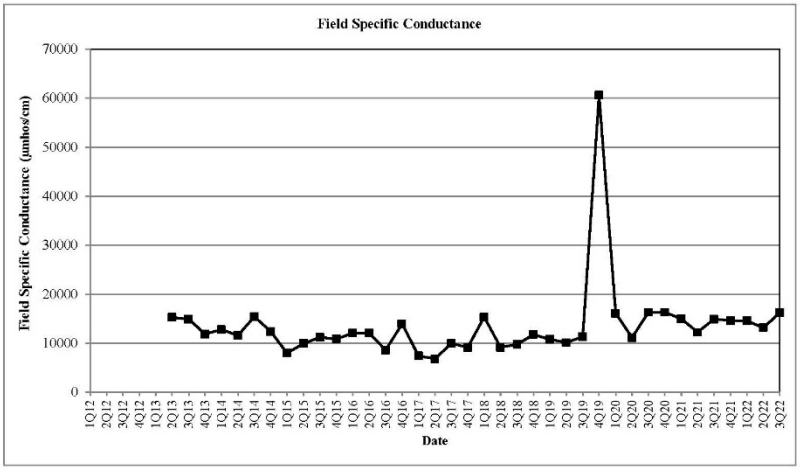


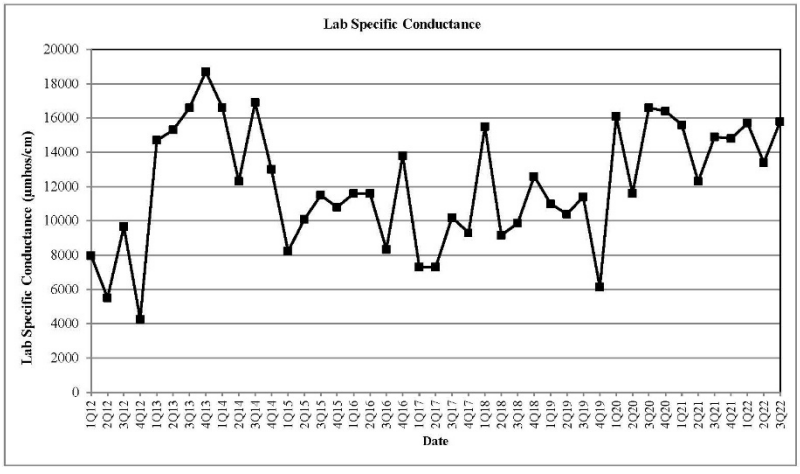




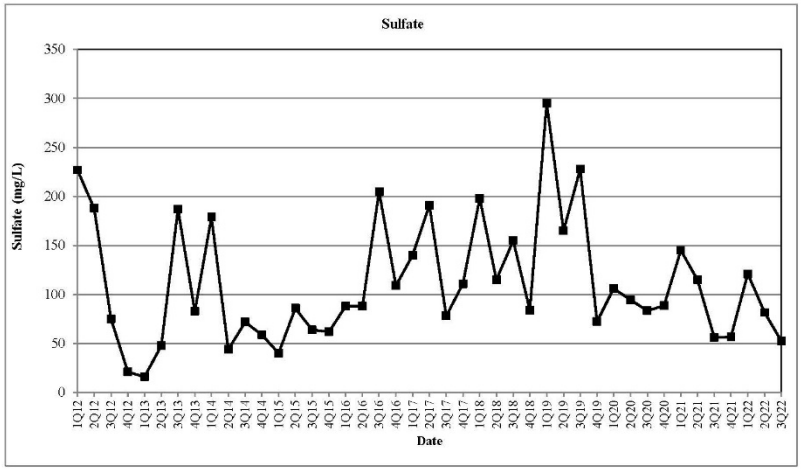
Chrin Brothers Sanitary Landfill
Primary Leachate Monitoring Point LEACHATE

