2024
ANNUAL GROUNDWATER QUALITY REPORT

OF

THE AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91C
AMES, IOWA

by:
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November, 2024

HLW

HLW Engineering Group

Engineering *Management*

6004-24A.320

Figures

Tables

Appendices

Certification

Prepared by:  Date: 11-20-2024

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Section 1.0 Background Information

1.1 Report Format

Table 1 through Table 13 are attached to this report and satisfy the IDNR requirement to provide the tables to meet the IDNR format requirements included in the February 7, 2023, Letter from IDNR (Doc #105774).

1.2 Report Priority

No requests are made herein for priority review of this document.

1.3 Period of Report Coverage

Water quality data evaluation is based on a running compilation of data beginning in April 1991. Statistical evaluations herein are based on the most recent water quality data collected through September 3, 2024.

1.4 Current Site Maps

Figure 1 is attached illustrating the current site features, monitoring well locations, and subsurface gas probe locations.

Figure 2 represents the shallow groundwater contour map. This map has been updated to include the groundwater diversion lines (9 lines total) below the fill areas. This update was requested February 7, 2023 (IDNR Comment Letter - Doc #105774).

Figure 3 represents the Potentiometric Map of the Deep Sand Layer. This map has been updated to include the groundwater diversion lines (9 lines total) below the fill areas. This update was requested February 7, 2023 (IDNR Comment Letter - Doc #105774).

1.5 Site Status and Applicable Rules

Site Location

The Ames-Story Environmental Landfill is located in a portion of the E½ of Section 1, T83N, R24W, Story County, Iowa. The site is within the Corporate Limits of Ames, Iowa and is described as parcels and lots and is situated at the west end of Watt Street, Ames, Iowa. The facility operates under the Iowa Department of Natural Resources (IDNR) Permit Number 85-SDP-13-91C.

Landfill Layout

The geology and hydrogeology are described in the 1996 HIR/HMSP (Doc #36043). Previous land use is undeveloped land within an industrial portion of Ames. The solid waste stream included construction and demolition waste from May 1, 1991 through June 30, 2011.

Trenches 1 through 4 are located within the north portion of the site and were constructed between 1990 and 1996. Trenches 5 & 6 are located within the south portion of the site. Trench 5 construction was completed and approved for waste acceptance June 16, 1999. Trench 6 construction was completed and approved for waste acceptance May 26, 2000.

Landfilling in all trenches ceased prior to June 30, 2011. Figure 1 illustrates the site layout.

Groundwater collection and diversion piping exists below the liner at this facility. The groundwater collection and diversion piping on the north side of the site (Trenches 1-4) discharges to the stream along the north side of the site. The groundwater collection and diversion piping on the north side is monitored at the end of the discharge piping at sampling point SW-3. The groundwater collection and diversion piping on the south side of the site (Trenches 5-6) discharges to the City of Ames Sanitary sewer and is conveyed to the City of Ames WWTP. There is no sampling point in the groundwater collection and diversion piping on the south side of the site. The Water Table Contour Map (Figure 2) and the Potentiometric Map of the Deep Sand Layer (Figure 3) are attached illustrating the groundwater collection system effects.

Applicable Rules

Iowa Administrative Code (IAC) 567-114 is applicable to the site.

MONITORING WELL MAINTENANCE PERFORMANCE REEVALUATION

Monitoring Well Maintenance Performance Reevaluation Reports (MWMPR) dated June 10, 1993; March 30, 1998; June, 2003; December, 2010; April, 2015; and April, 2020 were prepared and submitted in accordance with IAC 567-114.21. The 2020 MWMPRP (most recent) concluded that the integrity of all MW's was intact, and that no changes in the HMSP monitoring wells were recommended. The Monitoring Well Maintenance Performance Reevaluation is due in 2025, unless a variance to IAC 114.21 is requested. Table 3 outlines the status of well performance and maintenance activities performed as required by IAC 567-114.21(2). Water elevation information is summarized in Table 4 and Table 4A.

Monitoring Well Redevelopment – MW-35

The Spring (3/24/2023) water quality results indicated an intermittent pattern of elevated arsenic concentrations at monitoring well MW-35, with the March 24, 2023 concentration reported at 102.0 ug/L.

MW-35 was redeveloped on June 13, 2023 in response to the March 24, 2023 arsenic result at MW-35. Redevelopment was accomplished by installing a surge disk on waterra tubing and pumping the well for several minutes while 3 gallons of water heavily laden with silt and fines was removed from well and the well pack. Following surging activities the well was pumped at a rate of 1.0 gpm using an electric submersible pump for 354 minutes (7:28 am to 1:22 pm). Approximately 354 gallons were pumped from MW-35. A sample was collected from the discharge of the electric pump at completion of pumping and was submitted to Keystone Labs for arsenic analysis. Testing indicates that the detected concentration of arsenic on June 13, 2023 (5.1 ug/L) following redevelopment and pumping of MW-35 was considerably lower than on March 24, 2023 (102.0 ug/L). Further the detected concentration of arsenic on September 13, 2023 (6.9 ug/L) was considerably lower than on March 24, 2023.

In 2024 the same pattern of reported “elevated” and “normal” arsenic concentrations are documented. The 3/5/2024 sample result for arsenic at MW-35 is reported at 194 ug/L, while the

9/3/2024 sample result for arsenic at MW-35 is reported at 21.6 ug/L. There were no redevelopment activities performed in 2024.

It appears that the elevated arsenic at MW-35 may be tied to a condition within the well itself or within the formation at MW-35, rather than from the landfill. Of the seven (7) recorded instances of elevated arsenic in MW-35, five (5) occur in March of each year.

High & Low Water Levels
Current year water elevation data is included on Table 4. Historic water elevation data (1991-2024) is included in the Table 4 Supplement. A Water Table Contour Map (Figure 2) and A Potentiometric Map of the Deep Sand layer (Figure 3) dated September, 2024 are included with this report and illustrate the water surfaces and the effects of the topography. Also, the groundwater underdrain flowline elevations are included on Figure 2 and Figure 3 as requested in the February 7, 2023 Letter from IDNR (Doc #105774). Review of the maps confirms control of the water table and sand seam aquifers at this site.

Review of the 2024 water elevation data does not indicate any remarkable water elevation conditions.

Well Depth & Sedimentation
Well depth measurements were made September 3, 2024. Review of the well depth data included on Table 4 indicate that well sedimentation is estimated to be less than one (1) foot at all site monitoring wells, with the exception of MW-34 (1.20 feet sediment).

Well Recharge Rates & Chemistry
The baseline measured horizontal hydraulic conductivity testing results (1991 to 2003) for each site monitoring well is included on Table 4. Horizontal hydraulic conductivities ranged between 10^{-3} cm/sec and 10^{-6} cm/sec.

Field recovery data recorded on February 28, 2020 (also on Table 4) indicates that the monitoring well hydraulic conductivities across the site demonstrate the same range (10^{-3} cm/sec and 10^{-6} cm/sec) and that the recorded 2020 conductivities at each well fall within one order of magnitude of the baseline hydraulic conductivity. Hydraulic conductivity information indicates that recharge to the individual wells remains sufficient to promote collection of representative water quality samples and the wells were functioning as intended. Monitoring well recharge reevaluation is due every five (5) years according to 114.21(2)"d", and should be evaluated again in 2025.

Based on the apparent static condition of the water surfaces across the site, it appears that the semi-annual water elevation data is sufficient to adequately monitor the hydrologic condition of the site. Review of the water elevation data for 2024 does not indicate excessive variability compared to historic water elevation data. The wells are interpreted to be appropriately located to detect any impact, should it occur. Water elevation data is summarized in Table 4 and Table 4A.

Section 2.0 Reporting Period Monitoring Activities

The Hydrologic Monitoring for the site is approved by Permit Revision #1 (dated June 30, 2023 (Doc# 107098)) including the approved Waiver dated June 1, 2023. The current HMSP is summarized in the Table 1. The HMSP Implementation Schedule for 2025 is itemized in Table 2.

The site (both the north and south fill areas) is characterized as having two (2) groundwater systems that are monitored as part of the HMSP, the Water Table system and the Deep Sand Layer System. Background monitoring wells include MW-6, MW-7, MW-8, MW-22 (plugged), MW-27 (plugged), MW-28, MW-29, MW-36, and MW-37. The approved Waiver dated June 1, 2023, allows four (4) of the seven (7) background wells to be sampled each year according to the semi-annual schedule included in the waiver. The background monitoring wells are functioning effectively as valid sampling points based on the hydrogeology and the water quality results.

Downgradient monitoring points include MW-25, MW-33, MW-34, MW-35, MW-39, MW-40, and SW-3 (tile). Provision 5e of the Permit requires semi-annual sampling for indicator compounds to be performed at the designated monitoring wells at the site. The TOX and phenol testing requirements included in IAC 114.26(4)"f" are reduced to once per five (5) years in the approved Waiver dated June 1, 2023.

Supplemental compounds arsenic, total; boron, total; sulfate; and turbidity are also required to be sampled semi-annually in Provision 5e of the Permit.

A summary of the planned 2025 sample collection events at each well is included on Table 2.

Field sampling information for the March 5, 2024 and September 3, 2024 sampling episodes is included on the field forms (IDNR Form 542-1322) in Appendix A.

A comprehensive summary of Analytical Data for the episodes between April 23, 1991 and September 3, 2024 is included on Table 9.

2.1 Current Detection Monitoring Activities

Background wells are currently MW-6, MW-7, MW-8, MW-22 (plugged), MW-27 (plugged), MW-28, MW-29, MW-36, and MW-37.

Downgradient monitoring points include MW-25, MW-33, MW-34, MW-35, MW-39, MW-40, and SW-3 (south underdrain tile).

2.2 Current Assessment Monitoring Activities

There are no assessment monitoring activities at the site.

A Site-Wide Arsenic Source and Speciation Study was completed in September, 2017, (Doc # 90322) and identified both natural arsenic sources and natural reducing conditions at the site.

2.3 Current Corrective Action Activities

There are no corrective actions or corrective action monitoring activities at the site.

Section 3.0 Data Evaluation and Summary

Field Sampling Forms for March 5, 2024 and September 3, 2024 sample collection episodes are included in Appendix A. Chemical analytical results for the March 5, 2024 and September 3, 2024 sample collection episodes are included in Appendix B. The chemical analytical data is also presented in tabular and graphical form by chemical compound over time in Table 9/10. The Summary Tables and statistical computations of background are included in Table 5. The graphs of the concentration versus time for the downgradient sampling points illustrate those compounds that exceed statistical limits and are incorporated in Table 10. Groundwater Protection Standards have also been included on Tables 5-10. Review of Tables 5-10 indicate the following observations.

QUALITY ASSURANCE/QUALITY CONTROL

A blind duplicate sample was collected at MW-39 during the March 5, 2024, sampling episode. A blind duplicate sample was collected at MW-33 during the September 3, 2024, sampling episode.

The purpose of the field duplicate is to evaluate the precision of sample collection and analysis process from the field through the laboratory. The calculation of the Relative Percent Difference (RPD) for duplicate pair results is used as a means to evaluate the precision.

The Quality Control (QC) limit for the RPD on field duplicates is established at thirty percent (30%) for duplicate pairs that have reported concentrations five (5) times greater than the laboratory Reporting Limit. For samples and respective duplicates with reported analyte concentrations nearer the Reporting Limit, the RPD calculations demonstrate greater variability and the RPD can be very large. RPD values are considered non-representative in the following conditions:

a) Both the original and the duplicate results are less than five (5) times the Reporting Limit.
b) One or both results are qualified, flagged, or estimated.
c) One or both results are non-detected.

The results of the blind duplicate and the monitoring well results March 5, 2024 and September 3, 2024 were within the limits established and indicate that the data quality is acceptable without restriction.

BACKGROUND DATA VALIDATION

A summary table of field measured turbidity is included in Table 9.

The background data for total metals utilized herein has been restricted to include only sample results that have been collected by “No Purge” methods in order to avoid turbidity related issues

that may have been associated with historic sample collection methods. Total metals using no-purge sampling techniques has been performed at the facility since the September 9, 2014 sampling episode.

SITE SPECIFIC GWPS

Review of the control limit calculated for arsenic indicates that the normal background concentration for arsenic (0.0333 mg/L) exceeds the Statewide Standard (0.01 mg/L) published in Iowa Administrative Code (IAC) 567, Chapter 137. In instances where the natural background concentrations for a compound exceed the Statewide Standard, site-specific GWPS should be calculated using site-specific information. In this instance, the calculated control limit for arsenic (0.0333 mg/L) is utilized as the Site-Specific GWPS for the facility. For many compounds tested, GWPS do not exist (Table 5). For compounds that do have GWPS (beyond arsenic), the published IAC 567, Chapter 137 GWPS are utilized.

STATISTICALLY SIGNIFICANT INCREASES (SSI)

Test results from background monitoring wells (Table 5) are utilized to establish background conditions of site groundwater.

The current HMSP and sample collection methods have been in-place since September 9, 2014. All downgradient well data collected since September 9, 2014 is evaluated herein. In the downgradient wells, compounds that have exceeded a calculated control limit in 2024 are summarized in Table 6.

The water quality data at each downgradient well is also evaluated over time in Table 7 which summarizes compounds in downgradient wells that have exceeded a control limit at some point since September 9, 2014.

Note that in wells where compounds have been detected that exceed a control limit in 2019 - 2024, supplemental sampling has not been implemented. Prior to February 18, 2019 the compounds tested in water were extensive. The testing of barium, cobalt, lithium, manganese, strontium, and vanadium was discontinued following the September, 2018 sample collection event based on the undetected or insignificant concentrations of the supplemental compounds (Doc #94402 and Doc #94423). The supplemental sampling for arsenic, boron, and sulfate has been on-going to gauge water quality and water quality changes over time at this site in accordance with Permit Revision #1 (dated June 30, 2023 (Doc# 107098)).

Table 8 summarizes compounds in downgradient wells that exceed a GWPS. It is noted that the only compound detected that exceeds a GWPS is arsenic at MW-34 (intermittently over 2.0 years ago), MW-35 (intermittently, typically in the Spring), and MW-39 (intermittently – over 3.0 years ago). There are no other compounds recorded that exceed the GWPS.

As discussed in the Arsenic Source and Speciation Study, dated September, 2017, (Doc # 90322) the oxidation-reduction potential (ORP) in the vicinity of MW-34 and MW-35 is anticipated to vary in the alluvial sands along the stream. The variable ORP is anticipated to be the cause of the highly variable arsenic concentrations detected at MW-34 and MW-35 over time.

The regional land use is industrial and the City of Ames trunk sewer lines are present along the creek

along the north side of the facility (near MW-25, MW-33, MW-34, and MW-35) and along the creek southwest of the facility.

The comprehensive summary of all water quality data over time is included in Table 9/10. Exceedances of the control limits for each respective compound in the downgradient wells are highlighted in yellow. Where a compound concentration exceeds a GWPS (arsenic only), the text is included in bold red.

The highlights (in yellow and in red text) are added to Table 9 & Table 10 to aid in visual tracking of exceedances over time.

No additional supplemental sampling is recommended.

ASSESSMENT MONITORING SUMMARY

Not Applicable.

STATISTICALLY SIGNIFICANT LEVELS (SSL)

Not Applicable.

ASSESSMENT OF CORRECTIVE MEASURES (ACM)

Not Applicable.

CORRECTIVE MEASURES MONITORING PLAN (CAMP)

Not Applicable.

Section 4.0 Leachate Collection System Performance Evaluation

General - The leachate control system (LCS) consists of a series of gravity collection pipes that underlie the trench fills. Trenches 1 through 4 are located north of a topographic divide and the LCS drain north to a City of Ames interceptor sanitary sewer located along the stream to the north. The LCS in Trenches 5 and 6 are located south of the topographic divide and drains south to a City of Ames interceptor sanitary sewer located along the railroad to the south-southwest.

The leachate collection layer and leachate collection piping exist above the liner at this facility and controls the head on the liner. Four (4) leachate piezometers exist in the north portion of the site to monitor leachate head. Two (2) leachate piezometers exist in the south portion of the site to monitor leachate head. Leachate well numbering (LPZ-1, LPZ-2, LPZ-3, LPZ-4R, LPZ-5R, and LPZ-6R) corresponds directly to the trench in which the leachate piezometer is located.

Filling and capping of the entire site is complete (completed 2011). As required by the approved Development and Operational Plans (DOPS), leachate head monitoring wells have been installed within each Trench. The four (4) leachate piezometers in the north trenches (Trenches 1-4) were

installed in May, 2003. Leachate piezometer LPZ-4 was replaced on November 23, 2016 with LPZ-4R. The two (2) leachate piezometers in the south trenches (Trenches 5 & 6) were installed between November 16, 2007 and November 27, 2007. The wellheads in Trench 5 and 6 were modified in October, 2011 during site closure. Leachate piezometer LPZ-5 was replaced on December 17, 2014 with LPZ-5R. Leachate piezometer LPZ-6 was replaced on June 13, 2023 with LPZ-6R (Doc #107015).

Leachate Line Cleaning - The leachate lines were cleaned on the following dates in 2020, 2021, 2022, and 2023:

January 28, 2020 to February 1, 2020
November 6, 2020 to November 9, 2020
May 20, 2021
November 24, 2021
November 1, 2022 to November 2, 2022
October 26, 2023 to October 27, 2023

In accordance with the IDNR Letter dated January 12, 2022 (Doc #102010), the leachate line in Phase 5 was cleaned annually in 2022 and 2023. Due to the consistency of the measurements in the leachate piezometers in Phase 5 over time, the 2023 AWQR recommended that the cleaning schedule be returned to the standard 3-year frequency. IDNR approved this request on June 4, 2024. The next leachate line cleaning is tentatively scheduled to occur in 2026.

Leachate Head Measurements - Leachate liquid elevations at the six (6) leachate piezometers have been recorded routinely (quarterly at a minimum) since installation and are summarized in Table 12.

The leachate thickness in Trench 1 (LPZ-1) has been recorded as ranging from dry to 0.70 feet over the last four (4) quarters. The leachate thickness in Trench 1 was recorded as dry on September 3, 2024.

The leachate thickness in Trench 2 (LPZ-2) has been recorded as dry over the last four (4) quarters.

The leachate thickness in Trench 3 (LPZ-3) has been recorded as ranging from 0.20 to 0.40 feet over the last four (4) quarters. The leachate thickness in Trench 3 was recorded as 0.40 feet on September 3, 2024.

The leachate thickness in Trench 4 (LPZ-4R) has been recorded as dry in 2024, except in June, 2024, when leachate head spiked at 1.8 feet (21.6 inches). The measurement was verified, but did not persist and returned to a dry condition before July 16, 2024.

Since installation of LPZ-5R in late 2014, the leachate thickness in Trench 5 has ranged from *dry* to 2.43 ft. Over the last four (4) quarters, the leachate thickness has ranged from 1.70 to 2.43 feet. The leachate thickness in Trench 5 was recorded as 2.07 ft. on September 3, 2024.

Since installation of LPZ-6R on June 13, 2023, the leachate thickness in Trench 6 has ranged from 0.65 to 7.60 feet. The leachate thickness in Trench 6 was recorded as 5.97 ft. on September 3, 2024.

Response to the Leachate Thicknesses recorded at LPZ-5R & LPZ-6R - To address concerns included in the IDNR letters dated January 2, 2020 (Doc #96684) and February 4, 2021 (Doc #99703),

multiple leachate line cleanings in Trench 5 were performed in 2020 and 2021 (summarized above) in accordance with 114.26(11)"a"(8). In accordance with the IDNR Letter dated January 12, 2022 (Doc #102010), the leachate line in Phase 5R was cleaned annually in 2022 (completed November 2, 2022) and 2023 (completed October 27, 2023).

The quarterly leachate thickness measurements are utilized to ascertain whether the multiple leachate line cleanings had a positive effect on the observed leachate head. Accelerated line cleaning frequency does not appear to have any appreciable effect on leachate head in Trench 5 or Trench 6.

In 2020 and 2021, the leachate thickness at LPZ-5R ranged from 1.41 feet to 2.18 feet, with an average thickness of 1.89 feet. In 2022, the leachate thickness at LPZ-5R ranged from 1.56 feet to 2.39 feet, with an average thickness of 1.72 feet. In 2023, the leachate thickness at LPZ-5R ranged from 2.16 feet to 2.26 feet, with an average thickness of 2.21 feet. In 2024, the leachate thickness at LPZ-5R ranged from 1.70 feet to 2.43 feet, with an average thickness of 1.99 feet. The leachate thickness is approximately 2.0 feet on average and no further remedy appears warranted.

In 2007 through 2009 (prior to breaking), the leachate thickness at LPZ-6 ranged from 3.3 feet to 7.08 feet, with an average thickness of 4.73 feet. Following replacement, the leachate thickness at LPZ-6R ranges from 0.65 feet to 7.6 feet, with an average thickness of 4.22 feet. The leachate thickness is approximately 4.0 feet on average and no further remedy appears warranted.

It is recognized that the average thickness of leachate on the liner in Trench 5 and Trench 6 consistently exceeds 12 inches (the intent of the design), even though the landfill was designed and constructed in accordance with requirements of IAC 567, Chapter 114.26(11)"a"(1) through (7).

Although the average recorded leachate thickness is greater than anticipated by design and construction (12 inches), the leachate collection system demonstrates highly consistent performance and is functionally successful in maintaining a lowered leachate head on the liner. Further, the recorded performance in Trench 5 and 6 is appropriate to protect the soils, the surface water, and the groundwater from leachate contamination as per rule (114.26(1)"g").

The leachate collection system drainage layer situated above the liner in Trench 5 and Trench 6 is connected to the Ames sanitary sewer system as a method of **primary** containment (Trench 5 completed June 16, 1999 and Trench 6 completed May 26, 2000). The groundwater diversion layer situated below the liner in Trench 5 and Trench 6 is connected to the Ames sanitary sewer system as a method of **secondary** containment (completed February 7, 2012 (Doc #68508)).