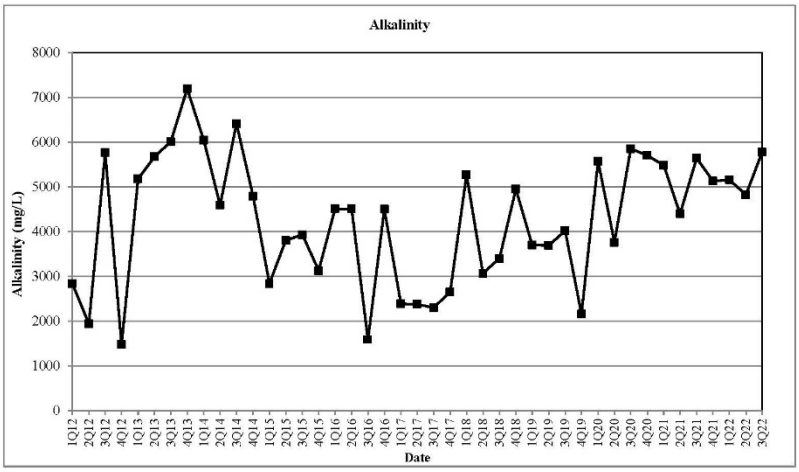


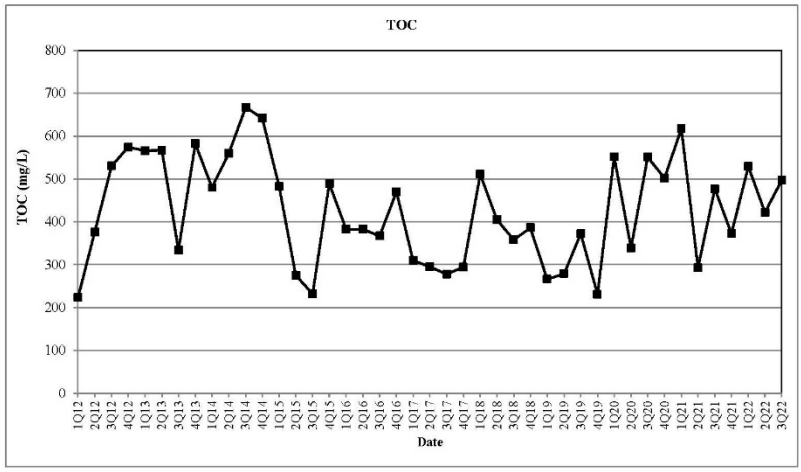




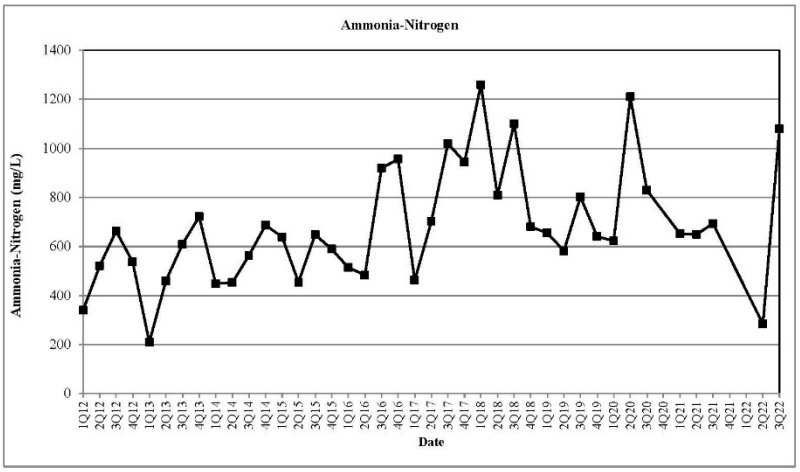
Chrin Brothers Sanitary Landfill
Primary Leachate Monitoring Point LEACHATE

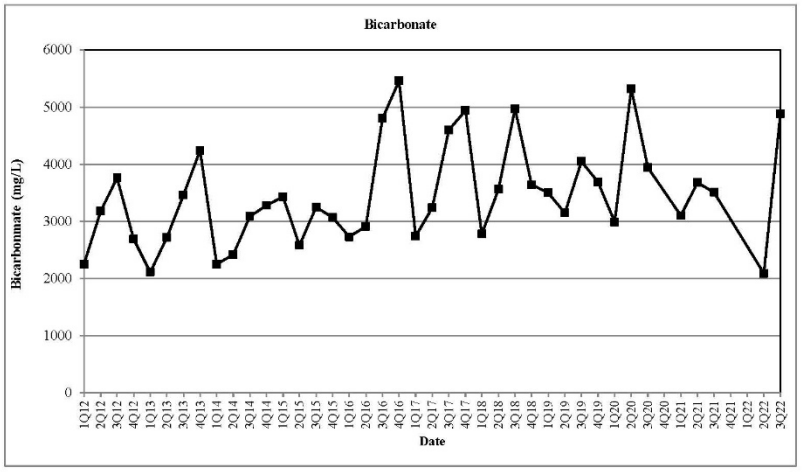


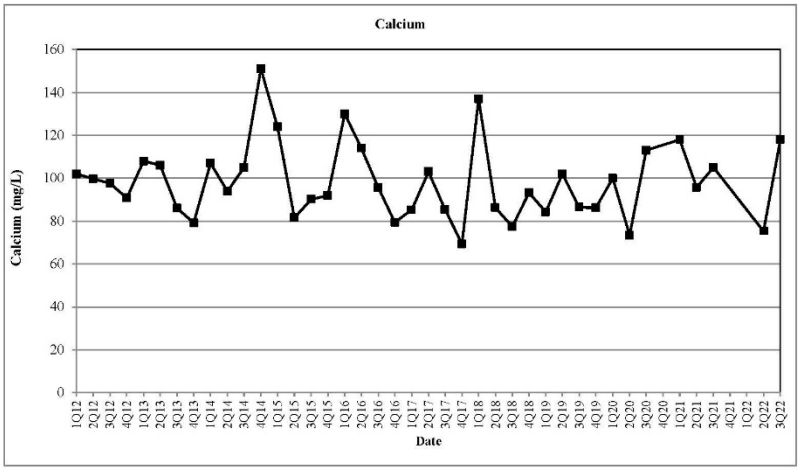




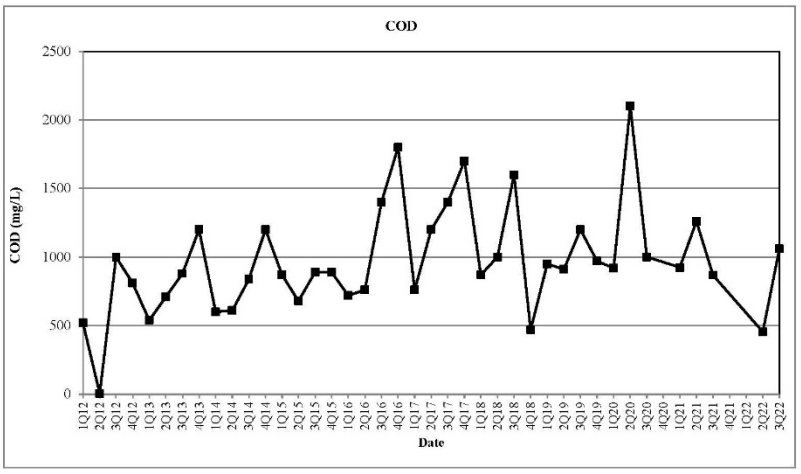
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-5

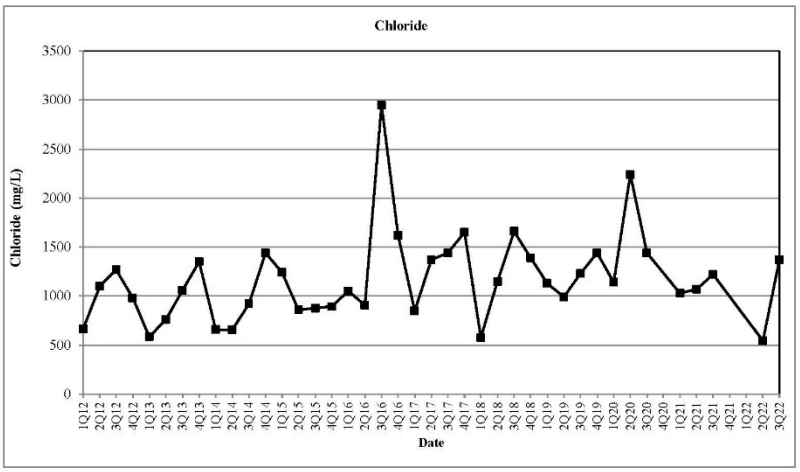


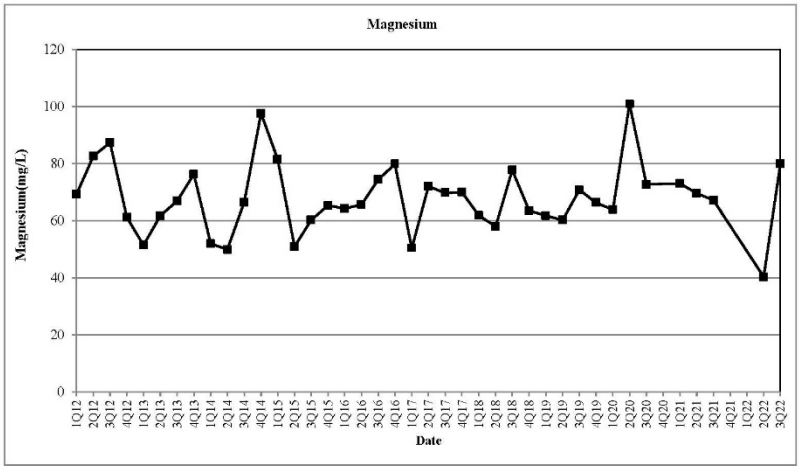




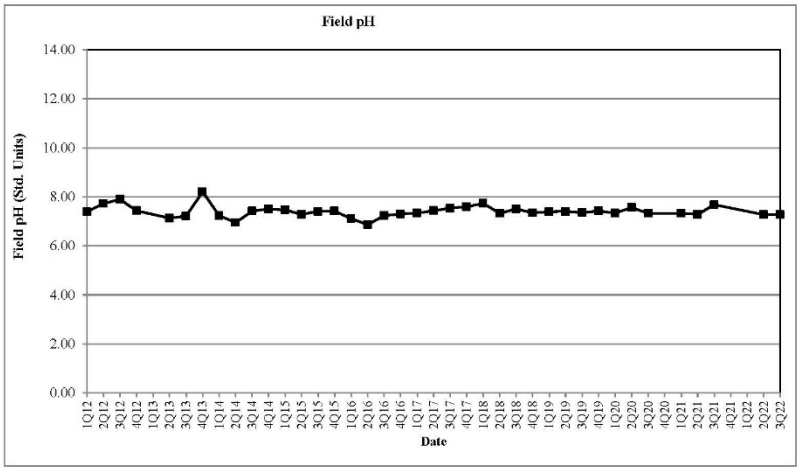
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-5