It is also noted that the top of liner in Trench 5 (903.52) is constructed lower than the liner bottom of Trench 6 (906.52) and leachate conveyance is designed to move from Trench 6 to Trench 5, then out to the sanitary sewer. The observed leachate elevations in Trench 5 and Trench 6 (all available readings over time) support that the leachate capture, and conveyance perform as designed.

Aside from the slightly elevated leachate thickness recorded at LPZ-5R and LPZ-6R available data suggest that closure and capping of the landfill is effective in controlling surges in leachate head during periods of wet weather, while the existing Leachate Collection System and Groundwater Diversion System successfully controls fluctuation in the leachate surface across the site by actively conveying leachate out of the closed fill system and dewatering groundwater below the landfill cells. The leachate control system generally appears to be functioning as intended (capturing leachate and

lowering leachate head). The groundwater diversion system for Trench 5 and Trench 6 generally appears to be functioning as intended (capturing groundwater below the liner and conveying it to the sanitary sewer). Based on available data, it is interpreted that the existing Leachate Collection System and groundwater diversion system are effective in achieving and controlling a lowered leachate head elevation and maintaining groundwater quality standards at compliance monitoring points. It is also obvious the lowered leachate head is not 12 inches, or less, rather it is a value greater than 12 inches.

Leachate Analyses - Ames-Story Environmental Landfill was removed from the City of Ames Pretreatment Program by the City of Ames Water and Pollution Control Department effective August 25, 2015. Leachate was last sampled from the south manhole on March 27, 2017.

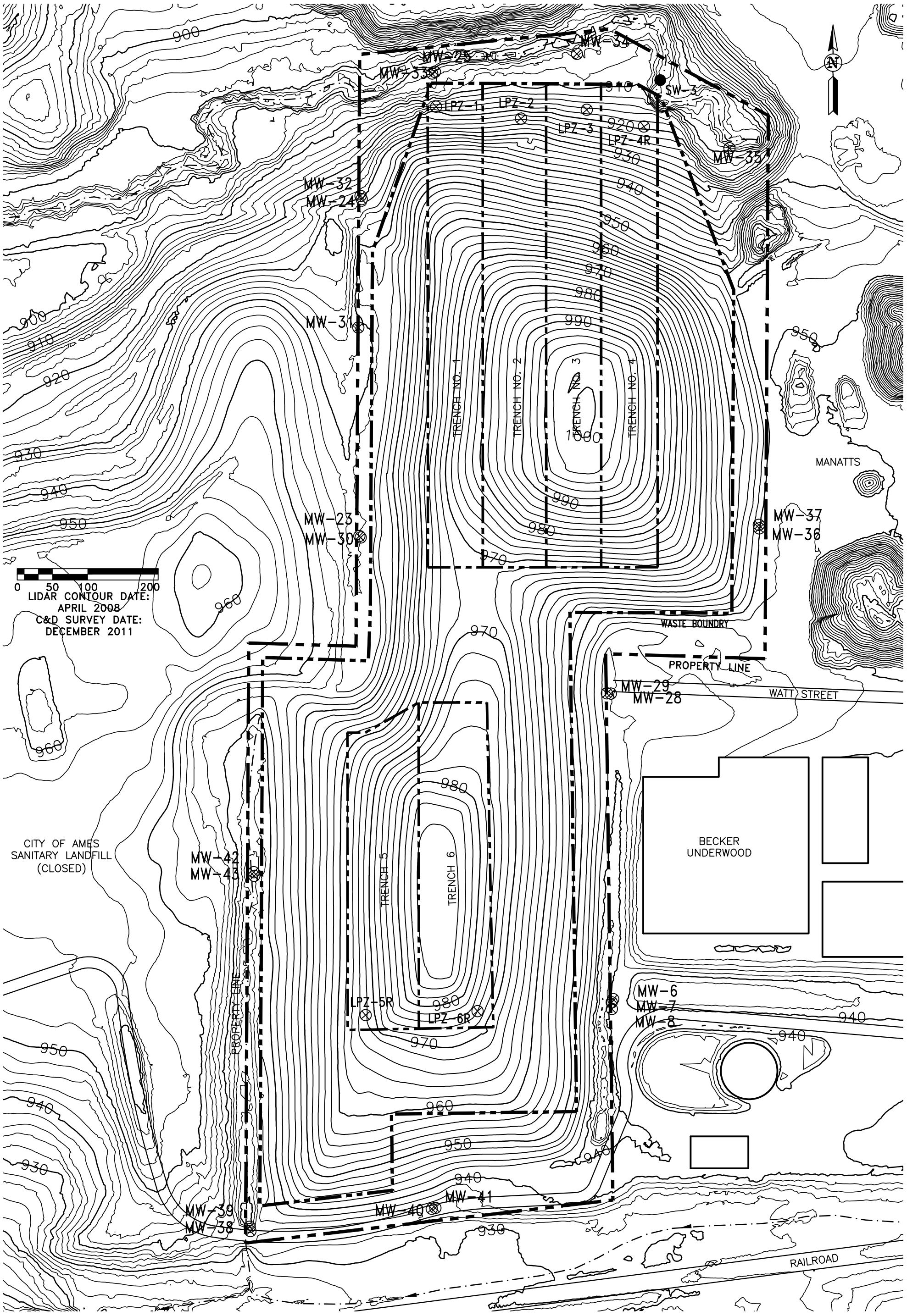
The historic chemical analysis of the leachate indicated that all parameters were within permit limits in effect at the time. The volume of leachate conveyed to the Ames Water Pollution Control Plant is reported as 2,244 gallons per month (approximately 26,932 gpy).

Section 5.0 Gas Monitoring

Explosive gas monitoring was performed quarterly through September, 2024, per IAC 567-114.26(15). Results of the explosive gas monitoring indicate that explosive gases were within applicable limits along the entire site perimeter. Gas monitoring results are summarized in Table 13. Note that no structures remain on the site.

Section 6.0 Recommendations

a. Continue to perform sampling in accordance with Special Provision X.5 of the Revised Permit #1. Supplemental analyses are not recommended.
b. Sample collected in September 2027 should include analyses for TOX and Phenol in accordance with IAC 114.26(4)"f" and the approved waiver dated June 1, 2023.
c. Continue to evaluate water quality in the Annual Water Quality Report, due November 30 of each year.
d. Continue to perform semi-annual water level measurements in March and September of each year and reevaluate the data in the Annual Water Quality Report due November 30 of each year.
e. The Monitoring Well Maintenance Performance Reevaluation Report (MWMPR) should be performed in 2025, unless a request for a variance to rule is approved by IDNR.
f. The leachate collection lines cleaning should return to the 3-year frequency per rule (next cleaning event in 2026). The routine frequency of line cleaning is in satisfaction of Permit Special Provision 8e, since the semi-annual and annual cleanings performed since 2020 have not lowered leachate levels in Trenches 5 & 6.
g. Continue to perform quarterly leachate level measurements and continue to re-evaluate in the Annual Groundwater Quality Report/Leachate Control System Performance Evaluation due November 30 of each year.
h. Continue to perform quarterly explosive gas monitoring and report the results in the Annual Groundwater Quality Report.



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SITE PLAN

AMES–STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 1

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 10–9–24

WATER ELEVATION SEPTEMBER 3, 2024	
WELL	ELEV.
MW-6	934.27
MW-23	928.72
MW-24	<916.79
MW-25	896.46
MW-28	938.94
MW-31	919.51
MW-34	899.19
MW-35	902.68
MW-37	941.68
MW-39	916.42
MW-40	921.62
MW-43	922.78

NOTE:
MW-24 REPRESENTS THE BOTTOM OF A DRY WELL.

0 50 100 200

LIDAR CONTOUR DATE:
APRIL 2008
C&D SURVEY DATE:
DECEMBER 2011

MW-25
MW-34
SW-3
MW-35
MW-24
MW-31
MW-23
MW-37
MW-28
MW-43
MW-6
MW-39
MW-40

902.60
902.17
903.07
903.97
904.64
906.59
919.68
919.35
920.25
921.84
923.34
901.40
902.40
895.77
896.77
897.77

WASTE BOUNDRY
PROPERTY LINE
WATT STREET
RAILROAD
MANATTS
BECKER UNDERWOOD
CITY OF AMES SANITARY LANDFILL (CLOSED)
GROUNDWATER UNDERDRAIN TYP 9 PLACES

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WATER TABLE CONTOUR MAP

AMES-STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 2

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 10-9-24

WATER ELEVATION SEPTEMBER 3, 2024	
WELL	ELEV.
MW-7	922.41
MW-8	908.61
MW-29	934.26
MW-30	908.83
MW-32	903.96
MW-33	896.23
MW-36	933.14
MW-38	911.25
MW-41	915.75
MW-42	921.04

0 50 100 200

LIDAR CONTOUR DATE:
APRIL 2008
C&D SURVEY DATE:
DECEMBER 2011

CITY OF AMES
SANITARY LANDFILL
(CLOSED)

MW-33
MW-32
SW-3
MW-30
MW-36
MW-29
MW-42
MW-7
MW-8
MW-41
MW-38

WASTE BOUNDRY
PROPERTY LINE
WATT STREET
RAILROAD
MANATTS
BECKER
UNDERWOOD

GROUNDWATER UNDERDRAIN
TYP 9 PLACES

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POTENTIOMETRIC SURFACE OF DEEP AQUIFER

AMES-STORY ENVIRONMENTAL LANDFILL
AMES, IOWA

FIGURE: 3

REVISION	NO.	DATE
DRAWN DRA	PROJECT NO. 6004	DATE 10-9-24

Table 1 – Monitoring Program Summary

Table 1
Monitoring Program Summary
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Monitoring Well	Formation	Current Monitoring Program	Change for next sampling event	Historic - Constituents that exceed a control limit	Current Spring - Constituents that exceed a control limit	Current Fall - Constituents that exceed a control limit	Historic - Constituents that exceed a GWPS	Current - Constituents that exceed a GWPS	Total # of Samples in each monitoring program since September 9, 2014		
									Detection	Assessment	Corrective Action
MW-6	Glacial Till	Background	NC	None	None	None	None	None	18	0	0
MW-7	Glacial Till	Background	NC	None	None	None	None	None	17	0	0
MW-8	Glacial Till	Background	NC	None	None	None	None	None	17	0	0
MW-28	Glacial Till	Background	NC	None	None	None	None	None	16	0	0
MW-29	Glacial Till	Background	NC	None	None	None	None	None	17	0	0
MW-36	Glacial Till	Background	NC	None	None	None	None	None	17	0	0
MW-37	Glacial Till	Background	NC	None	None	None	None	None	16	0	0
SW-3	Glacial Till	Detection	NC	None	None	None	None	None	14	0	0
MW-25	Glacial Till	Detection	NC	**Boron, Conductivity**	**Boron**	**Boron**	None	None	17	0	0
MW-33	Glacial Till	Detection	NC	**Iron, Nitrogen as Ammonia, Boron**	**Nitrogen as Ammonia, Boron**	**Iron, Nitrogen as Ammonia, Boron**	None	None	17	0	0
MW-34	Glacial Till	Detection	NC	**Arsenic, Iron, Nitrogen as Ammonia, Boron**	**Iron, Nitrogen as Ammonia**	**Iron, Nitrogen as Ammonia**	**Arsenic**	None	16	0	0
MW-35	Glacial Till	Detection	NC	**Arsenic, COD, Chloride, Conductivity, Temperature**	**Arsenic, Chloride, Conductivity**	**Conductivity**	**Arsenic**	**Arsenic (March)**	19	0	0
MW-39	Glacial Till	Detection	NC	**Arsenic, Conductivity, Sulfate**	**Sulfate, Conductivity**	**Conductivity**	**Arsenic**	None	18	0	0
MW-40	Glacial Till	Detection	NC	**Chloride, Temperature**	None	None	None	None	18	0	0

Table 2 – Monitoring Program Implementation Schedule

Table 2
Monitoring Program Implementation Schedule
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Monitoring Well	Recent Sampling Dates and Constituents	Upcoming Sampling Dates and Constituents		Supplemental Sampling	
		March, 2025	September, 2025**	Previously Collected	Next Event
MW-6*	Note 1 (7 year cycle) & Note 2 (next = 2027)	---	---	Not Required by 114.26(7)	N/A
MW-7*	Note 1 (7 year cycle) & Note 2 (next = 2027)	Note 1	---	Not Required by 114.26(7)	N/A
MW-8*	Note 1 (7 year cycle) & Note 2 (next = 2027)	Note 1	---	Not Required by 114.26(7)	N/A
MW-28*	Note 1 (7 year cycle) & Note 2 (next = 2027)	---	Note 1	Not Required by 114.26(7)	N/A
MW-29*	Note 1 (7 year cycle) & Note 2 (next = 2027)	---	Note 1	Not Required by 114.26(7)	N/A
MW-36*	Note 1 (7 year cycle) & Note 2 (next = 2027)	---	---	Not Required by 114.26(7)	N/A
MW-37*	Note 1 (7 year cycle) & Note 2 (next = 2027)	---	---	Not Required by 114.26(7)	N/A
SW-3	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-25	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-33	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-34	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-35	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-39	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A
MW-40	Note 1 (semi-annual) & Note 2 (next = 2027)	Note 1	Note 1	Not Required by 114.26(7)	N/A

Background Well Sampling Schedule (Seven Year Cycle)

		MW-6	MW-7	MW-8	MW-28	MW-29	MW-36	MW-37
Year 1	Spring	2023	2023					
Year 1	Fall			2023	2023			
Year 2	Spring					2024	2024	
Year 2	Fall	2024						2024
Year 3	Spring		2025	2025				
Year 3	Fall				2025	2025		
Year 4	Spring						2026	2026
Year 4	Fall	2026	2026					
Year 5	Spring			2027	2027			
Year 5	Fall					2027	2027	
Year 6	Spring	2028						2028
Year 6	Fall		2028	2028				
Year 7	Spring				2029	2029		
Year 7	Fall						2029	2029
Year 1	Spring	2030	2030					
Year 1	Fall			2030	2030			

Note 1 *Semi-annually for 114.26(4)"e" and Arsenic (total), sulfate, and boron*
Note 2 *1 time per each 5 years* for 114.26(4)"f"*
** - The frequency of Background Well sample collection is reduced as per the Waiver Approval (Doc #106906) and per the Seven Year Cycle Table above.*
*** - The frequency of the "annual parameters (TOX & Phenol)" are reduced to 1 time per 5 years as per the Waiver Approval (Doc #106906). Due again in 2027.*

Table 3 – Monitoring Well Maintenance Performance Reevaluation Schedule

Table 3
Monitoring Well Maintenance and Performance Revaluation Schedule
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Compliance with:	Monitoring Calendar Years									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
567 IAC 115.21(2)"a" high and low water levels (biennial)	X		X		X		X		X	
567 IAC 115.21(2)"b" changes in the hydrologic setting and flow paths (biennial)	X		X		X		X		X	
567 IAC 115.21(2)"c" well depths (annual)	X	X	X	X	X	X	X	X	X	X
567 IAC 115.21(2)"c" insitu permeability testing (every 5 years)	X					X				

Compliance with:	Monitoring Calendar Years									
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
567 IAC 115.21(2)"a" high and low water levels (biennial)	X		X		X		X		X	
567 IAC 115.21(2)"b" changes in the hydrologic setting and flow paths (biennial)	X		X		X		X		X	
567 IAC 115.21(2)"c" well depths (annual)	X	X	X	X	X	X	X	X	X	X
567 IAC 115.21(2)"c" insitu permeability testing (every 5 years)			X					X		

Compliance with:	Monitoring Calendar Years									
	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
567 IAC 115.21(2)"a" high and low water levels (biennial)	X		X		X		X		P	
567 IAC 115.21(2)"b" changes in the hydrologic setting and flow paths (biennial)	X		X		X		X		P	
567 IAC 115.21(2)"c" well depths (annual)	X	X	X	X	X	X	X	P	P	P
567 IAC 115.21(2)"c" insitu permeability testing (every 5 years)			X					P		

X = completed
P = Planned
N/A = Not Applicable

Table 4 – Monitoring Well Maintenance Performance Summary

Table 4
Monitoring Well Maintenance and Performance Summary
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Well	Top of casing	Top of Screen	Total Depth		Date of Measurements		Maximum Depth	Hydraulic Cond.	Most Recent Recharge Rate	
					3/5/2024	9/3/2024	Discrepancy (ft)	(cm/sec)/date	**March 2020**	Change
MW-6	942.88	931.05	21.7	Groundwater Level (ft)	8.78	8.61	0.5	6.10E-04 1991	3.14E-04	Not Appreciable
				Groundwater Elevation (Ft MSL)	934.1	934.27				
				Measured Well Depth (ft)	21.2	21.2				
				Submerged (+) or Exposed screen (-)	3.05	3.22				
MW-7	943.21	899.55	53	Groundwater Level (ft)	21.21	20.8	0.2	2.00E-05 1991	4.62E-06	Not Appreciable
				Groundwater Elevation (Ft MSL)	922	922.41				
				Measured Well Depth (ft)	52.8	52.8				
				Submerged (+) or Exposed screen (-)	22.45	22.86				
MW-8	942.76	881.05	71.7	Groundwater Level (ft)	34.61	34.15	0.7	8.30E-04 1991	1.29E-04	Not Appreciable
				Groundwater Elevation (Ft MSL)	908.15	908.61				
				Measured Well Depth (ft)	71	71				
				Submerged (+) or Exposed screen (-)	27.1	27.56				
MW-28	946.02	933.55	22.3	Groundwater Level (ft)	7.96	7.08	-0.15	9.30E-04 1991	5.94E-04	Not Appreciable
				Groundwater Elevation (Ft MSL)	938.06	938.94				
				Measured Well Depth (ft)	22.45	22.45				
				Submerged (+) or Exposed screen (-)	4.51	5.39				
MW-29	945.61	902.55	53.5	Groundwater Level (ft)	12.13	11.35	-0.1	2.48E-05 1998	6.70E-06	Not Appreciable
				Groundwater Elevation (Ft MSL)	933.48	934.26				
				Measured Well Depth (ft)	53.6	53.6				
				Submerged (+) or Exposed screen (-)	30.93	31.71				
MW-36	948.97	906.9	53.5	Groundwater Level (ft)	16.81	15.83	0.3	4.19E-06 1996	2.53E-06	Not Appreciable
				Groundwater Elevation (Ft MSL)	932.16	933.14				
				Measured Well Depth (ft)	53.2	53.2				
				Submerged (+) or Exposed screen (-)	25.26	26.24				
MW-37	949.49	929.03	30.6	Groundwater Level (ft)	9.54	7.81	0.9	3.90E-04 1996	3.01E-05	Not Appreciable
				Groundwater Elevation (Ft MSL)	939.95	941.68				
				Measured Well Depth (ft)	29.7	29.7				
				Submerged (+) or Exposed screen (-)	10.92	12.65				
MW-25	906.34	896.84	19.5	Groundwater Level (ft)	9.75	9.88	0.1	>0.0001 1997	>0.0001	Not Appreciable
				Groundwater Elevation (Ft MSL)	896.59	896.46				
				Measured Well Depth (ft)	19.4	19.4				
				Submerged (+) or Exposed screen (-)	-0.25	-0.38				
MW-33	906.32	880.66	28.2	Groundwater Level (ft)	9.91	10.09	-0.3	4.00E-04 1991	3.73E-03	Not Appreciable
				Groundwater Elevation (Ft MSL)	896.41	896.23				
				Measured Well Depth (ft)	28.5	28.5				
				Submerged (+) or Exposed screen (-)	15.75	15.57				
MW-34	909.5	902.5	17.3	Groundwater Level (ft)	9.98	10.31	1.2	5.17E-04 1998	8.96E-04 2015	Not Appreciable
				Groundwater Elevation (Ft MSL)	899.52	899.19				
				Measured Well Depth (ft)	16.1	16.1				
				Submerged (+) or Exposed screen (-)	-2.98	-3.31				
MW-35	916.19	906.19	20.6	Groundwater Level (ft)	13.55	13.51	0.8	7.53E-03 2003	8.40E-03	Not Appreciable
				Groundwater Elevation (Ft MSL)	902.64	902.68				
				Measured Well Depth (ft)	19.8	20.1				
				Submerged (+) or Exposed screen (-)	-3.55	-3.51				
MW-39	935.93	916.16	30.2	Groundwater Level (ft)	21.28	19.51	0.45	6.54E-04 1996	1.53E-05	Not Appreciable
				Groundwater Elevation (Ft MSL)	914.65	916.42				
				Measured Well Depth (ft)	29.75	29.75				
				Submerged (+) or Exposed screen (-)	-1.51	0.26				
MW-40	933.07	923.61	20	Groundwater Level (ft)	10.35	11.45	0.3	5.68E-04 1996	2.45E-05	Not Appreciable
				Groundwater Elevation (Ft MSL)	922.72	921.62				
				Measured Well Depth (ft)	19.7	19.7				
				Submerged (+) or Exposed screen (-)	-0.89	-1.99				
Groundwater Underdrain SW-3					Dry	190 mi/min				

Table 4A – Routine Water Levels

Table 4A SUPPLEMENT
Monitoring Well Maintenance and Performance Summary - ROUTINE WATER LEVELS
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW 28	MW 29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
GND.ELEV, FT.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
Date																									
4/22/91	945.74	937.19	926.29	898.63	942.06	922.90	NT	NT	911.79	921.48	908.97	898.46	899.86	Installed 2/96	Installed 2/96	Installed 2/96									
5/21/91	945.69	937.11	926.23	898.55	942.04	922.84	NT	NT	911.71	921.39	908.91	898.42	899.82	Installed 2/96	Installed 2/96	Installed 2/96									
6/25/91	945.29	935.49	923.24	898.24	940.34	922.79	NT	NT	911.54	921.02	908.64	898.09	899.56	Installed 2/96	Installed 2/96	Installed 2/96									
7/05/91	943.99	932.56	919.36	897.92	937.48	922.32	NT	NT	911.39	920.40	908.40	897.80	899.42	Installed 2/96	Installed 2/96	Installed 2/96									
8/31/91	943.57	932.42	918.64	897.71	937.36	922.16	NT	NT	911.24	919.71	908.27	897.60	899.20	Installed 2/96	Installed 2/96	Installed 2/96									
9/10/91	942.68	929.97	916.88	897.54	934.59	920.91	NT	NT	910.04	919.33	907.65	897.37	898.98	Installed 2/96	Installed 2/96	Installed 2/96									
10/14/91	941.37	925.81	916.88	896.97	930.24	919.15	NT	NT	908.69	918.13	906.67	896.82	898.77	Installed 2/96	Installed 2/96	Installed 2/96									
11/29/91	943.09	926.35	916.88	897.39	934.18	919.51	NT	NT	909.01	917.70	906.60	897.27	900.13	Installed 2/96	Installed 2/96	Installed 2/96									
12/31/91	942.76	927.64	916.88	897.03	935.01	919.78	NT	NT	909.29	917.17	906.56	896.90	900.86	Installed 2/96	Installed 2/96	Installed 2/96									
1/21/92	942.76	928.65	916.88	897.28	935.92	920.00	NT	NT	909.55	917.27	906.74	897.12	901.12	Installed 2/96	Installed 2/96	Installed 2/96									
2/17/92	941.97	929.13	916.88	897.29	935.72	920.07	NT	NT	909.69	917.11	906.76	897.16	901.00	Installed 2/96	Installed 2/96	Installed 2/96									
3/19/92	943.59	931.71	924.15	897.82	938.73	921.02	NT	NT	910.30	917.45	907.81	897.69	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
4/22/92	943.89	932.55	926.15	898.47	939.22	921.60	NT	NT	910.65	919.94	908.46	898.35	903.04	Installed 2/96	Installed 2/96	Installed 2/96									
5/30/92	942.17	932.85	922.98	897.80	938.00	921.75	NT	NT	910.83	918.61	908.67	897.67	901.84	Installed 2/96	Installed 2/96	Installed 2/96									
6/30/92	941.55	930.26	919.03	897.63	937.00	921.19	NT	NT	910.08	918.59	908.11	897.50	900.85	Installed 2/96	Installed 2/96	Installed 2/96									
7/28/92	943.99	929.93	917.76	898.33	939.36	920.81	NT	NT	910.03	918.67	907.61	898.12	901.79	Installed 2/96	Installed 2/96	Installed 2/96									
8/22/92	943.21	930.42	919.53	897.84	938.92	920.65	NT	NT	910.24	918.34	907.63	897.71	901.25	Installed 2/96	Installed 2/96	Installed 2/96									
9/30/92	941.15	928.20	919.44	897.61	937.26	919.53	NT	NT	909.39	917.89	907.03	897.50	900.31	Installed 2/96	Installed 2/96	Installed 2/96									
10/29/92	940.26	927.12	916.88	897.54	936.15	919.48	NT	NT	908.88	917.65	906.74	897.42	899.50	Installed 2/96	Installed 2/96	Installed 2/96									
11/25/92	940.94	928.01	916.88	897.67	937.25	919.67	NT	NT	909.19	917.47	906.63	897.52	901.23	Installed 2/96	Installed 2/96	Installed 2/96									
12/10/92	941.21	928.23	916.88	897.41	936.84	919.77	NT	NT	909.31	917.60	906.74	897.33	900.94	Installed 2/96	Installed 2/96	Installed 2/96									
1/30/93	941.33	928.29	916.88	897.39	936.76	919.88	NT	NT	909.37	917.64	906.85	897.31	900.89	Installed 2/96	Installed 2/96	Installed 2/96									
2/22/93	939.55	929.28	916.88	897.22	935.16	919.23	NT	NT	909.64	917.46	906.70	897.06	901.13	Installed 2/96	Installed 2/96	Installed 2/96									
3/4/93	939.45	929.24	916.88	897.58	934.93	919.15	939.32	934.81	909.50	917.47	906.66	897.42	901.96	Installed 2/96	Installed 2/96	Installed 2/96									
4/27/93	941.79	936.40	927.66	897.84	939.11	920.27	940.68	937.01	911.30	921.03	908.66	897.68	902.76	Installed 2/96	Installed 2/96	Installed 2/96									
5/27/93	942.32	935.88	928.16	898.20	938.67	920.71	941.12	936.61	911.64	924.19	909.76	898.06	903.30	Installed 2/96	Installed 2/96	Installed 2/96									
6/30/93	942.37	935.34	927.10	898.40	938.11	920.94	941.12	936.51	911.84	924.63	909.96	898.28	902.90	Installed 2/96	Installed 2/96	Installed 2/96									
7/27/93	942.65	936.74	928.60	897.80	938.25	921.13	940.98	937.41	912.34	925.57	911.08	897.72	903.00	Installed 2/96	Installed 2/96	Installed 2/96									
9/3/93	942.57	936.50	928.04	897.66	937.71	920.91	941.22	937.71	912.44	927.59	910.06	897.52	902.66	Installed 2/96	Installed 2/96	Installed 2/96									
9/21/93	941.84	934.38	925.01	897.32	936.79	920.67	940.82	937.41	912.40	923.05	909.56	897.40	901.78	Installed 2/96	Installed 2/96	Installed 2/96									
10/25/93	941.45	934.13	924.40	897.29	936.16	920.21	940.07	936.26	912.24	923.88	909.36	897.16	901.45	Installed 2/96	Installed 2/96	Installed 2/96									
11/22/93	940.39	933.26	923.10	897.08	935.15	919.61	938.82	935.05	911.40	921.63	908.86	896.96	901.38	Installed 2/96	Installed 2/96	Installed 2/96									
12/14/93	939.69	932.68	921.90	897.00	934.55	919.47	938.54	934.45	911.12	921.09	908.62	896.84	901.28	Installed 2/96	Installed 2/96	Installed 2/96									
1/31/94	938.63	931.80	920.26	896.79	933.53	918.51	937.12	933.07	910.32	919.87	907.86	896.72	900.97	Installed 2/96	Installed 2/96	Installed 2/96									
2/28/94	938.16	933.61	922.39	896.91	NT	918.21	937.68	933.56	910.27	923.10	907.90	896.79	901.66	Installed 2/96	Installed 2/96	Installed 2/96									
3/16/94	938.79	934.94	923.90	897.04	932.73	918.39	938.46	934.13	910.94	926.53	908.50	896.92	902.05	Installed 2/96	Installed 2/96	Installed 2/96									
4/30/94	938.79	933.28	922.40	897.04	932.59	916.56	938.37	933.73	910.34	923.26	908.80	896.90	901.02	Installed 2/96	Installed 2/96	Installed 2/96									
5/17/94	939.09	933.74	922.68	896.98	931.65	915.45	938.52	933.75	910.54	924.47	908.54	896.82	NT	Installed 2/96	Installed 2/96	Installed 2/96									
7/31/94	NT	931.38	918.76	897.23	931.62	916.31	939.13	933.41	909.82	919.63	907.45	897.11	901.98	Installed 2/96	Installed 2/96	Installed 2/96									
8/23/94	938.79	932.73	918.24	897.10	931.87	916.53	938.16	934.01	909.94	919.23	907.24	896.92	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
9/16/94	938.85	933.12	918.94	897.14	931.95	916.56	938.50	934.13	910.04	919.03	907.12	896.98	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
10/21/94	938.79	932.48	917.78	896.84	931.81	916.51	938.78	934.31	908.98	918.81	906.90	896.68	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
11/21/94	937.84	931.40	917.44	896.46	931.01	915.99	938.62	933.41	909.86	918.55	906.86	896.34	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
12/22/94	937.69	933.43	Dry	896.64	930.81	916.01	938.52	933.11	909.74	918.13	906.51	896.48	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
1/10/95	938.01	933.54	917.44	896.79	931.21	916.11	937.74	933.41	910.14	918.57	906.76	896.57	901.84	Installed 2/96	Installed 2/96	Installed 2/96									
2/6/95	936.71	932.68	917.44	896.85	930.11	915.71	937.56	932.88	910.12	918.43	906.58	896.72	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
3/9/95	935.79	932.90	Dry	896.74	929.21	915.33	936.92	932.44	909.89	918.33	906.56	896.60	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
4/14/95	936.79	939.40	925.24	897.34	930.56	915.86	939.72	934.71	910.99	925.73	906.88	897.17	902.60	Installed 2/96	Installed 2/96	Installed 2/96									
5/2/95	937.39	939.58	927.34	897.31	932.01	916.11	939.81	935.26	911.79	926.53	907.86	897.13	902.90	Installed 2/96	Installed 2/96	Installed 2/96									
6/2/95	937.64	934.38	925.44	897.14	932.51	916.23	938.42	933.86	910.95	923.18	908.66	897.02	902.20	Installed 2/96	Installed 2/96	Installed 2/96									
8/23/95	937.39	930.38	919.14	897.14	930.74	915.91	938.17	933.66	909.94	919.83	907.21	896.97	901.70	Installed 2/96	Installed 2/96	Installed 2/96									
9/12/95	936.72	929.36	918.54	896.67	929.67	915.51	937.11	932.76	909.39	919.53	906.94	896.78	901.64	Installed 2/96	Installed 2/96	Installed 2/96									
10/31/95	935.74	928.18	Dry	896.84	927.01	914.71	937.12	932.21	908.79	918.43	906.26	896.72	901.45	Installed 2/96	Installed 2/96	Installed 2/96									
11/20/95	935.57	928.01	Dry	896.68	927.11	914.53	936.87	932.51	908.79	918.23	906.26	896.52	901.75	Installed 2/96	Installed 2/96	Installed 2/96									
12/7/95	935.24	927.88	Dry	896.64	927.11	913.91	936.85	932.26	908.62	917.98	906.01	896.45	901.80	Installed 2/96	Installed 2/96	Installed 2/96									
1/3/96	934.19	927.78	Dry	896.56	NT	914.11	936.17	931.71	908.59	918.03	906.16	896.42	901.60	Installed 2/96	Installed 2/96	Installed 2/96									
2/24/96	Plugged	930.68	Dry	896.94	Plugged	Plugged	938.02	932.61	909.24	917.98	906.06	896.77	901.90	Installed 2/96	Installed 2/96	Installed 2/96									
3/22/96	Plugged	930.63	Dry	896.89	Plugged	Plugged	936.72	932.01	909.17	918.25	905.91	896.72	901.80	903.29	930.77	938.09									
4/1/96	Plugged	NT	Dry	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	903.64	930.47	938.14									
6/20/96	Plugged	937.78	Dry	897.64	Plugged	Plugged	940.37	934.81	910.34	927.03	907.63	897.47	902.25	903.99	932.01	940.94									
9/12/96	Plugged	931.96	Dry	897.29	Plugged	Plugged	938.62	933.71	909.76	919.48	906.76	897.17	901.78	903.24	932.37	941.59									
10/24/1996	Plugged	930.58	Dry	897.29	Plugged	Plugged	938.22	933.41	909.76	920.03	906.46	897.12	901.70	903.34	932.49	941.19									
11/18/1996	Plugged	938.23	Dry	897.69	Plugged	Plugged	939.27	933.91	909.68	928.03	906.76	897.52	902.00	903.91	932.37	941.14									
12/11/1996	Plugged	936.03	Dry	897.39	Plugged	Plugged	938.94	934.21	911.04	926.83	907.81	897.22	901.80	903.64	932.42	941.14									

	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW 28	MW 29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
GND.ELEV, FT.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
DATE																									
01/29/1997	Plugged	933.88	Dry	897.24	Plugged	Plugged	937.42	932.96	910.64	924.93	907.41	897.07	901.55	903.09	932.39	940.79									
02/25/1997	Plugged	936.23	Dry	897.39	Plugged	Plugged	937.57	932.86	910.54	923.08	907.26	897.22	901.88	903.67	931.62	940.14									
03/17/1997	Plugged	937.98	Dry	896.54	Plugged	Plugged			910.97	929.58	907.26	897.32	902.40	903.99	931.77	940.59									
04/29/1997	Plugged	934.78	Dry	897.54	Plugged	Plugged	938.62	933.91	912.04	928.13	908.56	897.37	902.10	903.79	932.47	941.49									
05/22/1997	Plugged	934.53	Dry	897.49	Plugged	Plugged	938.42	933.71	910.84	927.98	908.66	897.32	902.00	903.84	932.57	941.39									
06/18/1997	Plugged	933.08	Dry	897.29	Plugged	Plugged	938.37	933.61	910.39	924.13	908.26	897.12	901.80	903.59	932.55	941.59									
07/18/1997	Plugged	931.53	Dry	897.29	Plugged	Plugged	938.32	933.41	909.84	921.23	907.56	897.12	901.60	903.49	932.47	941.74									
08/29/1997	Plugged	929.43	Dry	897.10	Plugged	Plugged	937.82	933.01	909.19	919.63	906.86	896.92	901.50	903.04	932.42	941.64									
09/01/1997	Plugged	929.38	Dry	897.04	Plugged	Plugged	937.72	932.91	909.14	919.53	906.76	896.82	901.40	902.99	932.37	941.64									
10/27/1997	Plugged	928.28	Dry	897.14	Plugged	Plugged	938.12	933.11	908.74	918.53	906.06	896.97	901.50	903.99	932.22	940.99									
11/20/1997	Plugged	928.08	Dry	897.04	Plugged	Plugged	937.67	932.96	908.64	918.53	906.16	896.87	901.55	902.74	932.42	940.99									
12/08/1997	Plugged	928.68	Dry	897.04	Plugged	Plugged	937.87	933.06	908.74	918.43	906.06	896.92	901.90	902.79	932.42	940.99									
01/13/1998	Plugged	930.48	Dry	896.99	Plugged	Plugged	937.72	932.89	908.84	918.43	905.76	896.82	901.95	902.69	932.27	940.69									
02/18/1998	Plugged	934.13	Dry	897.44	Plugged	Plugged	938.82	933.11	909.44	919.57	906.16	897.32	902.50	904.19	932.07	940.49									
03/05/1998	Plugged	934.78	Dry	897.34	Plugged	Plugged	938.87	933.71	910.09	923.43	906.06	897.12	902.50	903.36	932.32	941.01									
04/24/1998	Plugged	937.03	925.94	897.74	Plugged	Plugged	939.52	934.71	911.24	927.83	907.86	897.62	902.50	903.74	933.09	942.69									
05/18/1998	Plugged	934.08	924.29	897.49	Plugged	Plugged	938.62	934.01	910.52	925.73	907.86	897.32	902.00	903.21	932.92	941.99									
06/09/1998	Plugged	934.38	922.34	897.89	Plugged	Plugged	938.82	934.11	910.14	930.93	907.66	897.72	901.90	904.29	933.12	942.19									
07/23/1998	Plugged	934.08	924.64	897.79	Plugged	Plugged	938.82	934.11	910.99	925.23	908.71	897.62	901.80	903.29	934.17	942.99									
08/09/1998	Plugged	932.78	922.24	897.69	Plugged	Plugged	938.62	934.11	910.54	922.53	908.26	897.52	901.75	903.19	933.77	942.59									
09/23/1998	Plugged		Dry		Plugged	Plugged	938.02	933.51	NT	NT	NT	NT	NT	NT	NT	NT									
10/23/1998	Plugged	928.98	917.14	897.34	Plugged	Plugged	938.02	933.61	909.14	919.03	906.46	897.22	901.50	902.59	932.52	941.29									
12/26/1998	Plugged	928.80	Dry	897.09	Plugged	Plugged	937.42	933.11	907.84	919.43	907.36	896.92	901.40	902.59	932.47	940.79									
01/08/1999	Plugged	928.58	Dry	896.94	Plugged	Plugged	937.02	932.63	907.84	919.03	906.96	896.77	901.30	902.39	932.52	940.39									
03/21/1999	Plugged	931.03	Dry	897.24	Plugged	Plugged	938.82	933.61	908.29	922.43	906.31	897.10	902.20	902.74	932.57	940.74									
09/19/1999	Plugged	930.53	Dry	897.19	Plugged	Plugged	939.02	933.71	909.14	919.13	906.46	897.02	901.20	902.69	933.17	942.09									
03/10/2000	Plugged	927.63	Dry	896.82	Plugged	Plugged	936.97	931.66	907.09	917.33	905.46	896.67	902.10	902.89	932.02	939.79									
06/20/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	907.59	915.23	922.27	915.86	918.84	921.43	931.78	917.81	905.06
09/25/2000	Plugged	923.68	916.94	896.47	Plugged	Plugged	938.02	931.61	905.84	916.68	904.06	896.62	901.00	901.79	931.97	940.41	913.64	916.28	919.47	914.56	918.32	919.98	931.73	917.76	905.31
12/26/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	910.24	914.51	920.29	914.96	918.94	920.73	931.33	917.61	905.11
03/05/2001	Plugged	933.79	922.31	896.84	Plugged	Plugged	938.77	932.06	907.17	919.00	904.18	897.12	903.30	903.69	931.72	940.89	915.49	918.53	924.77	916.51	921.15	924.28	932.08	917.01	905.21
09/02/2001	Plugged	930.78	Dry	897.09	Plugged	Plugged	940.02	932.81	908.14	918.63	905.16	896.92	901.45	903.19	933.22	941.69	915.79	917.53	921.52	915.66	920.04	922.68	933.08	919.27	906.71
03/15/2002	Plugged	927.15	Dry	896.59	Plugged	Plugged	937.67	931.62	907.17	917.49	904.88	896.72	902.81	902.78	931.65	939.75	915.23	916.17	925.07	916.72	922.89	920.44	932.73	919.12	906.32
09/19/2002	Plugged	929.10	Dry	896.67	Plugged	Plugged	939.76	932.56	907.86	918.22	904.51	896.51	901.69	902.68	933.04	941.43	922.74	924.85	923.32	916.05	920.29	922.51	934.38	920.29	907.38
03/12/2003	Plugged	924.90	Dry	896.57	Plugged	Plugged	936.29	930.82	906.34	916.92	904.68	896.41	901.37	902.91	930.79	938.89	918.24	919.46	922.37	914.98	919.14	921.59	932.46	919.09	906.23
05/16/2003	Plugged	939.18	Dry	897.44	Plugged	Plugged	939.12	932.61	908.04	927.18	904.66	897.22	903.60	903.39	931.47	940.09	920.59	921.63	926.67	917.36	922.04	925.18	934.43	919.81	906.66
09/25/2003	Plugged	927.87	Dry	896.45	Plugged	Plugged	938.62	932.39	907.48	918.18	904.31	896.28	901.86	902.79	932.61	940.89	916.70	917.61	922.18	915.77	919.05	921.15	933.60	920.05	906.91
03/08/2004	Plugged	938.89	928.29	897.26	Plugged	Plugged	939.03	932.08	908.11	929.89	905.97	897.11	903.92	903.53	931.74	941.49	919.35	920.84	927.31	917.33	922.84	926.45	934.61	920.16	906.80
09/23/2004	Plugged	928.28	Dry	896.74	Plugged	Plugged	938.27	932.41	908.04	919.03	905.86	896.72	901.70	903.19	932.47	941.09	917.91	919.48	923.42	916.21	919.84	922.03	934.28	920.51	907.56
03/17/2005	Plugged	930.63	Dry	896.36	Plugged	Plugged	938.29	932.36	908.09	921.42	905.05	896.16	902.80	903.21	931.62	940.68	918.88	920.36	926.60	916.98	921.63	924.51	933.82	920.11	906.96
09/22/2005	Plugged	927.51	Dry	896.77	Plugged	Plugged	938.73	933.47	907.67	919.25	905.23	896.52	901.78	903.10	932.62	941.16	916.87	918.15	923.87	916.42	920.24	922.58	934.50	920.66	907.43
03/20/2006	Plugged	924.11	Dry	896.42	Plugged	Plugged	939.42	933.31	906.51	917.37	904.56	896.25	902.68	903.13	931.57	939.74	914.54	915.76	925.01	916.15	919.32	921.71	934.50	920.02	906.98
09/21/2006	Plugged	928.25	Dry	896.69	Plugged	Plugged	939.76	934.74	907.40	920.38	903.91	896.52	904.00	903.35	933.72	943.02	916.82	919.12	926.89	917.14	921.49	924.83	935.00	920.70	905.19
03/14/2007	Plugged	940.56	923.56	897.69	Plugged	Plugged	939.96	934.60	910.28	936.19	904.64	897.50	905.30	903.56	933.16	942.25	918.99	921.32	928.42	917.22	924.00	928.47	935.40	921.00	907.93
09/28/2007	Plugged	930.16	Dry	896.97	Plugged	Plugged	939.84	934.91	908.95	919.99	905.89	896.81	901.78	903.36	933.77	942.37	915.79	917.99	923.94	916.39	920.35	924.83	935.48	921.68	908.63
03/03/2008	Plugged	937.08	Dry	897.16	Plugged	Plugged	939.40	933.91	909.43	933.84	905.49	896.97	905.38	903.44	932.72	941.28	915.34	919.00	926.77	916.46	921.45	924.22	934.98	921.41	907.86
09/05/2008	Plugged	930.78	917.72	897.32	Plugged	Plugged	939.72	934.71	909.64	920.38	907.06	897.10	903.70	903.19	933.52	941.99	917.89	919.43	924.17	916.46	921.14	923.48	935.33	922.16	909.24
03/13/2008	Plugged	939.58	925.44	897.64	Plugged	Plugged	944.32	934.81	910.09	922.73	908.06	897.62	904.55	903.09	933.27	941.79	917.89	920.48	928.62	917.36	923.04	926.63	935.98	921.81	908.74
09/24/2009	Plugged	928.18	917.04	896.69	Plugged	Plugged	938.82	933.81	908.64	919.83	906.61	896.52	901.30	902.74	932.97	941.19	915.09	917.53	922.31	915.36	920.79	923.13	934.93	921.41	908.46
03/16/2010	Plugged	940.99	931.17	897.94	Plugged	Plugged	941.08	935.62	914.44	935.97	913.51	897.72	906.60	903.19	NT	NT	921.29	924.48	929.18	918.15	926.86	930.73	936.23	922.61	908.96
09/10/2010	Plugged	934.38	923.39	897.44	Plugged	Plugged	940.62	935.21	911.04	926.03	908.96	897.22	903.50	903.09	934.02	942.44	918.54	921.13	926.97	918.26	922.64	925.13	938.73	923.41	910.16
03/01/2011	Plugged	938.18	924.19	894.74	Plugged	Plugged	938.77	934.01	911.04	931.13	906.21	894.57	902.85	902.79	930.97	941.04	916.99	920.08	928.47	917.86	920.64	923.33	935.28	922.46	908.96
09/22/2011	Plugged	928.88	917.34	896.74	Plugged	Plugged	938.62	933.96	908.84	920.33	906.61	896.57	901.40	902.74	932.67	940.99	913.49	916.93	924.77	916.26	921.34	923.83	934.83	922.01	908.56
03/02/2012	Plugged	930.68	Dry	896.84	Plugged	Plugged	938.72	933.36	908.69	930.93	905.56	896.62	903.60	902.79	932.17	939.86	912.99	916.23	928.17	917.46	921.84	924.93	934.98	921.76	908.16
09/05/2012	Plugged	928.58	Dry	896.54	Plugged	Plugged	938.27	930.91	908.14	919.68	905.36	896.37	901.30	902.69	932.32	940.49	910.19	913.43	923.77	916.06	921.44	924.08	934.28	921.21	907.86
03/04/2013	Plugged	928.73	Dry	896.94	Plugged	Plugged	937.72	932.81	907.84	917.53	904.46	896.72	902.00	902.79	931.67	939.59	909.79	913.83	926.77	916.86	921.54	924.23	934.48	921.51	907.61
09/13/2013	Plugged	928.18	Dry	896.64	Plugged	Plugged	937.62	933.01	908.54	919.93	905.41	896.47	901.10	902.84	932.47	940.59	910.49	914.53	919.77	913.96	921.39	923.63	933.08	920.91	907.76
03/06/2014	Plugged	927.13	Dry	897.44	Plugged	Plugged	936.22	931.41	907.43	917.88	904.71	897.27	901.45	903.29	931.67	939.19	908.49	912.58	922.37	914.36	921.49	924.40	932.58	920.41	907.06
09/09/2014	Plugged	929.48	Dry	897.19	Plugged	Plugged	939.92	934.11	910.34	926.18	906.11	896.97	902.70	903.24	933.02	943.34	914.24	920.23	929.37	919.16	925.94	932.63	935.70	922.71	908.76
03/09/2015	Plugged	935.72	924.34	896.64	Plugged	Plugged	938.87	933.81	910.14	933.21	908.31	896.47	902.30	902.79	932.67	941.29	913.64	919.23	926.32	916.86	924.69	927.93	934.73	922.16	908.76
09/09/2015	Plugged	937.48	928.50	897.46	Plugged	Plugged	939.78	935.15	911.74	935.73	923.26	897.31	903.69	903.19	934.56	943.73	918.13	923.90	929.10	919.71	928.74	932.62	935.60	923.30	910.01
03/11/2016	Plugged	935.76	927.15	897.19	Plugged	Plugged	939.32	934.81	911.81	934.33	915.61	897.00	902.80	903.04	933.77	942.24	917.99	923.48	928.99	919.16	927.56	930.83	935.83	923.51	910.26
10/27/2016	Plugged	933.63	921.91	896.93	Plugged	Plugged	938.97	934.51	910.78	928.43	907.91	896.72	902.06	903.96	933.71	941.79	915.89	920.63	927.97	918.71	925.59	927.88	935.41	923.06	909.76
03/27/2017	Plugged	NR	NR	NR	Plugged	Plugged	939.52	934.56	NR	NR	NR	NR	NR	903.91	932.97	941.14	916.19	921.98	929.37	919.21	926.83	931.51	935.60	NR	909.78
09/07/2017	Plugged	928.40	916.94	896.54	Plugged	Plugged	938.07	933.73	909.04	920.96	906.48	896.32	900.75	903.50	932.72	941.06	912.05	916.18	924.72	917.43	921.68	923.84	934.27	922.26	909.26
03/01/2018	Plugged	NR	NR	896.93	Plugged	Plugged	938.67	933.78	NR	NR	NR	896.77	903.55	903.59	932.84	941.08	912.36	917.13	927.81	918.00	926.44	NR	935.30	922.83	908.96
09/19/2018	Plugged	935.35	925.05	897.18	Plugged	Plugged	940.10	935.11	911.72	932.48	910.36	896.99	902.69	903.64	934.54	943.27	917.65	923.01	929.63	919.61	927.19	929.61	936.32	923.91	910.38
03/27/2019	Plugged	939.52	928.79	897.23	Plugged	Plugged	940.59	936.36	912.40	936.07	912.88	897.01	903.35	903.30	933.76	942.99	917.00	923.91	929.56	919.09	928.85	932.70	937.61	924.04	910.51
09/05/2019	Plugged	930.09	918.51	896.67	Plugged	Plugged	938.30	933.80	909.99	922.32	907.37	896.44	900.72	902.96	933.27	941.57	913.78	919.23	922.24	916.34	923.18	925.19	934.16	922.56	909.93
03/04/2020	Plugged	935.37	918.09	896.83	Plugged	Plugged	939.77	934.83	911.35	934.03	906.98	896.65	NR	902.94	933.51	941.51	915.49	921.50	928.09	918.50	927.64	930.69	935.67	923.30	909.96
08/31/2020	Plugged	928.60	917.34	896.53	Plugged	Plugged	937.79	933.04	909.25	921.29	906.69	896.32	900.00	902.87	932.42	940.65	911.69	916.87	920.59	915.31	922.03	924.03	934.13	922.26	909.34
03/05/2021	Plugged	925.40	Dry	896.65	Plugged	Plugged	939.47	933.68	907.52	918.30	905.20	896.48	902.17	903.47	931.48	939.27	908.68	913.65	923.41	915.41	920.15	922.39	935.29	922.62	910.93
09/13/2021	Plugged	924.43	Dry	896.46	Plugged	Plugged	937.17	932.55	907.03	919.05	904.27	896.26	898.79	901.44	931.54	939.59	908.01	912.72	920.68	914.96	919.98	921.88	933.53	921.34	909.47
03/02/2022	Plugged	926.37	Dry	896.59	Plugged	Plugged	938.47	933.45	907.71	919.43	904.20	896.39	901.96	902.60	931.86	939.79	909.00	914.14	923.63	915.58	921.61	923.96	934.60	922.30	911.84
09/12/2022	Plugged	928.83	Dry	896.69	Plugged	Plugged	938.46	933.74	909.03	920.48	905.07	896.49	899.10	902.68	932.80	941.28	910.86	916.03	921.22	915.48	921.76	923.60	934.33	921.98	910.58
03/24/2023	Plugged	939.52	Dry	896.89	Plugged	Plugged	940.38	935.40	910.12	936.48	904.50	896.71	903.26	902.81	933.51	942.29	913.29	920.45	928.58	918.36	926.21	929.65	935.83	922.87	909.16
09/13/2023	Plugged	927.58	Dry	896.49	Plugged	Plugged	938.26	933.66	908.39	919.48	904.34	896.26	898.90	902.68	932.75	941.09	910.44	915.63	920.49	915.11	921.08	922.88	933.89	921.99	908.12
03/05/2024	Plugged	924.17	Dry	896.59	Plugged	Plugged	938.06	933.48	907.21	917.60	903.81	896.41	900.52	902.64	932.16	939.95	909.28	914.65	922.72	915.90	919.98	921.84	934.10	922.00	908.15
09/03/2024	Plugged	928.72	Dry	896.46	Plugged	Plugged	938.94	934.26	908.83	919.51	903.96	896.23	899.19	902.68	933.14	941.68	911.25	916.42	921.62	915.75	921.04	922.78	934.27	922.41	908.61