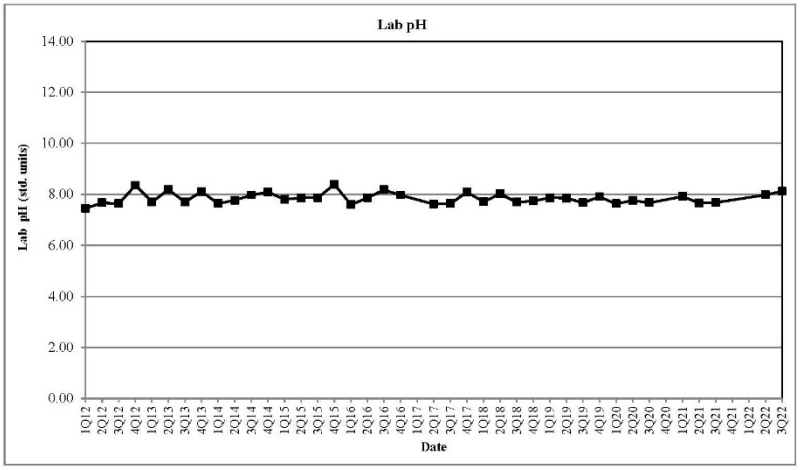


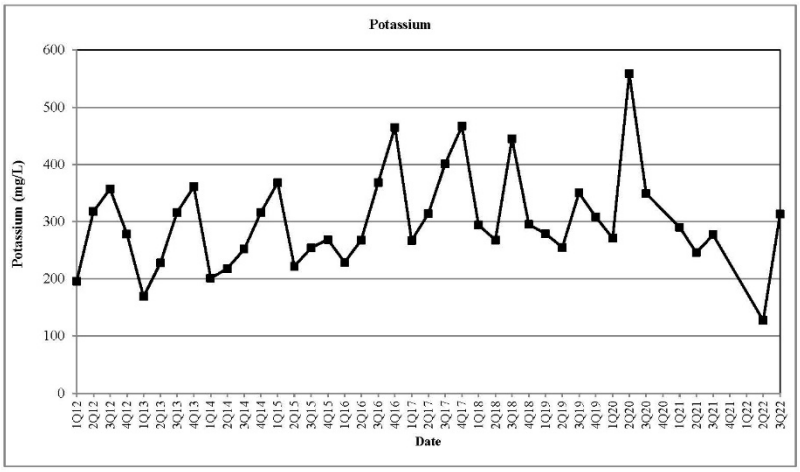




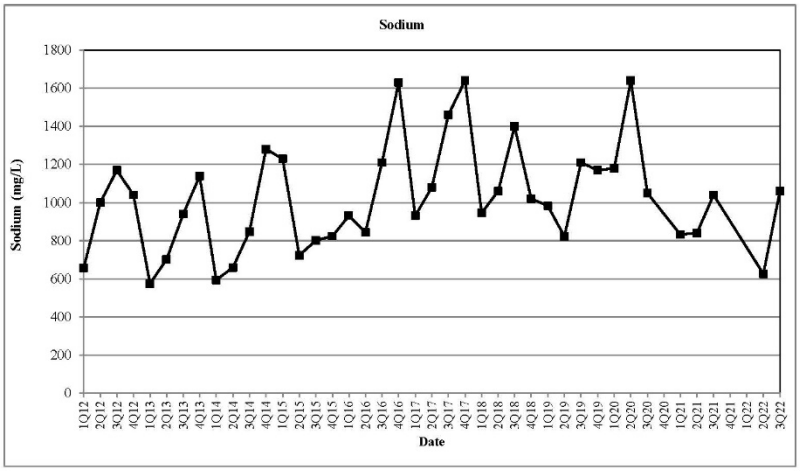
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-5