	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW28	MW29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
TOP PVC ELEV.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
DATE																									
4/22/91	4.85	8.79	13.15	7.71	8.45	27.61	NT	NT	33.75	19.95	30.89	7.86	9.64	NT	NT	NT									
5/21/91	4.90	8.87	13.21	7.79	8.47	27.67	NT	NT	33.83	20.04	30.95	7.90	9.68	NT	NT	NT									
6/25/91	5.30	10.49	16.20	8.10	10.17	27.72	NT	NT	34.00	20.41	31.22	8.23	9.94	NT	NT	NT									
7/05/91	6.60	13.42	20.08	8.42	13.03	28.19	NT	NT	34.15	21.03	31.46	8.52	10.08	NT	NT	NT									
8/31/91	7.02	13.56	20.80	8.63	13.15	28.35	NT	NT	34.30	21.72	31.59	8.72	10.30	NT	NT	NT									
9/10/91	7.91	16.01	22.56	8.80	15.92	29.60	NT	NT	35.50	22.10	32.21	8.95	10.52	NT	NT	NT									
10/14/91	9.22	20.17	22.56	9.37	20.27	31.36	NT	NT	36.85	23.30	33.19	9.50	10.73	NT	NT	NT									
11/29/91	7.50	19.63	22.56	8.95	16.33	31.00	NT	NT	36.53	23.73	33.26	9.05	9.37	NT	NT	NT									
12/31/91	7.83	18.34	22.56	9.31	15.5	30.73	NT	NT	36.25	24.26	33.3	9.42	8.64	NT	NT	NT									
1/21/92	7.83	17.33	22.56	9.06	14.59	30.51	NT	NT	35.99	24.16	33.12	9.2	8.38	NT	NT	NT									
2/17/92	8.62	16.85	22.56	9.05	14.79	30.44	NT	NT	35.85	24.32	33.1	9.16	8.5	NT	NT	NT									
3/19/92	7	14.27	15.29	8.52	11.78	29.49	NT	NT	35.24	23.98	32.05	8.63	7.6	NT	NT	NT									
4/22/92	6.7	13.43	13.29	7.87	11.29	28.91	NT	NT	34.89	21.49	31.4	7.97	6.46	NT	NT	NT									
5/30/92	8.42	13.13	16.46	8.54	12.51	28.76	NT	NT	34.71	22.82	31.19	8.65	7.66	NT	NT	NT									
6/30/92	9.04	15.72	20.41	8.71	13.51	29.32	NT	NT	35.46	22.84	31.75	8.82	8.65	NT	NT	NT									
7/28/92	6.6	16.05	21.68	8.01	11.15	29.7	NT	NT	35.51	22.76	32.25	8.2	7.71	NT	NT	NT									
8/22/92	7.38	15.56	19.91	8.5	11.59	29.86	NT	NT	35.3	23.09	32.23	8.61	8.25	NT	NT	NT									
9/30/92	9.44	17.78	20	8.73	13.25	30.98	NT	NT	36.15	23.54	32.83	8.82	9.19	NT	NT	NT									
10/29/92	10.33	18.86	22.56	8.80	14.36	31.03	NT	NT	36.66	23.78	33.12	8.90	10.00	NT	NT	NT									
11/25/92	9.65	17.97	22.56	8.67	13.26	30.84	NT	NT	36.35	23.96	33.23	8.80	8.27	NT	NT	NT									
12/10/92	9.38	17.75	22.56	8.93	13.67	30.74	NT	NT	36.23	23.83	33.12	8.99	8.56	NT	NT	NT									
1/30/93	9.26	17.69	22.56	8.95	13.75	30.63	NT	NT	36.17	23.79	33.01	9.01	8.61	NT	NT	NT									
2/22/93	11.04	16.70	22.56	9.12	15.35	31.28	NT	NT	35.90	23.97	33.16	9.26	8.37	NT	NT	NT									
3/4/93	11.14	16.74	22.56	8.76	15.58	31.36	6.70	10.80	36.04	23.96	33.20	8.90	7.54	NT	NT	NT									
4/27/93	8.80	9.58	11.78	8.50	11.40	30.24	5.34	8.60	34.24	20.40	31.20	8.64	6.74	NT	NT	NT									
5/27/93	8.27	10.10	11.28	8.14	11.84	29.80	4.90	9.00	33.90	17.24	30.10	8.26	6.20	NT	NT	NT									
6/30/93	8.22	10.64	12.34	7.94	12.40	29.57	4.90	9.10	33.70	16.80	29.90	8.04	6.60	NT	NT	NT									
7/27/93	7.94	9.24	10.84	8.54	12.26	29.38	5.04	8.20	33.20	15.86	28.78	8.60	6.50	NT	NT	NT									
9/3/93	8.02	9.48	11.40	8.68	12.80	29.60	4.80	7.90	33.10	13.84	29.80	8.80	6.84	NT	NT	NT									
9/21/93	8.75	11.60	14.43	9.02	13.72	29.84	5.20	8.20	33.14	18.38	30.30	8.92	7.72	NT	NT	NT									
10/25/93	9.14	11.85	15.04	9.05	14.35	30.30	5.95	9.35	33.30	17.55	30.50	9.16	8.05	NT	NT	NT									
11/22/93	10.20	12.72	16.34	9.26	15.36	30.90	7.20	10.56	34.14	19.80	31.00	9.36	8.12	NT	NT	NT									
12/14/93	10.9	13.30	17.54	9.34	15.96	31.04	7.48	11.16	34.42	20.34	31.24	9.48	8.22	NT	NT	NT									
1/31/94	11.96	14.18	19.18	9.55	16.98	32.00	8.90	12.54	35.22	21.56	32.00	9.6	8.53	NT	NT	NT									
2/28/94	12.43	12.37	17.05	9.43	NT	32.30	8.34	12.05	35.27	18.33	31.96	9.53	7.84	NT	NT	NT									
3/16/94	11.8	11.04	15.54	9.30	17.78	32.12	7.56	11.48	34.60	14.90	31.36	9.40	7.45	NT	NT	NT									
4/30/94	11.80	12.70	17.04	9.30	17.92	33.95	7.65	11.88	35.20	18.17	31.06	9.42	8.48	NT	NT	NT									
5/17/94	11.5	12.24	16.76	9.36	18.86	35.06	7.5	11.86	35	16.96	31.32	9.5	NT	NT	NT	NT									
7/31/94	NT	14.6	20.68	9.11	18.89	34.2	6.89	12.2	35.72	21.8	32.41	9.21	7.52	NT	NT	NT									
8/23/94	11.8	13.25	21.2	9.24	18.64	33.98	7.86	11.6	35.6	22.2	32.62	9.4	7.6	NT	NT	NT									
9/16/94	11.74	12.86	20.5	9.2	18.56	33.95	7.52	11.48	35.5	22.4	32.74	9.34	7.6	NT	NT	NT									
10/21/94	11.8	13.5	21.66	9.5	18.7	34	7.24	11.3	36.56	22.62	32.96	9.64	7.6	NT	NT	NT									
11/21/94	12.75	14.58	22	9.88	19.5	34.52	7.4	12.2	35.68	22.88	33	9.98	7.8	NT	NT	NT									
12/22/94	12.9	12.55	NT	9.7	19.7	34.5	7.5	12.5	35.8	23.3	33.35	9.84	7.6	NT	NT	NT									
1/10/95	12.58	12.44	22	9.55	19.3	34.4	8.28	12.2	35.4	22.86	33.1	9.75	7.66	NT	NT	NT									
2/6/95	13.88	13.3	22	9.49	20.4	34.8	8.46	12.73	35.42	23	33.28	9.6	7.8	NT	NT	NT									
3/9/95	14.8	13.08	NT	9.6	21.3	35.18	9.1	13.17	35.65	23.1	33.3	9.72	7.8	NT	NT	NT									
4/14/95	13.8	6.58	14.2	9	19.95	34.65	6.3	10.9	34.55	15.7	32.98	9.15	6.9	NT	NT	NT									
5/2/95	13.2	6.4	12.1	9.03	18.5	34.4	6.21	10.35	33.75	14.9	32	9.19	6.6	NT	NT	NT									
6/2/95	12.95	11.6	14	9.2	18	34.28	7.6	11.75	34.59	18.25	31.2	9.3	7.3	NT	NT	NT									
8/23/95	13.2	15.6	20.3	9.2	19.77	34.6	7.85	11.95	35.6	21.6	32.65	9.35	7.8	NT	NT	NT									
9/12/95	13.87	16.62	20.9	9.67	20.84	35	8.91	12.85	36.15	21.9	32.92	9.54	7.86	NT	NT	NT									
10/31/95	14.85	17.8	Dry	9.5	23.5	35.8	8.9	13.4	36.75	23	33.6	9.6	8.05	NT	NT	NT									
11/20/95	15.02	17.97	Dry	9.66	23.4	35.98	9.15	13.1	36.75	23.2	33.6	9.8	7.75	NT	NT	NT									
12/7/95	15.35	18.1	Dry	9.7	23.4	36.6	9.17	13.35	36.92	23.45	33.85	9.87	7.7	NT	NT	NT									
1/3/96	16.4	18.2	Dry	9.78	NT	36.4	9.85	13.9	36.95	23.4	33.7	9.9	7.9	NT	NT	NT									
2/24/96	Plugged	15.3	Dry	9.4	Plugged	Plugged	8	13	36.3	23.45	33.8	9.55	7.6	NT	NT	NT									
3/22/96	Plugged	15.35	Dry	9.45	Plugged	Plugged	9.3	13.6	36.37	23.18	33.95	9.6	7.7	12.9	18.2	11.4									
4/1/96	Plugged	NT	Dry	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	12.55	18.5	11.35									
6/20/96	Plugged	8.2	Dry	8.7	Plugged	Plugged	5.65	10.8	35.2	14.4	32.23	8.85	7.25	12.2	16.96	8.55									
9/12/96	Plugged	14.02	Dry	9.05	Plugged	Plugged	7.4	11.9	35.78	21.95	33.1	9.15	7.72	12.95	16.6	7.9									
10/24/1996	Plugged	15.4	22.1	9.05	Plugged	Plugged	7.8	12.2	35.78	21.4	33.4	9.2	7.8	12.85	16.48	8.3									
11/18/1996	Plugged	7.75	21.82	8.65	Plugged	Plugged	6.75	11.7	35.86	13.4	33.1	8.8	7.5	12.28	16.6	8.35									
12/11/1996	Plugged	9.95	17.48	8.95	Plugged	Plugged	7.08	11.4	34.5	14.6	32.05	9.1	7.7	12.55	16.55	8.35									

	MW 22	MW 23	MW 24	MW 25	MW 26	MW 27	MW28	MW29	MW 30	MW 31	MW 32	MW 33	MW 34	MW 35	MW 36	MW 37	MW38	MW 39	MW 40	MW 41	MW 42	MW 43	MW 6	MW 7	MW 8
TOP PVC ELEV.	950.59	945.98	939.44	906.34	950.51	950.51	946.02	945.61	945.54	941.43	939.86	906.32	909.50	916.19	948.97	949.49	936.59	935.93	933.07	933.46	940.64	940.83	942.88	943.21	942.76
DATE																									
01/29/1997	Plugged	12.1	18.6	9.1	Plugged	Plugged	8.6	12.65	34.9	16.5	32.45	9.25	7.95	13.1	16.58	8.7									
02/25/1997	Plugged	9.75	19.85	8.95	Plugged	Plugged	8.45	12.75	35	18.35	32.6	9.1	7.62	12.52	17.35	9.35									
03/17/1997	Plugged	8	15.35	9.8	Plugged	Plugged			34.57	11.85	32.6	9	7.1	12.2	17.2	8.9									
04/29/1997	Plugged	11.2	13.8	8.8	Plugged	Plugged	7.4	11.7	33.5	13.3	31.3	8.95	7.4	12.4	16.5	8									
05/22/1997	Plugged	11.45	13.1	8.85	Plugged	Plugged	7.6	11.9	34.7	13.45	31.2	9	7.5	12.35	16.4	8.1									
06/18/1997	Plugged	12.9	15.9	9.05	Plugged	Plugged	7.65	12	35.15	17.3	31.6	9.2	7.7	12.6	16.42	7.9									
07/18/1997	Plugged	14.45	19.2	9.05	Plugged	Plugged	7.7	12.2	35.7	20.2	32.3	9.2	7.9	12.7	16.5	7.75									
08/29/1997	Plugged	16.55	21.1	9.24	Plugged	Plugged	8.2	12.6	36.35	21.8	33	9.4	8	13.15	16.55	7.85									
09/01/1997	Plugged	16.6	21.1	9.3	Plugged	Plugged	8.3	12.7	36.4	21.9	33.1	9.5	8.1	13.2	16.6	7.85									
10/27/1997	Plugged	17.7	dry	9.2	Plugged	Plugged	7.9	12.5	36.8	22.9	33.8	9.35	8	12.2	16.75	8.5									
11/20/1997	Plugged	17.9	dry	9.3	Plugged	Plugged	8.35	12.65	36.9	22.9	33.7	9.45	7.95	13.45	16.55	8.5									
12/08/1997	Plugged	17.3	dry	9.3	Plugged	Plugged	8.15	12.55	36.8	23	33.8	9.4	7.6	13.4	16.55	8.5									
01/13/1998	Plugged	15.5	dry	9.35	Plugged	Plugged	8.3	12.72	36.7	23	34.1	9.5	7.55	13.5	16.7	8.8									
02/18/1998	Plugged	11.85	dry	8.9	Plugged	Plugged	7.2	12.5	36.1	21.86	33.7	9	7	12	16.9	9									
03/05/1998	Plugged	11.2	dry	9	Plugged	Plugged	7.15	11.9	35.45	18	33.8	9.2	7	12.83	16.65	8.48									
04/24/1998	Plugged	8.95	13.5	8.6	Plugged	Plugged	6.5	10.9	34.3	13.6	32	8.7	7	12.45	15.88	6.8									
05/18/1998	Plugged	11.9	15.15	8.85	Plugged	Plugged	7.4	11.6	35.02	15.7	32	9	7.5	12.98	16.05	7.5									
06/09/1998	Plugged	11.6	17.1	8.45	Plugged	Plugged	7.2	11.5	35.4	10.5	32.2	8.6	7.6	11.9	15.85	7.3									
07/23/1998	Plugged	11.9	14.8	8.55	Plugged	Plugged	7.2	11.5	34.55	16.2	31.15	8.7	7.7	12.9	14.8	6.5									
08/09/1998	Plugged	13.2	17.2	8.65	Plugged	Plugged	7.4	11.5	35	18.9	31.6	8.8	7.75	13	15.2	6.9									
09/23/1998	Plugged		dry		Plugged	Plugged	8	12.1																	
10/23/1998	Plugged	17	22.3	9	Plugged	Plugged	8	12	36.4	22.4	33.4	9.1	8	13.6	16.45	8.2									
12/26/1998	Plugged	17.18	Dry	9.25	Plugged	Plugged	8.6	12.5	37.7	22	32.5	9.4	8.1	13.6	16.5	8.7									
01/08/1999	Plugged	17.4	Dry	9.4	Plugged	Plugged	9	12.98	37.7	22.4	32.9	9.55	8.2	13.8	16.45	9.1									
03/21/1999	Plugged	14.95	Dry	9.1	Plugged	Plugged	7.2	12	37.25	19	33.55	9.22	7.3	13.45	16.4	8.75									
09/19/1999	Plugged	15.45	22.1	9.15	Plugged	Plugged	7	11.9	36.4	22.3	33.4	9.3	8.3	13.5	15.8	7.4									
03/10/2000	Plugged	18.35	Dry	9.52	Plugged	Plugged	9.05	13.95	38.45	24.1	34.4	9.65	7.4	13.3	16.95	9.7									
06/20/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	29	20.7	10.8	17.6	21.8	19.4	11.1	25.4	37.7
09/25/2000	Plugged	22.3	22.5	9.87	Plugged	Plugged	8	14	39.7	24.75	35.8	9.7	8.5	14.4	17	9.08	22.95	19.65	13.6	18.9	22.32	20.85	11.15	25.45	37.45
12/26/2000	Plugged	NT	NT	NT	Plugged	Plugged	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	26.35	21.42	12.78	18.5	21.7	20.1	11.55	25.6	37.65
03/05/2001	Plugged	12.19	17.13	9.5	Plugged	Plugged	7.25	13.55	38.37	22.43	35.68	9.2	6.2	12.5	17.25	8.6	21.1	17.4	8.3	16.95	19.49	16.55	10.8	26.2	37.55
09/02/2001	Plugged	15.2	DRY	9.25	Plugged	Plugged	6	12.8	37.4	22.8	34.7	9.4	8.05	13	15.75	7.8	20.8	18.4	11.55	17.8	20.6	18.15	9.8	23.94	36.05
03/15/2002	Plugged	18.83	Dry	9.75	Plugged	Plugged	8.35	13.99	38.37	23.94	34.98	9.6	6.69	13.41	17.32	9.74	21.36	19.76	8	16.74	17.75	20.39	10.15	24.09	36.44
09/19/2002	Plugged	16.88	DRY	9.67	Plugged	Plugged	6.26	13.05	37.68	23.21	35.35	9.81	7.81	13.51	15.93	8.06	13.85	11.08	9.75	17.41	20.35	18.32	8.5	22.92	35.38
03/12/2003	Plugged	21.08	Dry	9.77	Plugged	Plugged	9.73	14.79	39.2	24.51	35.18	9.91	8.13	13.28	18.18	10.6	18.35	16.47	10.7	18.48	21.5	19.24	10.42	24.12	36.53
05/16/2003	Plugged	6.8	DRY	8.9	Plugged	Plugged	6.9	13	37.5	14.25	35.2	9.1	5.9	12.8	17.5	9.4	16	14.3	6.4	16.1	18.6	15.65	8.45	23.4	36.1
09/25/2003	Plugged	18.11	DRY	9.89	Plugged	Plugged	7.4	13.22	38.06	23.25	35.55	10.04	7.64	13.4	16.36	8.6	19.89	18.32	10.89	17.69	21.59	19.68	9.28	23.16	35.85
03/08/2004	Plugged	7.09	11.15	9.08	Plugged	Plugged	6.99	13.53	37.43	11.54	33.89	9.21	5.58	12.66	17.23	8	17.24	15.09	5.76	16.13	17.8	14.38	8.27	23.05	35.96
09/23/2004	Plugged	17.7	DRY	9.6	Plugged	Plugged	7.75	13.2	37.5	22.4	34	9.6	7.8	13	16.5	8.4	18.68	16.45	9.65	17.25	20.8	18.8	8.6	22.7	35.2
03/17/2005	Plugged	15.35	DRY	9.98	Plugged	Plugged	7.73	13.25	37.45	20.01	34.81	10.16	6.7	12.98	17.35	8.81	17.71	15.57	6.47	16.48	19.01	16.32	9.06	23.1	35.8
09/22/2005	Plugged	18.47	DRY	9.57	Plugged	Plugged	7.29	12.14	37.87	22.18	34.63	9.8	7.72	13.09	16.35	8.33	19.72	17.78	9.2	17.04	20.4	18.25	8.38	22.55	35.33
03/20/2006	Plugged	21.87	DRY	9.92	Plugged	Plugged	6.6	12.3	39.03	24.06	35.3	10.07	6.82	13.06	17.4	9.75	22.05	20.17	8.06	17.31	21.32	19.12	8.38	23.19	35.78
09/21/2006	Plugged	17.73	DRY	9.65	Plugged	Plugged	6.26	10.87	38.14	21.05	35.95	9.8	5.5	12.84	15.25	6.47	19.77	16.81	6.18	16.32	19.15	16	7.88	22.51	37.57
03/14/2007	Plugged	5.42	15.88	8.65	Plugged	Plugged	6.06	11.01	35.26	5.24	35.22	8.82	4.2	12.63	15.81	7.24	17.6	14.61	4.65	16.24	16.64	12.36	7.48	22.21	34.83
09/28/2007	Plugged	15.82	DRY	9.37	Plugged	Plugged	6.18	10.7	36.59	21.44	33.97	9.51	7.72	12.83	15.2	7.12	20.8	17.94	9.13	17.07	20.29	16	7.4	21.53	34.13
03/03/2008	Plugged	8.9	DRY	9.18	Plugged	Plugged	6.62	11.7	36.11	7.59	34.37	9.35	4.12	12.75	16.25	8.21	21.25	16.93	6.3	17	19.19	16.61	7.9	21.8	34.9
09/05/2008	Plugged	15.2	21.72	9.02	Plugged	Plugged	6.3	10.9	35.9	21.05	32.8	9.22	5.8	13	15.45	7.5	18.7	16.5	8.9	17	19.5	17.35	7.55	21.05	33.52
03/13/2009	Plugged	6.4	14	8.7	Plugged	Plugged	1.7	10.8	35.45	18.7	31.8	8.7	4.95	13.1	15.7	7.7	18.7	15.45	4.45	16.1	17.6	14.2	6.9	21.4	34.02
09/24/2009	Plugged	17.8	22.4	9.65	Plugged	Plugged	7.2	11.8	36.9	21.6	33.25	9.8	8.2	13.45	16	8.3	21.5	18.4	10.76	18.1	19.85	17.7	7.95	21.8	34.3
03/16/2010	Plugged	4.99	8.27	8.4	Plugged	Plugged	4.94	9.99	31.1	5.46	26.35	8.6	2.9	13	NT	NT	15.3	11.45	3.89	15.31	13.78	10.1	6.65	20.6	33.8
09/10/2010	Plugged	11.6	16.05	8.9	Plugged	Plugged	5.4	10.4	34.5	15.4	30.9	9.1	6	13.1	14.95	7.05	18.05	14.8	6.1	15.2	18	15.7	4.15	19.8	32.6
03/01/2011	Plugged	7.8	15.25	11.6	Plugged	Plugged	7.25	11.6	34.5	10.3	33.65	11.75	6.65	13.4	18	8.45	19.6	15.85	4.6	15.6	20	17.5	7.6	20.75	33.8
09/22/2011	Plugged	17.1	22.1	9.6	Plugged	Plugged	7.4	11.65	36.7	21.1	33.25	9.75	8.1	13.45	16.3	8.5	23.1	19	8.3	17.2	19.3	17	8.05	21.2	34.2
03/02/2012	Plugged	15.3	dry	9.5	Plugged	Plugged	7.3	12.25	36.85	10.5	34.3	9.7	5.9	13.4	16.8	9.63	23.6	19.7	4.9	16	18.8	15.9	7.9	21.45	34.6
09/05/2012	Plugged	17.4	dry	9.8	Plugged	Plugged	7.75	14.7	37.4	21.75	34.5	9.95	8.2	13.5	16.65	9	26.4	22.5	9.3	17.4	19.2	16.75	8.6	22	34.9
03/04/2013	Plugged	17.25	dry	9.4	Plugged	Plugged	8.3	12.8	37.7	23.9	35.4	9.6	7.5	13.4	17.3	9.9	26.8	22.1	6.3	16.6	19.1	16.6	8.4	21.7	35.15
09/13/2013	Plugged	17.8	dry	9.7	Plugged	Plugged	8.4	12.6	37	21.5	34.45	9.85	8.4	13.35	16.5	8.9	26.1	21.4	13.3	19.5	19.25	17.2	9.8	22.3	35
03/06/2014	Plugged	18.85	dry	8.9	Plugged	Plugged	9.8	14.2	38.11	23.55	35.15	9.05	8.05	12.9	17.3	10.3	28.1	23.35	10.7	19.1	19.15	16.43	10.3	22.8	35.7
09/09/2014	Plugged	16.5	dry	9.15	Plugged	Plugged	6.1	11.5	35.2	15.25	33.75	9.35	6.8	12.95	15.95	6.15	22.35	15.7	3.7	14.3	14.7	8.2	7.18	20.5	34
03/09/2015	Plugged	10.26	15.1	9.7	Plugged	Plugged	7.15	11.8	35.4	8.22	31.55	9.85	7.2	13.4	16.3	8.2	22.95	16.7	6.75	16.6	15.95	12.9	8.15	21.05	34
09/09/2015	Plugged	8.5	10.94	8.88	Plugged	Plugged	6.24	10.46	33.8	5.7	16.6	9.01	5.81	13	14.41	5.76	18.46	12.03	3.97	13.75	11.9	8.21	7.28	19.91	32.75
03/11/2016	Plugged	10.22	12.29	9.15	Plugged	Plugged	6.7	10.8	33.73	7.1	24.25	9.32	6.7	13.15	15.2	7.25	18.6	12.45	4.08	14.3	13.08	10	7.05	19.7	32.5
10/27/2016	Plugged	12.35	17.53	9.41	Plugged	Plugged	7.05	11.1	34.76	13	31.95	9.6	7.44	12.23	15.26	7.7	20.7	15.3	5.1	14.75	15.05	12.95	7.47	20.15	33
03/27/2017	Plugged	NR	NR	NR	Plugged	Plugged	6.5	11.05	NR	NR	NR	NR	NR	12.28	16	8.35	20.4	13.95	3.7	14.25	13.81	9.32	7.28	NR	32.98
09/07/2017	Plugged	17.58	22.5	9.8	Plugged	Plugged	7.95	11.88	36.5	20.47	33.38	10	8.75	12.69	16.25	8.43	24.54	19.75	8.35	16.03	18.96	16.99	8.61	20.95	33.5
03/01/2018	Plugged	NR	NR	9.41	Plugged	Plugged	7.35	11.83	NR	NR	NR	9.55	5.95	12.6	16.13	8.41	24.23	18.8	5.26	15.46	14.2	NR	7.58	20.38	33.8
09/19/2018	Plugged	10.63	14.39	9.16	Plugged	Plugged	5.92	10.5	33.82	8.95	29.5	9.33	6.81	12.55	14.43	6.22	18.94	12.92	3.44	13.85	13.45	11.22	6.56	19.3	32.38
03/27/2019	Plugged	6.46	10.65	9.11	Plugged	Plugged	5.43	9.25	33.14	5.36	26.98	9.31	6.15	12.89	15.21	6.5	19.59	12.02	3.51	14.37	11.79	8.13	5.27	19.17	32.25
09/05/2019	Plugged	15.89	20.93	9.67	Plugged	Plugged	7.72	11.81	35.55	19.11	32.49	9.88	8.78	13.23	15.7	7.92	22.81	16.7	10.83	17.12	17.46	15.64	8.72	20.65	32.83
03/04/2020	Plugged	10.61	21.35	9.51	Plugged	Plugged	6.25	10.78	34.19	7.4	32.88	9.67	NR	13.25	15.46	7.98	21.1	14.43	4.98	14.96	13	10.14	7.21	19.91	32.8
08/31/2020	Plugged	17.38	22.1	9.81	Plugged	Plugged	8.23	12.57	36.29	20.14	33.17	10	9.5	13.32	16.55	8.84	24.9	19.06	12.48	18.15	18.61	16.8	8.75	20.95	33.42
03/05/2021	Plugged	20.58	Dry	9.69	Plugged	Plugged	6.55	11.93	38.02	23.13	34.66	9.84	7.33	12.72	17.49	10.22	27.91	22.28	9.66	18.05	20.49	18.44	7.59	20.59	31.83
09/13/2021	Plugged	21.55	Dry	9.88	Plugged	Plugged	8.85	13.06	38.51	22.38	35.59	10.06	10.71	14.75	17.43	9.9	28.58	23.21	12.39	18.5	20.66	18.95	9.35	21.87	33.29
3/2/2022	Plugged	19.61	Dry	9.75	Plugged	Plugged	7.55	12.16	37.83	22	35.66	9.93	7.54	13.59	17.11	9.7	27.59	21.79	9.44	17.88	19.03	16.87	8.28	20.91	30.92
9/12/2022	Plugged	17.15	Dry	9.65	Plugged	Plugged	7.56	11.87	36.51	20.95	34.79	9.83	10.4	13.51	16.17	8.21	25.73	19.9	11.85	17.98	18.88	17.23	8.55	21.23	32.18
3/24/2023	Plugged	6.46	Dry	9.45	Plugged	Plugged	5.64	10.21	35.42	4.95	35.36	9.61	6.24	13.38	15.46	7.2	23.3	15.48	4.49	15.1	14.43	11.18	7.05	20.34	33.6
9/13/2023	Plugged	18.4	Dry	9.85	Plugged	Plugged	7.76	11.95	37.15	21.95	35.52	10.06	10.6	13.51	16.22	8.4	26.15	20.3	12.58	18.35	19.56	17.95	8.99	21.22	34.64
03/05/2024	Plugged	21.81	Dry	9.75	Plugged	Plugged	7.96	12.13	38.33	23.83	36.05	9.91	8.98	13.55	16.81	9.54	27.31	21.28	10.35	17.56	20.66	18.99	8.78	21.21	34.61
09/03/2024	Plugged	17.26	Dry	9.88	Plugged	Plugged	7.08	11.35	36.71	21.92	35.9	10.09	10.31	13.51	15.83	7.81	25.34	19.51	11.45	17.71	19.6	18.05	8.61	20.8	34.15

Table 5 – Background and GWPS Summary

Table 5
Background and GWPS Summary
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Background Wells (MW-6, MW-7, MW-8, MW-28, MW-29, MW-36, and MW-37)

Inorganics - Appendix I							
Constituent	**Units**	**Model Type**	**Mean**	**SD**	**Limit**	**GWPS***	**Source**
Arsenic (As - total)	mg/L	mean+2STD	0.0125	0.0104	0.0333	0.0333	Site
COD	mg/L	mean+2STD	18.4	21.2	60.8	None	IAC 137
Chloride	mg/L	mean+2STD	46.0	67.7	181.4	None	IAC 137
Conductivity	µs/cm	mean+2STD	894	471	1836.0	None	IAC 137
Iron (Fe- dissolved)	mg/L	mean+2STD	1.35	2.16	5.68	None	IAC 137
Nitrogen, as ammonia	mg/L	mean+2STD	0.5	0.2	0.9	30	IAC 137
pH - high		mean+2STD	7.5	0.6	8.60	None	IAC 137
pH - low		mean+2STD	7.5	0.6	6.30	None	IAC 137
Phenol	mg/L	mean+2STD	0.05	0.01	0.07	2	IAC 137
Temperature	C	mean+2STD	13.4	4.6	22.6	None	IAC 137
TOX	mg/L	mean+2STD	0.021	0.031	0.082	None	IAC 137
Boron (B - total)	mg/L	mean+2STD	0.097	0.087	0.272	6	IAC 137
Sulfate	mg/L	mean+2STD	172	189	550.0	None	IAC 137
Turbidity	NTU	mean+2STD	37.13	102.82	242.76	None	IAC 137

= Site Specific Limit exceeds the GWPS. A Site-Specific GWPS equal to the Limit is warranted

* - Groundwater Protection Standards published in Iowa Administrative Code (IAC) 567, Chapter 137.

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
10/15/1991	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
01/23/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/23/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/30/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/05/1993	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/21/1993	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/23/1994	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/16/1995	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/13/1995	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/28/1996	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
06/20/1996	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/13/1996	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
12/16/1996	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/1997	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
06/18/1997	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
08/30/1997	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/10/1998	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/21/1998	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/18/1999	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/21/1999	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/21/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
06/28/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
12/27/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/08/2004	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/27/2004	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/17/2005	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/22/2005	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/17/2006	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/22/2006	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/01/2007	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/22/2007	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/03/2008	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/05/2008	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/09/2009	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/23/2009	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/16/2010	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/10/2010	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/01/2011	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/22/2011	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/02/2012	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/05/2012	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/08/2013	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/15/2013	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
03/06/2014	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/09/2014	Arsenic, Total	0.0333	0.0333	0.0279	NT	0.002	0.002	0.0375	NT	0.0239	0.0226	0.0187
03/11/2015	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	0.0187	NT	NT	NT	NT
09/09/2015	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	0.014	NT	0.0146	0.0174	0.0213
03/11/2016	Arsenic, Total	0.0333	0.0333	0.0051	NT	0.002	0.002	0.0153	NT	0.0061	0.0056	0.0183
10/27/2016	Arsenic, Total	0.0333	0.0333	0.0081	NT	0.002	0.002	0.015	NT	0.0252	0.002	0.0212
03/27/2017	Arsenic, Total	0.0333	0.0333	0.0248	NT	0.002	0.002	0.017	NT	0.0214	NT	0.0181
09/07/2017	Arsenic, Total	0.0333	0.0333	0.007	NT	0.002	0.002	0.0154	NT	0.0214	0.0173	0.0184
03/01/2018	Arsenic, Total	0.0333	0.0333	0.0056	NT	0.002	0.002	0.0143	NT	0.0075	0.0118	0.0233
09/19/2018	Arsenic, Total	0.0333	0.0333	0.0493	NT	0.002	0.002	0.0132	NT	0.013	0.0227	0.0255
03/27/2019	Arsenic, Total	0.0333	0.0333	0.0101	NT	0.002	0.002	0.0138	NT	0.0154	0.0042	0.0157
09/05/2019	Arsenic, Total	0.0333	0.0333	0.0137	NT	0.002	0.002	0.0125	NT	0.0214	0.034	0.0212
02/28/2020	Arsenic, Total	0.0333	0.0333	0.0183	NT	0.002	0.002	0.0143	NT	0.007	0.0062	0.0346
08/31/2020	Arsenic, Total	0.0333	0.0333	0.0151	NT	0.002	0.002	0.0108	NT	0.0147	0.0424	0.019
03/05/2021	Arsenic, Total	0.0333	0.0333	0.0076	NT	0.002	0.002	0.0286	NT	0.0088	0.0062	0.019
09/13/2021	Arsenic, Total	0.0333	0.0333	0.0068	NT	0.002	0.002	0.0118	NT	0.017	0.0506	0.0205
03/02/2022	Arsenic, Total	0.0333	0.0333	0.0048	NT	0.002	0.002	0.0124	NT	0.0097	0.0042	0.022
09/12/2022	Arsenic, Total	0.0333	0.0333	0.0052	NT	0.002	0.002	0.0106	NT	0.0111	0.0159	0.0165
03/24/2023	Arsenic, Total	0.0333	0.0333	NT	NT	NT	0.002	NT	NT	NT	0.0122	NT
06/13/2023	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT	NT	NT
09/13/2023	Arsenic, Total	0.0333	0.0333	NT	NT	0.002	NT	NT	NT	NT	NT	0.0128
03/05/2024	Arsenic, Total	0.0333	0.0333	0.0258	NT	NT	NT	NT	NT	0.0086	NT	NT
09/03/2024	Arsenic, Total	0.0333	0.0333	NT	NT	NT	0.002	0.023	NT	NT	NT	NT