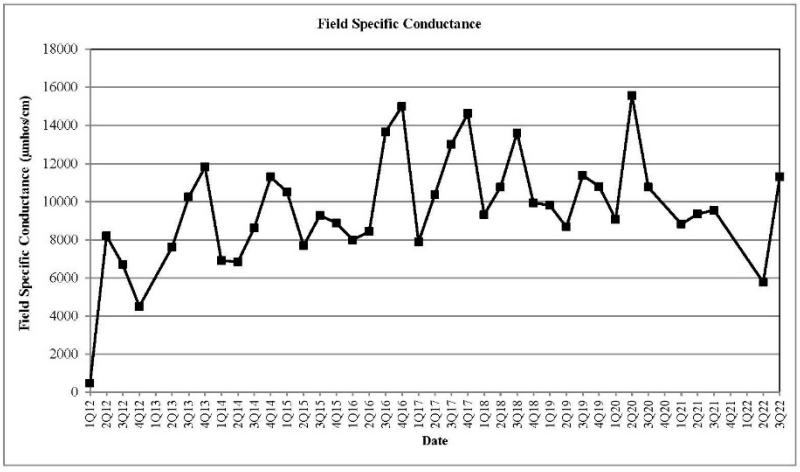


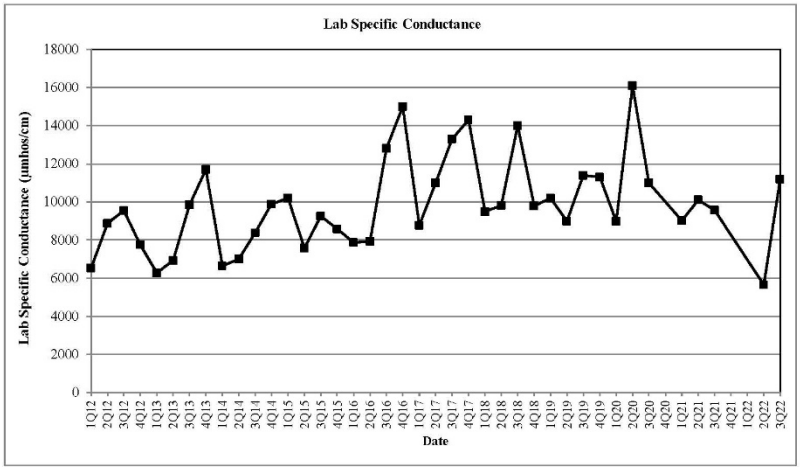




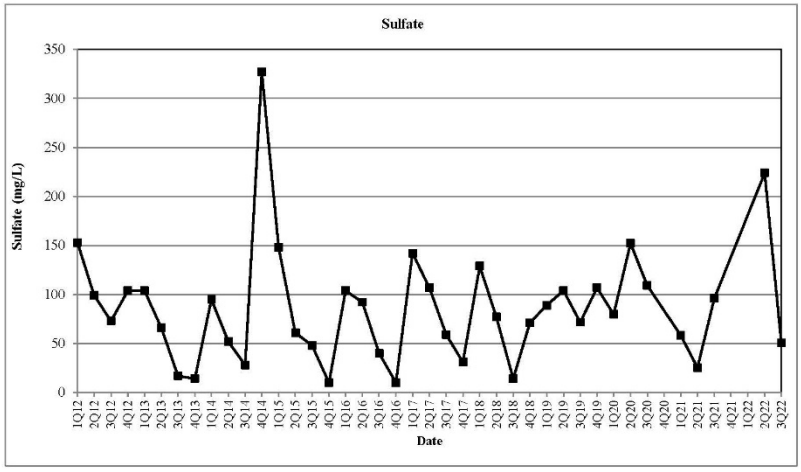
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-5