Mean	0.0125
Standard Deviation (STD)	0.0104
Mean + 2 STD	0.0333

AMES-STORY ENVIRONMENTAL LANDFILL

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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Chemical Oxygen Demand	--	60.8		8.3	67.8	NT		12	20.1	NT	NT
10/15/1991	Chemical Oxygen Demand	--	60.8		15	64.8	NT		16.5	19.4	NT	NT
01/23/1992	Chemical Oxygen Demand	--	60.8		24.2	84.1	NT		5	NT	NT	NT
03/23/1992	Chemical Oxygen Demand	--	60.8		5	119	NT		5	50	NT	NT
09/30/1992	Chemical Oxygen Demand	--	60.8		50	NT	NT		24	180	NT	NT
03/05/1993	Chemical Oxygen Demand	--	60.8		5	50.8	NT		5	NT	NT	NT
09/21/1993	Chemical Oxygen Demand	--	60.8		5	47.3	5		5	47.3	5	5
03/23/1994	Chemical Oxygen Demand	--	60.8		5	64	5		5	64	5	5
09/16/1994	Chemical Oxygen Demand	--	60.8		5	52	5		5	52	5	5
03/16/1995	Chemical Oxygen Demand	--	60.8		38	57	5		32	26	5	5
09/13/1995	Chemical Oxygen Demand	--	60.8		5	34	35		5	5	5	12
03/28/1996	Chemical Oxygen Demand	--	60.8	5	plugged	26	5	11	plugged	5	5	5
06/20/1996	Chemical Oxygen Demand	--	60.8	5		NT	5	10		NT	5	5
09/13/1996	Chemical Oxygen Demand	--	60.8	5		18	5	5		5	5	5
12/16/1996	Chemical Oxygen Demand	--	60.8	NT		28	5	NT		5	5	5
03/19/1997	Chemical Oxygen Demand	--	60.8	5		19	5	5		5	5	5
06/18/1997	Chemical Oxygen Demand	--	60.8	5		27	12	5		5	5	10
08/30/1997	Chemical Oxygen Demand	--	60.8	5		5	5	12		5	5	5
03/10/1998	Chemical Oxygen Demand	--	60.8	5		5	5	12		5	5	5
09/21/1998	Chemical Oxygen Demand	--	60.8	5		5	5	12		5	5	5
03/18/1999	Chemical Oxygen Demand	--	60.8	5		5	5	5		5	5	5
09/21/1999	Chemical Oxygen Demand	--	60.8	5		5	5	5		5	5	5
03/21/2000	Chemical Oxygen Demand	--	60.8	NT		5	5	NT		5	5	5
06/28/2000	Chemical Oxygen Demand	--	60.8	NT		NT	5	NT		NT	5	11
09/28/2000	Chemical Oxygen Demand	--	60.8	5		11	20	5		5	5	5
12/27/2000	Chemical Oxygen Demand	--	60.8	NT		NT	5	NT		NT	5	5
03/28/2001	Chemical Oxygen Demand	--	60.8	5		5	11	5		5	5	5
09/02/2001	Chemical Oxygen Demand	--	60.8	5		11	19	5		5	5	5
03/19/2002	Chemical Oxygen Demand	--	60.8	5		24	5	5		5	5	5
09/19/2002	Chemical Oxygen Demand	--	60.8	5		11	12	5		5	5	5
03/14/2003	Chemical Oxygen Demand	--	60.8	5		28	5	5		5	5	5
09/29/2003	Chemical Oxygen Demand	--	60.8	5		23	12	5		5	5	5
03/08/2004	Chemical Oxygen Demand	--	60.8	20		17	5	5		5	5	5
09/27/2004	Chemical Oxygen Demand	--	60.8	5		17	5	5		5	5	10
03/17/2005	Chemical Oxygen Demand	--	60.8	5		21	18	5		5	5	5
09/22/2005	Chemical Oxygen Demand	--	60.8	5		23	19	5		10	19	5
03/17/2006	Chemical Oxygen Demand	--	60.8	5		14	11	5		5	5	5
09/22/2006	Chemical Oxygen Demand	--	60.8	5		10	5	5		5	5	5
03/14/2007	Chemical Oxygen Demand	--	60.8	5		5	5	5		5	5	5
09/22/2007	Chemical Oxygen Demand	--	60.8	5		18	16	5		5	5	5
03/03/2008	Chemical Oxygen Demand	--	60.8	5		5	15	5		23	5	5
09/05/2008	Chemical Oxygen Demand	--	60.8	17		65	46	10		24	29	31
03/09/2009	Chemical Oxygen Demand	--	60.8	5		62	36	5		5	5	38
09/23/2009	Chemical Oxygen Demand	--	60.8	5		43	41	12		5	5	11
03/16/2010	Chemical Oxygen Demand	--	60.8	NT		5	5	NT		38	38	24
09/10/2010	Chemical Oxygen Demand	--	60.8	5		64	22	5		32	44	5
03/01/2011	Chemical Oxygen Demand	--	60.8	74		76	71	5		5	5	5
09/22/2011	Chemical Oxygen Demand	--	60.8	46		38	19	5		5	35	5
03/02/2012	Chemical Oxygen Demand	--	60.8	30		65	40	24		5	109	5
09/05/2012	Chemical Oxygen Demand	--	60.8	19		51	49	16		32	150	32
03/08/2013	Chemical Oxygen Demand	--	60.8	18		60	45	5		27	77	35
09/13/2013	Chemical Oxygen Demand	--	60.8	18		62	59	5		13	65	32
03/06/2014	Chemical Oxygen Demand	--	60.8	11		54	42	5		12	52	10
09/09/2014	Chemical Oxygen Demand	--	60.8	20		59	57	5		23	24	31
03/11/2015	Chemical Oxygen Demand	--	60.8	10		45	50	5		49	84	5
09/09/2015	Chemical Oxygen Demand	--	60.8	10		46	37	5		32	37	12
03/11/2016	Chemical Oxygen Demand	--	60.8	5		25	5	5		15	35	19
10/27/2016	Chemical Oxygen Demand	--	60.8	11		19	12	10		25	46	20
09/07/2017	Chemical Oxygen Demand	--	60.8	5		29	13	5		15	36	13
03/01/2018	Chemical Oxygen Demand	--	60.8	5		31	10	5		55	54	31
09/19/2018	Chemical Oxygen Demand	--	60.8	10		27	10	10		49	41	53
03/27/2019	Chemical Oxygen Demand	--	60.8	10		34	10	10		10	10	26
09/05/2019	Chemical Oxygen Demand	--	60.8	45		26	10	10		84	24	10
02/28/2020	Chemical Oxygen Demand	--	60.8	73		37	10	35		35	38	31
08/31/2020	Chemical Oxygen Demand	--	60.8	10		28	10	10		10	38	10
03/05/2021	Chemical Oxygen Demand	--	60.8	10		24	10	10		10	27	10
09/13/2021	Chemical Oxygen Demand	--	60.8	10		22	23	10		32	41	20
03/02/2022	Chemical Oxygen Demand	--	60.8	10		31	22	10		38	34	30
09/12/2022	Chemical Oxygen Demand	--	60.8	10		10	34	48		26	34	10
03/24/2023	Chemical Oxygen Demand	--	60.8	NT		NT	34	NT		NT	49	NT
09/13/2023	Chemical Oxygen Demand	--	60.8	NT		10	NT	NT		NT	NT	29
03/05/2024	Chemical Oxygen Demand	--	60.8	29		NT	NT	NT		10	NT	NT
09/03/2024	Chemical Oxygen Demand	--	60.8	NT		NT	10	10		NT	NT	NT

Mean	18.4
Standard Deviation (STD)	21.2
Mean + 2 STD	60.8

AMES-STORY ENVIRONMENTAL LANDFILL
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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Chloride	--	181.4		4.5	65	NT		2	4	NT	NT
10/15/1991	Chloride	--	181.4		3.77	47.6	NT		0.5	1.89	NT	NT
01/23/1992	Chloride	--	181.4		5.8	50.9	NT		1.6	NT	NT	NT
03/23/1992	Chloride	--	181.4		5.3	48.1	NT		1.1	3.7	NT	NT
09/30/1992	Chloride	--	181.4		19	NT	NT		1	3	NT	NT
03/05/1993	Chloride	--	181.4		5	59.2	NT		5	NT	NT	NT
09/21/1993	Chloride	--	181.4		5	90	10.8		5	5	5	5
03/23/1994	Chloride	--	181.4		5	88.6	33.9		5	5	5	5
09/16/1994	Chloride	--	181.4		5	79	56		5	5	5	5
03/16/1995	Chloride	--	181.4		15	52	27		11	5	9.8	4.7
09/13/1995	Chloride	--	181.4		5	55	36		5	5	14	5
03/28/1996	Chloride	--	181.4	9	plugged	67	27	14	plugged	4.2	9.8	4.7
06/20/1996	Chloride	--	181.4	6.7		NT	NT	3.8		NT	NT	NT
09/13/1996	Chloride	--	181.4	5.1		129	25.9	1.7		2.2	9.9	1.7
12/16/1996	Chloride	--	181.4	NT		139	28	NT		5	12	5
03/19/1997	Chloride	--	181.4	5		153	5	5		5	10	5
06/18/1997	Chloride	--	181.4	5		125	25	5		5	11	5
08/30/1997	Chloride	--	181.4	5		109	23	5		5	5	5
03/10/1998	Chloride	--	181.4	5		120	39	5		5	11	5
09/21/1998	Chloride	--	181.4	5		93	19	5		5	11	5
03/18/1999	Chloride	--	181.4	5		97	20	5		5	12	5
09/21/1999	Chloride	--	181.4	5		73	33	5		5	11	5
03/21/2000	Chloride	--	181.4	NT		249	33	NT		5	20	36
06/28/2000	Chloride	--	181.4	NT		NT	28	NT		NT	5	5
09/28/2000	Chloride	--	181.4	5		78	59	5		5	11	5
12/27/2000	Chloride	--	181.4	NT		NT	46	NT		NT	10	5
03/28/2001	Chloride	--	181.4	12		122	38	5		5	13	5
09/02/2001	Chloride	--	181.4	5		96	48	5		5	14	5
03/19/2002	Chloride	--	181.4	10		159	73	5		5	11	5
09/19/2002	Chloride	--	181.4	10		120	67	5		5	11	5
03/14/2003	Chloride	--	181.4	5		102	85	5		5	12	5
09/29/2003	Chloride	--	181.4	10		103	52	5		5	13	5
03/08/2004	Chloride	--	181.4	10		143	71	5		5	14	34
09/27/2004	Chloride	--	181.4	12		100	56	5		5	14	5
03/17/2005	Chloride	--	181.4	15		96	69	5		5	12	5
09/22/2005	Chloride	--	181.4	16		75	62	5		14	16	5
03/17/2006	Chloride	--	181.4	16		108	83	5		5	15	5
09/22/2006	Chloride	--	181.4	13		100	81	5		5	13	5
03/14/2007	Chloride	--	181.4	20		100	96	5		5	15	5
09/22/2007	Chloride	--	181.4	15		100	102	5		5	16	5
03/03/2008	Chloride	--	181.4	22		274	121	5		5	15	5
09/05/2008	Chloride	--	181.4	20		169	96	5		5	15	5
03/09/2009	Chloride	--	181.4	19		166	128	5		5	13	5
09/23/2009	Chloride	--	181.4	23		122	170	5		5	15	5
03/16/2010	Chloride	--	181.4	NT		169	177	NT		10	22	5
09/10/2010	Chloride	--	181.4	23		174	107	5		5	21	5
03/01/2011	Chloride	--	181.4	31		189	176	5		5	22	5
09/22/2011	Chloride	--	181.4	13		205	133	5		11	25	5
03/02/2012	Chloride	--	181.4	30		192	192	5		5	21	5
09/05/2012	Chloride	--	181.4	28		165	202	5		26	25	5
03/08/2013	Chloride	--	181.4	27		134	171	5		15	22	5
09/13/2013	Chloride	--	181.4	27		121	199	5		14	28	10
03/06/2014	Chloride	--	181.4	13		118	151	48		12	18	17
09/09/2014	Chloride	--	181.4	19		193	169	5		13	26	35
03/11/2015	Chloride	--	181.4	34		168	201	5		34	33	13
09/09/2015	Chloride	--	181.4	30		140	134	5		16	31	5
03/11/2016	Chloride	--	181.4	28		111	134	5		19	27	5
10/27/2016	Chloride	--	181.4	24		101	140	5		27	31	5
09/07/2017	Chloride	--	181.4	33		102	206	5		29	39	12
03/01/2018	Chloride	--	181.4	38		118	231	5		27	40	12
09/19/2018	Chloride	--	181.4	34		110	206	5		25	47	15
03/27/2019	Chloride	--	181.4	39		131	227	5		42	45	15
09/05/2019	Chloride	--	181.4	38		77	234	5		27	50	15
02/28/2020	Chloride	--	181.4	40		290	244	5		29	48	17
08/31/2020	Chloride	--	181.4	39		217	232	5		31	57	15
03/05/2021	Chloride	--	181.4	41.8		247	283	1.7		36.1	47.7	18.1
09/13/2021	Chloride	--	181.4	38		345	291	0.5		31.8	62.4	18
03/02/2022	Chloride	--	181.4	39.2		316	331	1.5		34.6	47.2	17.1
09/12/2022	Chloride	--	181.4	39.6		133	328	1.5		36.9	61.1	16.2
03/24/2023	Chloride	--	181.4	NT		NT	319	NT		NT	64.5	NT
09/13/2023	Chloride	--	181.4	NT		133	NT	NT		NT	NT	18.6
03/05/2024	Chloride	--	181.4	36.7		NT	NT	NT		56.3	NT	NT
09/03/2024	Chloride	--	181.4	NT		NT	316	1.2		NT	NT	NT

Mean	46.0
Standard Deviation (STD)	67.7
Mean + 2 STD	181.4

AMES-STORY ENVIRONMENTAL LANDFILL
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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
03/16/1995	Conductivity, us/cm	--	1836		590	890	580		550	360	320	310
09/13/1995	Conductivity, us/cm	--	1836		490	740	510		380	280	140	130
03/28/1996	Conductivity, us/cm	--	1836	500	plugged	720	420	490	plugged	340	330	340
06/20/1996	Conductivity, us/cm	--	1836	640		NT	NT	290		NT	NT	NT
09/13/1996	Conductivity, us/cm	--	1836	560		750	670	280		330	290	280
12/16/1996	Conductivity, us/cm	--	1836	NT		740	770	NT		320	360	350
03/19/1997	Conductivity, us/cm	--	1836	800		750	630	340		350	390	370
06/18/1997	Conductivity, us/cm	--	1836	530		540	540	280		250	250	250
08/30/1997	Conductivity, us/cm	--	1836	700		670	660	280		310	270	250
03/10/1998	Conductivity, us/cm	--	1836	860		710	630	410		370	350	360
09/21/1998	Conductivity, us/cm	--	1836	650		590	460	280		300	250	220
03/18/1999	Conductivity, us/cm	--	1836	1600		976	628	625		628	573	620
09/21/1999	Conductivity, us/cm	--	1836	650		590	1216	280		300	534	524
03/21/2000	Conductivity, us/cm	--	1836	NT		NT	1256	NT		NT	696	670
06/28/2000	Conductivity, us/cm	--	1836	NT		NT	1138	NT		NT	621	617
09/28/2000	Conductivity, us/cm	--	1836	688		686	466	688		1245	680	700
12/27/2000	Conductivity, us/cm	--	1836	NT		NT	1252	NT		NT	717	728
03/28/2001	Conductivity, us/cm	--	1836	1949		938	1532	812		725	764	794
09/02/2001	Conductivity, us/cm	--	1836	1583		NT	1446	687		NT	674	586
03/19/2002	Conductivity, us/cm	--	1836	NT		1607	1590	NT		724	684	663
09/19/2002	Conductivity, us/cm	--	1836	1530		1395	1521	640		686	703	673
03/14/2003	Conductivity, us/cm	--	1836	1129		1358	1379	499		658	731	710
09/29/2003	Conductivity, us/cm	--	1836	1185		890	1018	584		615	606	593
03/08/2004	Conductivity, us/cm	--	1836	1647		1294	1225	646		787	704	709
09/27/2004	Conductivity, us/cm	--	1836	1819		1580	1673	750		760	822	774
03/17/2005	Conductivity, us/cm	--	1836	1564		1413	1225	650		733	704	709
09/22/2005	Conductivity, us/cm	--	1836	1029		948	919	638		611	592	579
03/17/2006	Conductivity, us/cm	--	1836	1607		1378	1377	709		762	779	759
09/22/2006	Conductivity, us/cm	--	1836	1374		1275	1281	680		670	686	656
03/14/2007	Conductivity, us/cm	--	1836	1889		1334	1336	763		667	701	644
09/22/2007	Conductivity, us/cm	--	1836	1866		1275	1065	658		670	532	522
03/03/2008	Conductivity, us/cm	--	1836	2000		NT	NT	641		NT	NT	NT
09/05/2008	Conductivity, us/cm	--	1836	1418		685	804	688		467	504	484
03/09/2009	Conductivity, us/cm	--	1836	1376		1406	1255	758		712	796	743
09/23/2009	Conductivity, us/cm	--	1836	1160		1501	1560	520		677	681	620
03/16/2010	Conductivity, us/cm	--	1836	NT		1590	1700	NT		780	690	711
09/10/2010	Conductivity, us/cm	--	1836	1314		1270	855	587		475	720	610
03/01/2011	Conductivity, us/cm	--	1836	1080		1122	928	583		565	615	553
09/22/2011	Conductivity, us/cm	--	1836	998		1373	640	518		413	617	534
03/02/2012	Conductivity, us/cm	--	1836	1868		1945	1695	767		769	859	736
09/05/2012	Conductivity, us/cm	--	1836	998		1373	640	518		413	617	534
03/08/2013	Conductivity, us/cm	--	1836	1860		1900	1680	750		670	880	730
09/13/2013	Conductivity, us/cm	--	1836	1620		1430	1600	650		530	830	660
03/06/2014	Conductivity, us/cm	--	1836	1640		1550	1650	670		550	810	680
09/09/2014	Conductivity, us/cm	--	1836	1760		1627	1527	730		617	806	594
03/11/2015	Conductivity, us/cm	--	1836	1700		1660	1580	710		440	820	610
09/09/2015	Conductivity, us/cm	--	1836	1104		1311	1046	574		610	675	527
03/11/2016	Conductivity, us/cm	--	1836	1304		1420	1290	635		659	610	550
10/27/2016	Conductivity, us/cm	--	1836	1430		1480	1300	630		710	890	680
03/01/2018	Conductivity, us/cm	--	1836	2004		2108	1544	803		603	1022	805
09/19/2018	Conductivity, us/cm	--	1836	1455		1545	1371	664		618	857	599
03/27/2019	Conductivity, us/cm	--	1836	1565		1669	1208	603		636	849	629
09/05/2019	Conductivity, us/cm	--	1836	1355		1210	1281	563		578	880	619
02/28/2020	Conductivity, us/cm	--	1836	1707		1991	1519	620		626	864	664
08/31/2020	Conductivity, us/cm	--	1836	1517		1656	1380	575		622	945	650
03/05/2021	Conductivity, us/cm	--	1836	1572		1829	1495	622		603	893	649
09/13/2021	Conductivity, us/cm	--	1836	1463		1997	1478	588		632	937	538
03/02/2022	Conductivity, us/cm	--	1836	1532		2490	1660	578		535	925	657
09/12/2022	Conductivity, us/cm	--	1836	1634		1425	1769	586		538	879	618
03/24/2023	Conductivity, us/cm	--	1836	NT		NT	2276	NT		NT	977	NT
09/13/2023	Conductivity, us/cm	--	1836	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Conductivity, us/cm	--	1836	1846		NT	NT	NT		776	NT	NT
09/03/2024	Conductivity, us/cm	--	1836	NT		NT	3206	713		NT	NT	NT

Mean	894
Standard Deviation (STD)	471
Mean + 2 STD	1836

AMES-STORY ENVIRONMENTAL LANDFILL
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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
04/23/1991	Iron, dissolved	--	5.68		0.459	0.159	NT		1.5	0.05	NT	NT
10/15/1991	Iron, dissolved	--	5.68		1.02	0.035	NT		1.3	1.3	NT	NT
01/23/1992	Iron, dissolved	--	5.68		0.015	0.015	NT		0.196	NT	NT	NT
03/23/1992	Iron, dissolved	--	5.68		0.015	0.164	NT		0.038	0.743	NT	NT
09/30/1992	Iron, dissolved	--	5.68		0.015	NT	NT		0.015	0.015	NT	NT
03/05/1993	Iron, dissolved	--	5.68		0.015	0.015	NT		0.015	NT	NT	NT
09/21/1993	Iron, dissolved	--	5.68		0.537	0.015	NT		0.823	0.015	1.04	2.08
03/23/1994	Iron, dissolved	--	5.68		0.083	0.015	0.077		1.1	0.015	2.92	1.85
09/16/1994	Iron, dissolved	--	5.68		0.074	0.015	0.015		2.6	0.037	1.55	3.28
03/16/1995	Iron, dissolved	--	5.68		5.05	0.015	0.015		1.94	0.015	2.18	1.83
09/13/1995	Iron, dissolved	--	5.68		0.35	0.015	0.015		2.3	0.015	1.35	0.716
03/28/1996	Iron, dissolved	--	5.68	1.8	plugged	0.015	0.015	0.015	plugged	0.015	2.18	1.83
06/20/1996	Iron, dissolved	--	5.68	4.94		NT	NT	0.015		NT	NT	NT
09/13/1996	Iron, dissolved	--	5.68	0.793		0.015	0.066	0.015		0.015	0.015	3.42
12/16/1996	Iron, dissolved	--	5.68	NT		0.05	0.088	NT		0.015	1.62	2.83
03/19/1997	Iron, dissolved	--	5.68	3.87		0.032	0.015	0.329		0.032	2.62	3.01
06/18/1997	Iron, dissolved	--	5.68	4.07		0.015	0.015	0.015		0.086	1.66	3.65
08/30/1997	Iron, dissolved	--	5.68	4.22		0.015	0.015	0.559		0.064	2.6	3.55
03/10/1998	Iron, dissolved	--	5.68	3.78		0.015	0.015	1.09		0.041	0.429	3.06
09/21/1998	Iron, dissolved	--	5.68	6.59		0.015	0.015	0.61		0.085	1.37	2.7
03/18/1999	Iron, dissolved	--	5.68	3.73		0.044	0.015	0.767		0.052	2.59	3.11
09/21/1999	Iron, dissolved	--	5.68	7.01		0.015	0.015	0.519		0.043	0.665	1.76
03/21/2000	Iron, dissolved	--	5.68	NT		0.015	0.015	NT		0.252	2.58	3.22
06/28/2000	Iron, dissolved	--	5.68	NT		NT	0.015	NT		NT	0.146	2.71
09/28/2000	Iron, dissolved	--	5.68	0.067		0.015	0.015	0.015		0.031	0.533	3.23
12/27/2000	Iron, dissolved	--	5.68	NT		NT	0.015	NT		NT	0.412	2.22
03/28/2001	Iron, dissolved	--	5.68	0.015		0.039	0.015	0.196		0.015	0.094	2.1
09/02/2001	Iron, dissolved	--	5.68	6.85		0.015	0.015	0.103		0.015	0.244	2.6
03/19/2002	Iron, dissolved	--	5.68	0.713		0.015	0.015	0.015		0.015	0.178	2.91
09/19/2002	Iron, dissolved	--	5.68	0.496		0.015	0.015	0.015		0.015	0.184	3.4
03/14/2003	Iron, dissolved	--	5.68	3.64		0.015	0.035	0.015		0.153	1.31	4.11
09/29/2003	Iron, dissolved	--	5.68	1.02		0.015	0.015	0.015		0.015	0.178	1.28
03/08/2004	Iron, dissolved	--	5.68	5.52		0.015	0.015	0.073		0.015	0.128	3.82
09/27/2004	Iron, dissolved	--	5.68	5.25		0.015	0.015	0.015		0.034	0.267	4.16
03/17/2005	Iron, dissolved	--	5.68	0.015		0.222	0.015	0.015		0.039	1.96	3.17
09/22/2005	Iron, dissolved	--	5.68	0.416		0.015	0.015	0.015		0.032	1.04	4.42
03/17/2006	Iron, dissolved	--	5.68	2.8		0.036	0.015	0.057		0.066	1.32	4.82
09/22/2006	Iron, dissolved	--	5.68	6.76		0.015	0.015	0.039		0.096	1.44	4.95
03/14/2007	Iron, dissolved	--	5.68	3.06		0.015	0.044	0.18		0.068	1.49	4.61
09/22/2007	Iron, dissolved	--	5.68	1.68		0.05	0.05	0.212		0.05	0.297	5.05
03/03/2008	Iron, dissolved	--	5.68	3.42		0.015	0.015	0.258		0.015	1.52	5.02
09/05/2008	Iron, dissolved	--	5.68	0.015		0.039	0.015	0.212		0.015	1.01	4.6
03/09/2009	Iron, dissolved	--	5.68	3.82		0.161	0.181	0.131		0.103	2.3	4.96
09/23/2009	Iron, dissolved	--	5.68	0.05		0.05	0.05	0.05		0.05	0.05	4.3
03/16/2010	Iron, dissolved	--	5.68	NT		0.05	0.05	NT		0.05	0.05	3.87
09/10/2010	Iron, dissolved	--	5.68	7.18		0.05	0.05	0.505		0.152	0.17	4.12
03/01/2011	Iron, dissolved	--	5.68	6.82		0.05	0.05	0.135		0.05	0.05	4.3
09/22/2011	Iron, dissolved	--	5.68	1.49		0.05	0.05	0.505		0.113	4.33	4.44
03/02/2012	Iron, dissolved	--	5.68	4.98		0.05	0.05	0.05		0.05	0.05	3.57
09/05/2012	Iron, dissolved	--	5.68	7.81		0.05	0.05	0.05		0.05	5.32	3.86
03/08/2013	Iron, dissolved	--	5.68	3.64		0.05	0.05	0.229		0.05	5.14	7.19
09/13/2013	Iron, dissolved	--	5.68	7.82		0.05	0.05	0.325		0.315	5.04	2.87
03/06/2014	Iron, dissolved	--	5.68	3.49		0.05	0.05	0.183		0.131	1	3.18
09/09/2014	Iron, dissolved	--	5.68	7.29		0.05	0.05	0.05		0.631	4.73	1.49
03/11/2015	Iron, dissolved	--	5.68	3.44		0.05	0.05	0.05		0.05	1.17	2.63
09/09/2015	Iron, dissolved	--	5.68	9.05		0.05	0.05	0.05		0.983	5.52	1.57
03/11/2016	Iron, dissolved	--	5.68	3.73		0.05	0.05	0.237		0.103	0.922	2.11
10/27/2016	Iron, dissolved	--	5.68	8.18		0.05	0.05	0.255		0.05	4.12	2.02
09/07/2017	Iron, dissolved	--	5.68	9.17		0.05	0.05	0.05		0.141	5.58	0.787
03/01/2018	Iron, dissolved	--	5.68	4.84		0.05	0.05	0.156		0.113	2.9	1.6
09/19/2018	Iron, dissolved	--	5.68	8.18		0.05	0.05	0.05		0.868	6.57	0.433
03/27/2019	Iron, dissolved	--	5.68	8.00		0.05	0.05	0.05		0.05	0.458	1.08
09/05/2019	Iron, dissolved	--	5.68	8.75		0.05	0.05	0.05		0.239	6.39	0.641
02/28/2020	Iron, dissolved	--	5.68	4.03		0.05	0.05	0.05		0.05	1.3	1.52
08/31/2020	Iron, dissolved	--	5.68	8.52		0.05	0.05	0.05		0.128	6.09	2.46
03/05/2021	Iron, dissolved	--	5.68	5.35		0.05	0.05	0.05		0.201	2.38	0.868
09/13/2021	Iron, dissolved	--	5.68	8.96		0.05	0.05	0.118		0.05	14.5	3.32
03/02/2022	Iron, dissolved	--	5.68	5.68		0.05	0.05	0.05		0.279	1.64	2.56
09/12/2022	Iron, dissolved	--	5.68	6.98		0.05	0.05	0.193		0.05	8.21	0.395
03/24/2023	Iron, dissolved	--	5.68	NT		NT	0.05	NT		NT	1.53	NT
09/13/2023	Iron, dissolved	--	5.68	NT		0.05	NT	NT		NT	NT	1.6
03/05/2024	Iron, dissolved	--	5.68	1.65		NT	NT	NT		0.05	NT	NT
09/03/2024	Iron, dissolved	--	5.68	NT		NT	0.05	0.189		NT	NT	NT

Mean	1.35
Standard Deviation (STD)	2.16
Mean + 2 STD	5.68

AMES-STORY ENVIRONMENTAL LANDFILL
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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
04/23/1991	Nitrogen, Ammonia	30	0.9		0.25	0.25	NT		0.25	0.25	NT	NT
10/15/1991	Nitrogen, Ammonia	30	0.9		0.25	0.25	NT		0.25	0.25	NT	NT
01/23/1992	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	NT	NT	NT
03/23/1992	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	NT	NT
09/30/1992	Nitrogen, Ammonia	30	0.9		0.5	NT	NT		0.5	0.5	NT	NT
03/05/1993	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	NT	NT	NT
09/21/1993	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	0.5	0.5
03/23/1994	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	0.5	1.2
09/16/1994	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	0.5	0.5
03/16/1995	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	0.5	1.1
09/13/1995	Nitrogen, Ammonia	30	0.9		0.5	0.5	NT		0.5	0.5	0.5	1.1
03/28/1996	Nitrogen, Ammonia	30	0.9	1.4	plugged	0.5	0.5	1.2	plugged	0.5	0.5	1.1
06/20/1996	Nitrogen, Ammonia	30	0.9	0.5		NT	NT	0.5		NT	NT	NT
09/13/1996	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
12/16/1996	Nitrogen, Ammonia	30	0.9	NT		0.5	0.5	NT		0.5	0.5	1.2
03/19/1997	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
06/18/1997	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.2
08/30/1997	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
03/10/1998	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/21/1998	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/18/1999	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/21/1999	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.3
03/21/2000	Nitrogen, Ammonia	30	0.9	NT		0.5	0.5	NT		0.5	0.5	1
06/28/2000	Nitrogen, Ammonia	30	0.9	NT		NT	0.5	NT		NT	0.5	1.13
09/28/2000	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
12/27/2000	Nitrogen, Ammonia	30	0.9	NT		NT	0.5	NT		NT	0.5	1.08
03/28/2001	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
09/02/2001	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.3
03/19/2002	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
09/19/2002	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/14/2003	Nitrogen, Ammonia	30	0.9	0.5		0.5	1.2	0.5		0.5	0.5	0.5
09/29/2003	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/08/2004	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.3
09/27/2004	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/17/2005	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.5
09/22/2005	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/17/2006	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/22/2006	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.2
03/14/2007	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/22/2007	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
03/03/2008	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/05/2008	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/09/2009	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/23/2009	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/16/2010	Nitrogen, Ammonia	30	0.9	NT		0.5	0.5	NT		0.5	0.5	0.5
09/10/2010	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		1.0	0.5	1.4
03/01/2011	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	NT		0.5	0.5	0.5
09/22/2011	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/02/2012	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/05/2012	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/08/2013	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
09/13/2013	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.1
03/06/2014	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/09/2014	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/11/2015	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.09
09/09/2015	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/11/2016	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
10/27/2016	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1
09/07/2017	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
03/01/2018	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/19/2018	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	1.02
03/27/2019	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
09/05/2019	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.05
02/28/2020	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.5
08/31/2020	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.05
03/05/2021	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.05
09/13/2021	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.05
03/02/2022	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	0.5	0.05
09/12/2022	Nitrogen, Ammonia	30	0.9	0.5		0.5	0.5	0.5		0.5	1.54	1.28
03/24/2023	Nitrogen, Ammonia	30	0.9	NT		NT	0.5	NT		NT	0.5	NT
09/13/2023	Nitrogen, Ammonia	30	0.9	0.5		NT	NT	NT		NT	NT	0.5
03/05/2024	Nitrogen, Ammonia	30	0.9	0.5		NT	NT	NT		0.5	NT	NT
09/03/2024	Nitrogen, Ammonia	30	0.9	NT		NT	0.5	0.5		NT	NT	NT

Mean	0.5
Standard Deviation (STD)	0.2
Mean + 2 STD	0.9

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	WATER TABLE SYSTEM Control Limits U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	UPPER AQUIFER SAND LAYER SYSTEM Control Limits U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
04/23/1991	pH	6.3	8.6		7.01	6.99	NT		7.82	7.8	NT	NT
10/15/1991	pH	6.3	8.6		7.05	7.71	NT		7.76	6.96	NT	NT
01/23/1992	pH	6.3	8.6		7.16	7.41	NT		7.53	NT	NT	NT
03/23/1992	pH	6.3	8.6		7.61	7.32	NT		7.51	7.68	NT	NT
09/30/1992	pH	6.3	8.6		7.22	NT	NT		7.68	7.36	NT	NT
03/05/1993	pH	6.3	8.6		7.58	6.72	NT		7.73	NT	NT	NT
09/21/1993	pH	6.3	8.6		7.34	6.73	7		7.61	7.1	7	7.3
03/23/1994	pH	6.3	8.6		7.4	7.05	7.3		7.5	7.1	7.4	7.3
09/16/1994	pH	6.3	8.6		6.82	6.57	7		6.86	6.95	7.4	7.3
03/16/1995	pH	6.3	8.6		7.2	6.9	7.5		7.6	6.7	7.8	7.9
09/13/1995	pH	6.3	8.6		7.3	7	7.8		7.6	7.1	8.2	8
03/28/1996	pH	6.3	8.6	7.9	plugged	8.4	7.8	8	plugged	8.2	7.8	7.8
06/20/1996	pH	6.3	8.6	6.7		NT	NT	7		NT	NT	NT
09/13/1996	pH	6.3	8.6	7.8		7.7	7.6	8.3		8.3	7.9	7.9
12/16/1996	pH	6.3	8.6	NT		6.8	6.9	NT		7.2	6.8	6.7
03/19/1997	pH	6.3	8.6	7.7		7.7	7.7	8.2		7.7	7.4	7.3
06/18/1997	pH	6.3	8.6	7.5		7.8	8.4	8.2		7.8	7.8	7.6
08/30/1997	pH	6.3	8.6	8.1		8	8	7.7		7.8	6.8	6.7
03/10/1998	pH	6.3	8.6	7.8		8.1	8.3	7.8		7.8	8.2	8.1
09/21/1998	pH	6.3	8.6	7		7	6.4	7.2		7.2	3.2	2.8
03/18/1999	pH	6.3	8.6	7.3		7.7	7.2	7.4		7.8	6.9	7
09/21/1999	pH	6.3	8.6	7		7	7.2	7.2		7.2	7.4	7.7
03/21/2000	pH	6.3	8.6	NT		NT	7.9	NT		NT	8.1	7.9
06/28/2000	pH	6.3	8.6	NT		NT	7.1	NT		NT	7.3	7.1
09/28/2000	pH	6.3	8.6	7		7.4	6.8	7.5		7.1	7.3	7.3
12/27/2000	pH	6.3	8.6	NT		NT	8.2	NT		NT	8.5	8.5
03/28/2001	pH	6.3	8.6	7.3		7.8	6.8	7.5		7.4	7.9	7.5
09/02/2001	pH	6.3	8.6	7.7		NT	6.9	7.5		NT	7.4	7.7
03/19/2002	pH	6.3	8.6	6.8		7.4	6.5	NT		7.2	7.2	7.1
09/19/2002	pH	6.3	8.6	6.7		6.8	6.6	7.8		7.7	7.1	6.9
03/14/2003	pH	6.3	8.6	7.5		6.7	6.6	7.6		7	7	7.1
09/29/2003	pH	6.3	8.6	7.5		7.4	6.9	7.8		7.7	7.4	7.4
03/08/2004	pH	6.3	8.6	7.1		7.5	7.1	7		7.5	7.1	7.7
09/27/2004	pH	6.3	8.6	7.1		7.3	6.7	7.5		7.7	7.8	7.6
03/17/2005	pH	6.3	8.6	7.3		6.9	7.1	8		7.4	7.1	7.7
09/22/2005	pH	6.3	8.6	7.3		7.2	7.2	7.6		7.7	8	8.3
03/17/2006	pH	6.3	8.6	8		7.8	8.1	8.3		8.2	8.3	8.4
09/22/2006	pH	6.3	8.6	7.7		8	7.7	8.1		8.4	8.3	8.4
03/14/2007	pH	6.3	8.6	6.9		7.2	6.7	7.4		7.3	7.2	7.3
09/22/2007	pH	6.3	8.6	7.9		7.2	6.9	7.71		8.4	7.4	7.5
03/03/2008	pH	6.3	8.6	6.93		7	6.7	7.44		7.1	7.2	7.2
09/05/2008	pH	6.3	8.6	7		7	6.6	7.3		7.3	7.2	7.1
03/09/2009	pH	6.3	8.6	7.3		7.3	8	7.7		7.6	7.6	7.6
09/23/2009	pH	6.3	8.6	8.1		8.4	7.8	8.2		7.9	7.9	8
03/16/2010	pH	6.3	8.6	NT		8	7.3	NT		7.8	7.7	7.7
09/10/2010	pH	6.3	8.6	7.8		7	7.2	8		7	7.1	7.1
03/01/2011	pH	6.3	8.6	7.9		7.7	7.8	7.9		7.9	7.9	7.8
09/22/2011	pH	6.3	8.6	7.5		7.6	7.7	7.8		7.9	7.9	7.7
03/02/2012	pH	6.3	8.6	7.7		7.2	7.2	7.4		7.5	7.2	7.3
09/05/2012	pH	6.3	8.6	8		8	8	8.1		8.2	8.1	8.2
03/08/2013	pH	6.3	8.6	6.7		6.7	6.3	7		7	6.7	6.8
09/13/2013	pH	6.3	8.6	7.2		7.2	7	7.6		7.9	7.1	7.6
03/06/2014	pH	6.3	8.6	7.8		8.8	7.6	8.9		8.4	8.5	8.3
09/09/2014	pH	6.3	8.6	7.5		7.1	7.5	7.7		7.7	7.3	7.8
03/11/2015	pH	6.3	8.6	7.9		7.6	6.7	7.7		8	7.4	7.5
09/09/2015	pH	6.3	8.6	7.2		7.2	6.9	7.9		7.5	7.4	7.7
03/11/2016	pH	6.3	8.6	7.8		7.9	7.6	8.3		8.1	8.3	8.2
10/27/2016	pH	6.3	8.6	7.4		7.1	7	7.8		7.6	7.3	7.5
03/01/2018	pH	6.3	8.6	6.9		7.4	7.1	7.9		8	7.4	7.7
09/19/2018	pH	6.3	8.6	7		7.3	7.5	7		7.4	7.4	8.1
03/27/2019	pH	6.3	8.6	7.2		7.3	7.1	7.9		7.7	7.5	7.8
09/05/2019	pH	6.3	8.6	7.4		7.4	7.1	7.7		7.7	7.6	7.8
02/28/2020	pH	6.3	8.6	7.3		7.4	7.5	7.7		7.8	7.8	8.3
08/31/2020	pH	6.3	8.6	7.5		7.3	7.1	8.3		8.3	7.4	7.6
03/05/2021	pH	6.3	8.6									
09/13/2021	pH	6.3	8.6	6.9		6.8	6.9	7.5		8	7.1	7.2
03/02/2022	pH	6.3	8.6	6.8		6.9	6.9	7.4		7.6	7	7.3
09/12/2022	pH	6.3	8.6	7.1		7.3	6.9	8.1		8.8	7.5	8.2
03/24/2023	pH	6.3	8.6	NT		NT	7	NT		NT	6.9	NT
09/13/2023	pH	6.3	8.6	NT		6.7	NT	NT		NT	NT	6.8
03/05/2024	pH	6.3	8.6	7		NT	NT	NT		8.8	NT	NT
09/03/2024	pH	6.3	8.6	NT		NT	6.3	7.2		NT	NT	NT

Mean	7.5
Standard Deviation (STD)	0.6
Mean + 2 STD	8.6
Mean - 2 STD	6.3

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Phenols	2	0.07		0.05	0.05	NT		0.05	0.05	NT	NT
10/15/1991	Phenols	2	0.07		0.05	0.05	NT		0.05	0.05	NT	NT
01/23/1992	Phenols	2	0.07		0.05	0.05	NT		0.05	NT	NT	NT
03/23/1992	Phenols	2	0.07		0.05	0.05	NT		0.05	0.05	NT	NT
09/30/1992	Phenols	2	0.07		0.05	NT	NT		0.05	0.05	NT	NT
03/05/1993	Phenols	2	0.07		NT	NT	0.05		NT	NT	NT	NT
09/21/1993	Phenols	2	0.07		0.05	0.05	NT		0.05	0.05	0.05	0.05
03/23/1994	Phenols	2	0.07		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Phenols	2	0.07		0.05	0.05	0.05		0.05	0.05	0.05	0.05
03/16/1995	Phenols	2	0.07		NT	NT	0.05		NT	NT	0.05	0.05
09/13/1995	Phenols	2	0.07		0.05	0.05	NT		0.05	0.05	NT	NT
03/28/1996	Phenols	2	0.07	NT	plugged	NT	NT	NT	plugged	0.05	NT	NT
06/20/1996	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/1996	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
12/16/1996	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/19/1997	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
06/18/1997	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
08/30/1997	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/10/1998	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/21/1998	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/18/1999	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/21/1999	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/21/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
06/28/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/28/2000	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
12/27/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/28/2001	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/02/2001	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/19/2002	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/19/2002	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/14/2003	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/29/2003	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/08/2004	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/27/2004	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/17/2005	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2005	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/17/2006	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2006	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/14/2007	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2007	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/03/2008	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2008	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.216	0.05	0.05
03/09/2009	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/23/2009	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/16/2010	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/10/2010	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/01/2011	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2011	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/02/2012	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2012	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/08/2013	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2013	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/06/2014	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/09/2014	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/11/2015	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/09/2015	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/11/2016	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
10/27/2016	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
09/07/2017	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/01/2018	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/19/2018	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/27/2019	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2019	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
02/28/2020	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
08/31/2020	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/05/2021	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2021	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/02/2022	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/12/2022	Phenols	2	0.07	0.05		0.05	0.05	0.05		0.05	0.05	0.05
03/24/2023	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2023	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/03/2024	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT