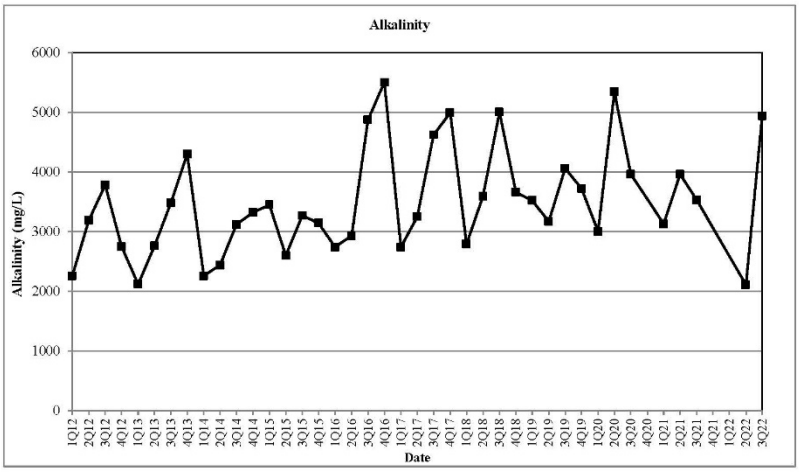


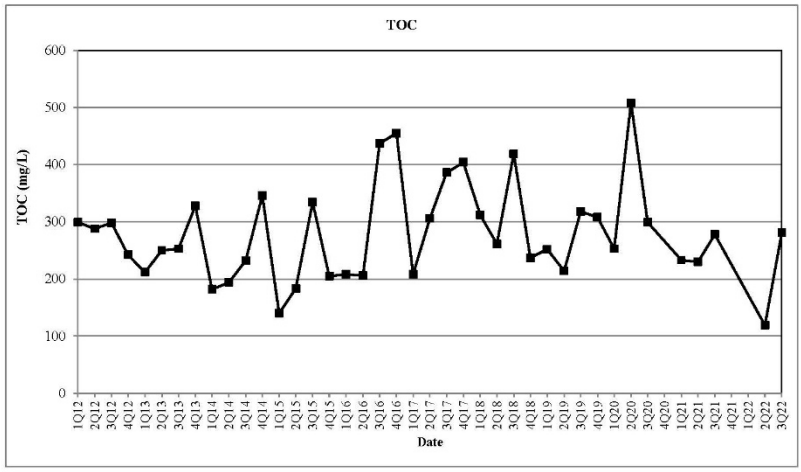




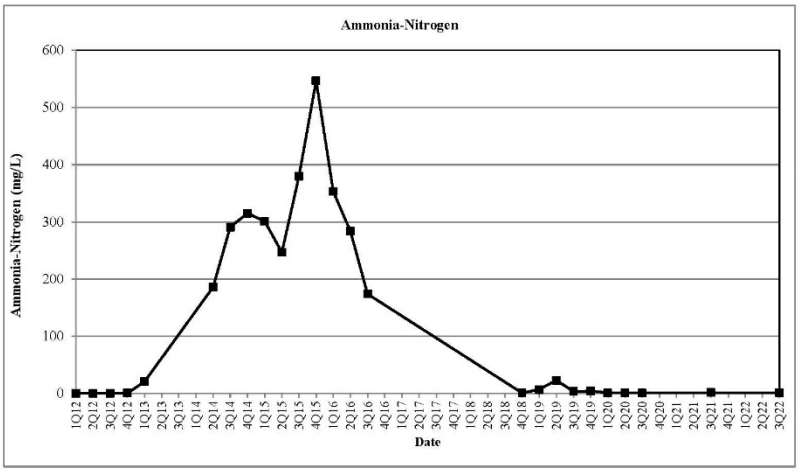
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-5

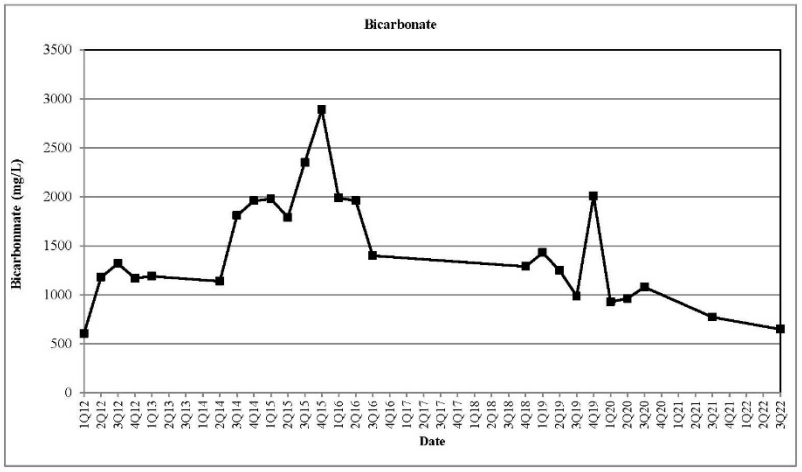


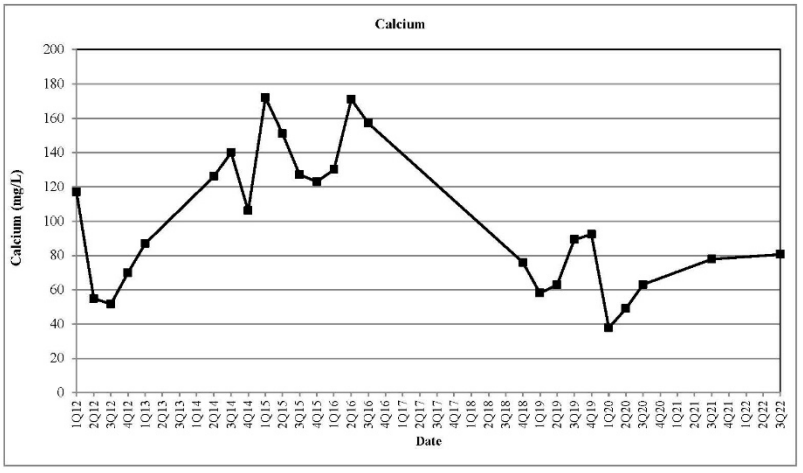




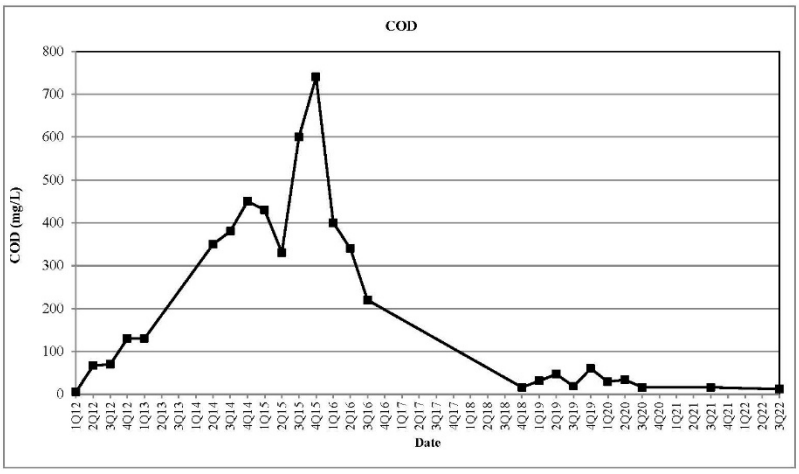
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-6

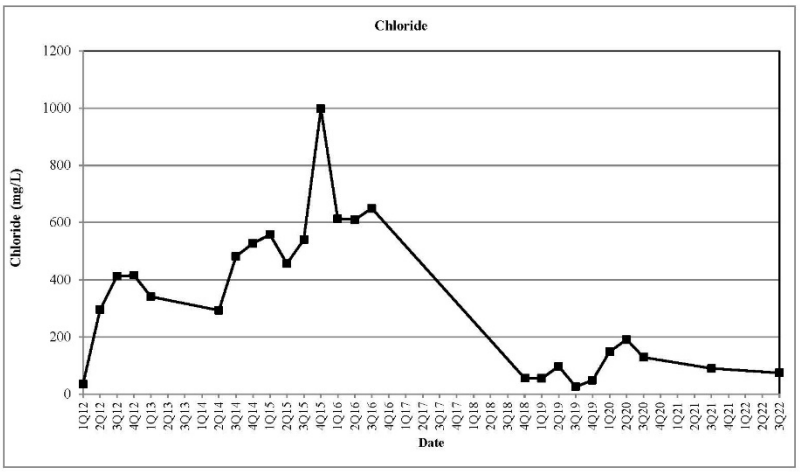


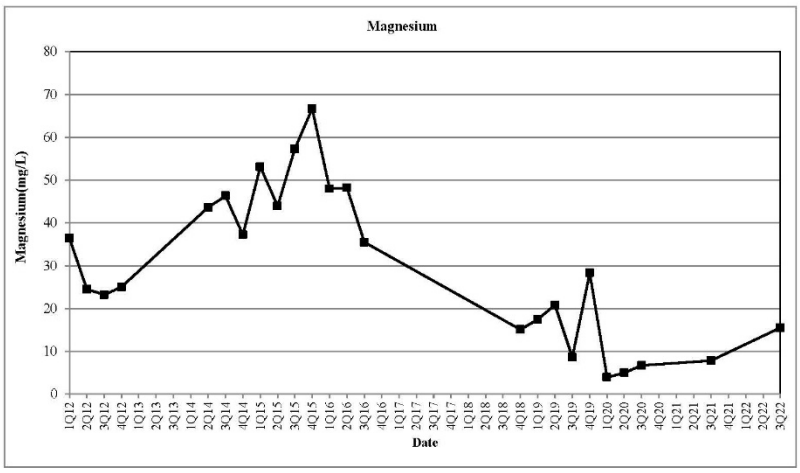




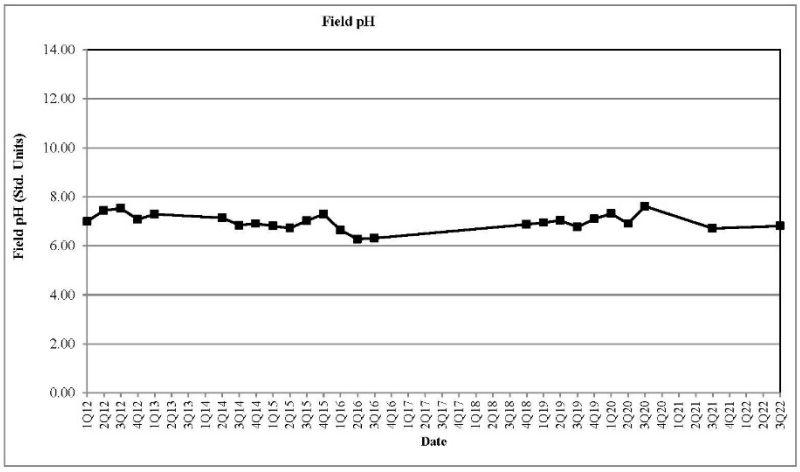
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-6

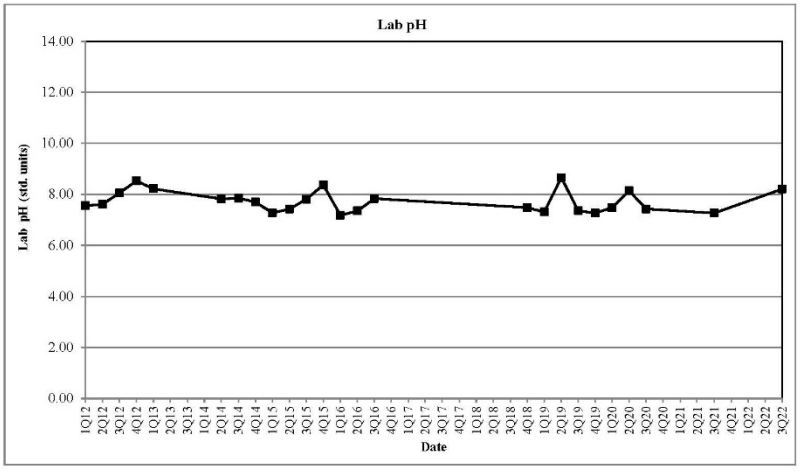


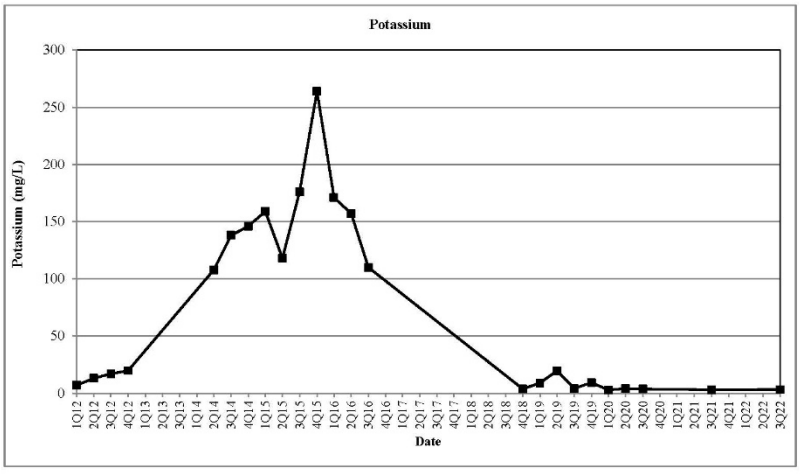




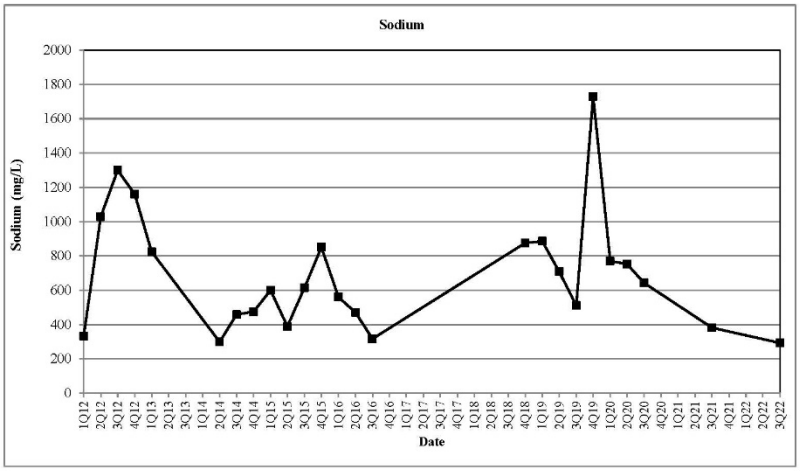
Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-6

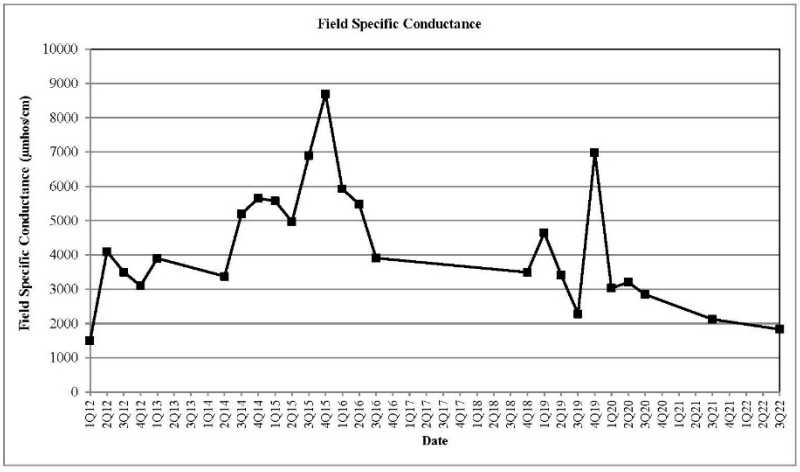


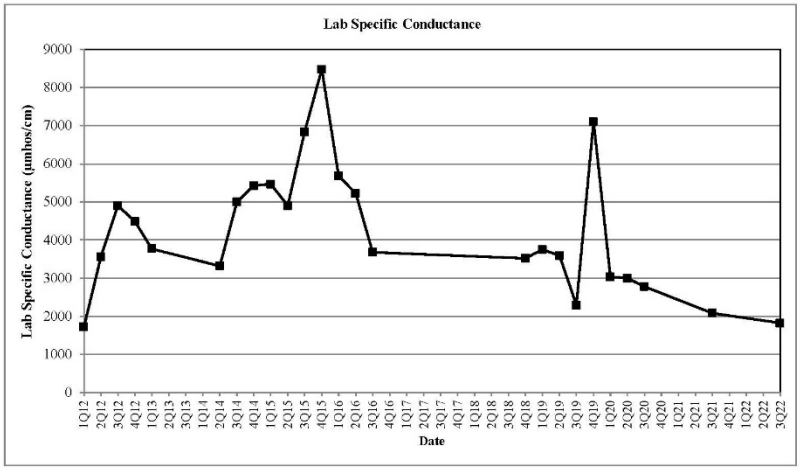




Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-6







Chrin Brothers Sanitary Landfill
Leachate Detection Zone Monitoring Point LDZ-6