Mean	0.05
Standard Deviation (STD)	0.01
Mean + 2 STD	0.07

AMES-STORY ENVIRONMENTAL LANDFILL
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MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
04/23/1991	Temperature, celsius	--	22.6		14.1	16.9	NT		11.4	12.7	NT	NT
10/15/1991	Temperature, celsius	--	22.6		13.6	12.4	NT		10.7	11.9	NT	NT
01/23/1992	Temperature, celsius	--	22.6		8.2	6.1	NT		8.4	NT	NT	NT
03/23/1992	Temperature, celsius	--	22.6		7.6	9.5	NT		11	10.5	NT	NT
09/30/1992	Temperature, celsius	--	22.6		10.6	NT	NT		11.5	12.1	NT	NT
03/05/1993	Temperature, celsius	--	22.6		8.8	5.2	NT		10.3	NT	NT	NT
09/21/1993	Temperature, celsius	--	22.6		17.3	17.5	14.2		14.4	14.6	10.9	10.4
03/23/1994	Temperature, celsius	--	22.6		11.6	10.2	9.2		12.1	8.2	8.4	9.3
09/16/1994	Temperature, celsius	--	22.6		18.7	21.3	18		14.8	17.1	15	14
03/16/1995	Temperature, celsius	--	22.6		7	5	6		8	6	NT	10
09/13/1995	Temperature, celsius	--	22.6		4.73	4.72	4.3		4.71	4.62	4.3	4.3
03/28/1996	Temperature, celsius	--	22.6	9	plugged	6	5	10	plugged	7	10	10
06/20/1996	Temperature, celsius	--	22.6	13		NT	NT	14		NT	NT	NT
09/13/1996	Temperature, celsius	--	22.6	17		19	17	12		17	14	13
12/16/1996	Temperature, celsius	--	22.6	NT		10	7	NT		12	7	8
03/19/1997	Temperature, celsius	--	22.6	9		6	4	10		8	7	7
06/18/1997	Temperature, celsius	--	22.6	14		15	14	13		14	15	14
08/30/1997	Temperature, celsius	--	22.6	20		20	23	14		17	18	16
03/10/1998	Temperature, celsius	--	22.6	8		6	8	10		8	11	8
09/21/1998	Temperature, celsius	--	22.6	16		18	19	11		14	15	15
03/18/1999	Temperature, celsius	--	22.6	8		5	12	10		6	11	11
09/21/1999	Temperature, celsius	--	22.6	16		18	21	11		14	13	13
03/21/2000	Temperature, celsius	--	22.6	NT		NT	11	NT		NT	9	9
06/28/2000	Temperature, celsius	--	22.6	NT		NT	19	NT		NT	NT	NT
09/28/2000	Temperature, celsius	--	22.6	19		17	20	15		18	16	15
12/27/2000	Temperature, celsius	--	22.6	NT		NT	13	NT		NT	14	13
03/28/2001	Temperature, celsius	--	22.6	8		6	10	10		8	13	13
09/02/2001	Temperature, celsius	--	22.6	17		NT	NT	14		NT	NT	NT
03/19/2002	Temperature, celsius	--	22.6	10		7	8	12		10	11	11
09/19/2002	Temperature, celsius	--	22.6	19		20	18	14		18	15	14
03/14/2003	Temperature, celsius	--	22.6	12		7	6	13		5	10	11
09/29/2003	Temperature, celsius	--	22.6	17		15	18	14		15	14	14
03/08/2004	Temperature, celsius	--	22.6	11		6	7	12		10	12	12
09/27/2004	Temperature, celsius	--	22.6	19		21	18	16		17	15	14
03/17/2005	Temperature, celsius	--	22.6	10		9	7	13		13	12	12
09/22/2005	Temperature, celsius	--	22.6	21		27	25	20		22	23	25
03/17/2006	Temperature, celsius	--	22.6	14		9	8	14		10	11	11
09/22/2006	Temperature, celsius	--	22.6	22		24	22	23		21	18	24
03/14/2007	Temperature, celsius	--	22.6	8		6	7	11		9	12	12
09/22/2007	Temperature, celsius	--	22.6	19.2		19	19.6	15.9		21	14.9	14.8
03/03/2008	Temperature, celsius	--	22.6	8		6	8	10.5		10	12	12
09/05/2008	Temperature, celsius	--	22.6	16.9		18.4	18.2	13.5		15.9	13.4	13.5
03/09/2009	Temperature, celsius	--	22.6	5		5	6	11		10	12	12
09/23/2009	Temperature, celsius	--	22.6	17		16	16	15		14	13	14
03/16/2010	Temperature, celsius	--	22.6	NT		8	8	NT		10	11	12
09/10/2010	Temperature, celsius	--	22.6	15		18	18	14		14	19	23
03/01/2011	Temperature, celsius	--	22.6	13		10	10	13		13	13	13
09/22/2011	Temperature, celsius	--	22.6	14		18	17	13		14	14	14
03/02/2012	Temperature, celsius	--	22.6	13		9	9	12		12	11	12
09/05/2012	Temperature, celsius	--	22.6	15		18	18	13		13	14	13
03/08/2013	Temperature, celsius	--	22.6	11		9	9	12		12	12	12
09/13/2013	Temperature, celsius	--	22.6	14		18	18	15		15	15	14
03/06/2014	Temperature, celsius	--	22.6	12		9	8	10		11	12	13
09/09/2014	Temperature, celsius	--	22.6	14		16.5	18.4	13		17.4	16.7	16
03/11/2015	Temperature, celsius	--	22.6	11		8	10	12		12	13	14
09/09/2015	Temperature, celsius	--	22.6	14		16	16	13		13	13	13
03/11/2016	Temperature, celsius	--	22.6	14		11	10	14		14	14	15
10/27/2016	Temperature, celsius	--	22.6	15		17	17	14		14	14	14
03/01/2018	Temperature, celsius	--	22.6	11.5		7.3	7.5	9.1		8	9.5	10.8
09/19/2018	Temperature, celsius	--	22.6	20.2		20.8	21.5	20.7		19.1	18.7	19.5
03/27/2019	Temperature, celsius	--	22.6	16.4		14.9	18.4	16.7		17.6	14.8	16.1
09/05/2019	Temperature, celsius	--	22.6	22.7		26	24.1	22.3		21.4	17.2	19.3
02/28/2020	Temperature, celsius	--	22.6	10		6.6	4.9	10.1		7.1	8.8	10.6
08/31/2020	Temperature, celsius	--	22.6	17		19	20.5	16		20	14.9	15.1
03/05/2021	Temperature, celsius	--	22.6	14.5		8.6	12.3	12.6		10.9	14.5	14.5
09/13/2021	Temperature, celsius	--	22.6	21.2		19.4	23.9	19.3		21.3	17.8	24.4
03/02/2022	Temperature, celsius	--	22.6	15.3		12.7	14	17		12.2	13.8	14.6
09/12/2022	Temperature, celsius	--	22.6	16		17	20.9	16.6		18.8	18.5	19.2
03/24/2023	Temperature, celsius	--	22.5	NT		NT	6.5	NT		NT	9.5	NT
09/13/2023	Temperature, celsius	--	22.5	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Temperature, celsius	--	22.6	9		NT	NT	NT		7.6	NT	NT
09/03/2024	Temperature, celsius	--	22.6	NT		NT	20.3	20.3		NT	NT	NT

Mean	13.4
Standard Deviation (STD)	4.6
Mean + 2 STD	22.6

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				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Total Organic Halogens	--	0.082		0.017	0.06	NT		0.011	0.016	NT	NT
10/15/1991	Total Organic Halogens	--	0.082		0.005	0.005	NT		0.005	0.005	NT	NT
01/23/1992	Total Organic Halogens	--	0.082		0.005	0.03	NT		0.005	NT	NT	NT
03/23/1992	Total Organic Halogens	--	0.082		0.005	0.04	NT		0.005	0.005	NT	NT
09/30/1992	Total Organic Halogens	--	0.082		0.005	NT	NT		0.005	0.005	NT	NT
03/05/1993	Total Organic Halogens	--	0.082		NT	NT	NT		NT	NT	NT	NT
09/21/1993	Total Organic Halogens	--	0.082		0.005	0.05	NT		0.01	0.01	NT	NT
03/23/1994	Total Organic Halogens	--	0.082		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Total Organic Halogens	--	0.082		0.005	0.025	0.02		0.011	0.005	0.005	0.04
03/16/1995	Total Organic Halogens	--	0.082		NT	0.06	0.03		NT	NT	0.005	0.005
09/13/1995	Total Organic Halogens	--	0.082		0.005	NT	NT		0.005	0.005	NT	NT
03/28/1996	Total Organic Halogens	--	0.082	NT	plugged	0.06	NT	NT	plugged	0.005	NT	NT
06/20/1996	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/1996	Total Organic Halogens	--	0.082	0.01		0.04	0.02	0.01		0.01	0.005	0.01
12/16/1996	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/19/1997	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
06/18/1997	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
08/30/1997	Total Organic Halogens	--	0.082	0.005		0.02	0.02	0.005		0.005	0.005	0.005
03/10/1998	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/21/1998	Total Organic Halogens	--	0.082	0.005		0.03	0.02	0.005		0.005	0.005	0.005
03/18/1999	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/21/1999	Total Organic Halogens	--	0.082	0.005		0.03	0.13	0.005		0.005	0.03	0.005
03/21/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
06/28/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/28/2000	Total Organic Halogens	--	0.082	0.005		0.03	0.09	0.005		0.02	0.02	0.02
12/27/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/28/2001	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/02/2001	Total Organic Halogens	--	0.082	0.005		0.022	0.085	0.005		0.005	0.005	0.005
03/19/2002	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/19/2002	Total Organic Halogens	--	0.082	0.005		0.033	0.099	0.005		0.005	0.005	0.124
03/14/2003	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.082	0.005		0.005	0.057	0.005		0.005	0.005	0.005
03/08/2004	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/27/2004	Total Organic Halogens	--	0.082	0.005		0.03	0.074	0.005		0.014	0.013	0.005
03/17/2005	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2005	Total Organic Halogens	--	0.082	0.015		0.014	0.05	0.025		0.005	0.005	0.005
03/17/2006	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2006	Total Organic Halogens	--	0.082	0.014		0.016	0.026	0.02		0.035	0.03	0.036
03/14/2007	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2007	Total Organic Halogens	--	0.082	0.017		0.012	0.04	0.005		0.005	0.005	0.005
03/03/2008	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2008	Total Organic Halogens	--	0.082	0.005		0.039	0.088	0.005		0.025	0.042	0.017
03/09/2009	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/23/2009	Total Organic Halogens	--	0.082	0.005		0.04	0.111	0.005		0.01	0.005	0.011
03/16/2010	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/10/2010	Total Organic Halogens	--	0.082	0.005		0.052	0.08	0.005		0.005	0.005	0.005
03/01/2011	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2011	Total Organic Halogens	--	0.082	0.005		0.052	0.068	0.005		0.012	0.005	0.005
03/02/2012	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2012	Total Organic Halogens	--	0.082	0.005		0.029	0.05	0.005		0.005	0.005	0.013
03/08/2013	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2013	Total Organic Halogens	--	0.082	0.014		0.035	0.313	0.005		0.015	0.023	0.005
03/06/2014	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/09/2014	Total Organic Halogens	--	0.082	0.012		0.034	0.059	0.005		0.005	0.014	0.005
03/11/2015	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/09/2015	Total Organic Halogens	--	0.082	0.039		0.04	0.064	0.005		0.043	0.024	0.005
03/11/2016	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
10/27/2016	Total Organic Halogens	--	0.082	0.005		0.039	0.051	0.014		0.005	0.015	0.005
09/07/2017	Total Organic Halogens	--	0.082	0.005		0.027	0.048	0.005		0.005	0.005	0.005
03/01/2018	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/19/2018	Total Organic Halogens	--	0.082	0.014		0.033	0.06	0.005		0.005	0.005	0.005
03/27/2019	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2019	Total Organic Halogens	--	0.082	0.005		0.034	0.05	0.005		0.005	0.031	0.012
02/28/2020	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
08/31/2020	Total Organic Halogens	--	0.082	0.005		0.023	0.033	0.005		0.005	0.005	0.011
03/05/2021	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2021	Total Organic Halogens	--	0.082	0.014		0.045	0.099	0.005		0.005	0.026	0.005
03/02/2022	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/12/2022	Total Organic Halogens	--	0.082	0.013		0.044	0.092	0.005		0.02	0.035	0.014
03/24/2023	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2023	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/03/2024	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT

Mean	0.021
Standard Deviation (STD)	0.031
Mean + 2 STD	0.082

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				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
03/11/2016	Boron, Total	6	0.272	0.05		0.176	0.05	0.151		0.05	0.05	0.05
10/27/2016	Boron, Total	6	0.272	0.05		0.277	0.106	0.14		0.05	0.05	0.05
09/07/2017	Boron, Total	6	0.272	0.05		0.262	0.05	0.143		0.05	0.05	0.05
03/01/2018	Boron, Total	6	0.272	0.05		0.168	0.05	0.117		0.05	0.05	0.05
09/19/2018	Boron, Total	6	0.272	0.05		0.256	0.05	0.180		0.05	0.05	0.05
03/27/2019	Boron, Total	6	0.272	0.05		0.175	0.05	0.149		0.05	0.05	0.05
09/05/2019	Boron, Total	6	0.272	0.05		0.343	0.05	0.138		0.05	0.05	0.05
02/28/2020	Boron, Total	6	0.272	0.05		0.218	0.05	0.143		0.05	0.05	0.05
08/31/2020	Boron, Total	6	0.272	0.05		0.31	0.05	0.141		0.05	0.05	0.05
03/05/2021	Boron, Total	6	0.272	0.05		0.317	0.05	0.125		0.05	0.05	0.05
09/13/2021	Boron, Total	6	0.272	0.05		0.389	0.05	0.124		0.05	0.05	0.05
03/02/2022	Boron, Total	6	0.272	0.05		0.256	0.05	0.110		0.05	0.05	0.05
09/12/2022	Boron, Total	6	0.272	0.05		0.467	0.05	0.130		0.05	0.05	0.05
03/24/2023	Boron, Total	6	0.272	NT		NT	0.05	NT		NT	0.05	NT
09/13/2023	Boron, Total	6	0.272	NT		0.338	NT	NT		NT	NT	0.114
03/05/2024	Boron, Total	6	0.272	0.05		NT	NT	NT		0.05	NT	NT
09/03/2024	Boron, Total	6	0.272	NT		NT	0.109	0.133		NT	NT	NT
	Mean			0.097								
	Standard Deviation (STD)			0.087								
	Mean + 2 STD			0.272								

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				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
03/11/2016	Sulfate	--	550.2473	597		529	133	16.9		71.4	71.6	26.1
10/27/2016	Sulfate	--	550.2473	514		524	102	11		74.5	79.1	42
09/07/2017	Sulfate	--	550.2473	470		407	76.6	9.2		67	70	42.8
03/01/2018	Sulfate	--	550.2473	600		539	76.9	10.5		68.1	69.1	40.9
09/19/2018	Sulfate	--	550.2473	468		512	53.3	9		70.9	73.2	45
03/27/2019	Sulfate	--	550.2473	550		532	44.2	10.9		64.2	71.2	44.9
09/05/2019	Sulfate	--	550.2473	442		315	33.3	13.7		56.4	75.1	44.8
02/28/2020	Sulfate	--	550.2473	518		440	40.7	8.7		64.8	70	42.5
08/31/2020	Sulfate	--	550.2473	436		357	29.9	13.6		67.4	69.6	41.4
03/05/2021	Sulfate	--	550.2473	546		361	49.5	9.5		65.1	69.6	41.7
09/13/2021	Sulfate	--	550.2473	371		377	54.4	11		70.7	70.2	43.3
03/02/2022	Sulfate	--	550.2473	378		477	88.6	10		70.8	71.3	41.6
09/12/2022	Sulfate	--	550.2473	363		323	147	12.6		71.4	70.5	33
03/24/2023	Sulfate	--	550.2473	NT		NT	315	NT		NT	74.6	NT
09/13/2023	Sulfate	--	550.2473	NT		418	NT	NT		NT	NT	46.4
03/05/2024	Sulfate	--	550.2473	422		NT	NT	NT		62.4	NT	NT
09/03/2024	Sulfate	--	550.2473	NT		NT	327	11.6		NT	NT	NT
	Mean			172								
	Standard Deviation (STD)			189								
	Mean + 2 STD			550								

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				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
			MEAN +	Control Limits				Control Limits				
DATE	PARAMETER	ACTION LEVEL	2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
09/09/2014	Turbidity, NTU	--	242.7623	632.4		0.44	2.03	11.02		4.43	39.1	40.9
03/11/2016	Turbidity, NTU	--	242.7623	101		2.26	1.13	0.97		7.08	3.95	2.14
10/27/2016	Turbidity, NTU	--	242.7623	6.65		2.69	1.34	6.36		16.9	1.68	3.12
03/27/2017	Turbidity, NTU	--	242.7623	129		1.25	3.15	3.79		10.1	NT	23
09/07/2017	Turbidity, NTU	--	242.7623	418.2		0.72	0.59	2.72		13.34	45.19	8.35
03/01/2018	Turbidity, NTU	--	242.7623	30.1		1.23	0.7	0.91		3.91	5.64	7.51
09/19/2018	Turbidity, NTU	--	242.7623	668		0.42	0.63	0.71		2.61	1.43	5.81
03/27/2019	Turbidity, NTU	--	242.7623	195.1		2.11	1.28	0.83		11.76	3.02	36.95
09/05/2019	Turbidity, NTU	--	242.7623	36.19		0.95	0.56	1.84		22.06	30.36	18.85
02/28/2020	Turbidity, NTU	--	242.7623	218.7		7.68	1.21	0.93		1.14	4.15	25.68
08/31/2020	Turbidity, NTU	--	242.7623	168		1.68	0.83	6		2.74	114	34.58
03/05/2021	Turbidity, NTU	--	242.7623	103.4		4.28	1.28	1.4		12.29	12.26	21.07
09/13/2021	Turbidity, NTU	--	242.7623	84.39		1.79	0.94	1.23		5.66	4.53	5.87
03/02/2022	Turbidity, NTU	--	242.7623	64.75		2.73	1.49	3.7		15.86	10.21	14.62
09/12/2022	Turbidity, NTU	--	242.7623	61.68		2.66	0.94	4.15		9.12	9.36	4.7
03/24/2023	Turbidity, NTU	--	242.7623	NT		NT	1.33	NT		NT	36.31	NT
09/13/2023	Turbidity, NTU	--	242.7623	NT		4.61	NT	NT		NT	NT	51.95
03/05/2024	Turbidity, NTU	--	242.7623	342		NT	NT	NT		21.29	NT	NT
09/03/2024	Turbidity, NTU	--	242.7623	NT		NT	2.62	5.93		NT	NT	NT
	Mean			37.13								
	Standard Deviation (STD)			102.82								
	Mean + 2 STD			242.76								

Table 6 – Summary of Current Year Detections with Limit Exceedances

Table 6
Summary of Well/Detected Constituent Pairs With Limit Exceedances
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

2024

Well	Constituent	Units	Most recent result	Background Standard	GWPS
MW-6	None				
MW-7	None				
MW-8	None				
MW-28	None				
MW-29	None				
MW-36	None				
MW-37	None				
SW-3	None				
MW-25 - Spring	Boron	mg/L	0.828	0.272	6.0
MW-25 - Fall	Boron	mg/L	0.786	0.272	6.0
MW-33 - Fall	Iron	mg/L	9.8	5.68	None
MW-33 - Spring	Nitrogen, Ammonia	mg/L	1.28	0.90	30.0
MW-33 - Fall	Nitrogen, Ammonia	mg/L	2.43	0.90	30.0
MW-33 - Spring	Boron	mg/L	0.425	0.272	6.0
MW-33 - Fall	Boron	mg/L	0.481	0.272	6.0
MW-34 - Spring	Iron	mg/L	10.3	5.68	None
MW-34 - Fall	Iron	mg/L	12.2	5.68	None
MW-34 - Spring	Nitrogen, Ammonia	mg/L	1.28	0.90	30.0
MW-34 - Fall	Nitrogen, Ammonia	mg/L	1.93	0.90	30.0
MW-35 -Spring	Arsenic	mg/L	0.1940	0.0333	0.0333
MW-35 -Spring	Chloride	mg/L	590	181.4	None
MW-35 -Spring	Conductivity	mg/L	3818	1836.0	None
MW-35 -Fall	Conductivity	mg/L	1923	1836.0	None
MW-39 - Spring	Conductivity	mg/L	2250	1836.0	None
MW-39 - Fall	Conductivity	mg/L	2550	1836.0	None
MW-39 - Spring	Sulfate	mg/L	707.0	550.0	None
MW-40	None				

Table 7 – Summary of Ongoing and Newly Identified SSI

Table 7
Summary of Ongoing Compounds with Historic Limit Exceedances
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

2024

Date	Well	Constituent	Units	Most recent result	Background Standard	GWPS	Initial Exceedance	Recorded Exceedances
9/3/2024	MW-25 - Fall	Boron	mg/L	**0.786**	0.272	6.0	3/11/2016	17 of 17 episodes (all)
9/3/2024	MW-33 - Fall	Iron	mg/L	**9.8**	5.68	None	9/9/2014	18 of 19 episodes
9/3/2024	MW-33 - Fall	Nitrogen, Ammonia	mg/L	**2.43**	0.90	30.0	9/9/2014	20 of 20 episodes (all)
9/3/2024	MW-33 - Fall	Boron	mg/L	**0.481**	0.272	6.0	3/11/2016	17 of 17 episodes (all)
9/3/2024	MW-34 - Fall	Arsenic	mg/L	0.0203	0.0333	0.0333	3/5/2021	3/5/2021, 3/2/2022
9/3/2024	MW-34 - Fall	Iron	mg/L	**12.20**	5.68	None	9/7/2017	9/7/2017, 9/5/2019, 8/31/2020, 9/13/2021, 3/2/2022, 9/12/2022, 9/13/2023, 3/5/2024, 9/3/2024
9/3/2024	MW-34 - Fall	Nitrogen, Ammonia	mg/L	**1.93**	0.90	30.0	9/7/2017	9/7/2017, 9/5/2019, 8/31/2020, 9/13/2021, 9/12/2022, 9/13/2023, 3/5/2024, 9/3/2024
9/3/2024	MW-34 - Fall	Boron	mg/L	0.208	0.272	6.0	9/19/2018	9/19/2018, 3/24/2023
9/3/2024	MW-34 - Fall	Sulfate	mg/L	166.0	550.25	None	3/24/2023	3/24/2023
9/3/2024	MW-35 - Fall	Arsenic	mg/L	0.0216	0.0333	0.0333	10/27/2016	10/27/2016, 3/1/2018, 3/27/2019, 8/31/2020, 3/2/2022, 3/24/2023, 3/5/2024
9/3/2024	MW-35 - Fall	COD	mg/L	35.0	60.8	None	9/9/2015	9/9/2015, 10/27/2016, 9/5/2019
9/3/2024	MW-35 - Fall	Chloride	mg/L	101.0	181.4	None	3/11/2015	3/11/2015, 3/11/2016, 3/1/2018, 3/27/2019, 2/28/2020, 3/5/2021, 3/2/2022, 3/24/2023, 3/5/2024
9/3/2024	MW-35 - Fall	Conductivity	us/cm	**1923.0**	1836.0	None	3/27/2019	3/27/2019, 2/28/2020, 3/24/2023, 3/5/2024, 9/3/2024
9/3/2024	MW-35 - Fall	Temperature	C	20.7	22.6	None	9/5/2019	9/5/2019
9/3/2024	MW-35 - Fall	Turbidity	NTU	**485.2**	242.76	None	3/5/2024	3/5/2024
9/3/2024	MW-39 - Fall	Arsenic	mg/L	<0.004	0.0333	0.0333	8/31/2020	8/31/2020, 3/5/2021
9/3/2024	MW-39 - Fall	Conductivity	us/cm	**2550.0**	1836.0	None	3/1/2018	3/1/2018, 3/5/2021, 3/2/2022, 3/5/2024, 9/3/2024
9/3/2024	MW-39 - Fall	Sulfate	mg/L	480.00	550.25	None	3/1/2018	3/1/2018, 9/5/2019, 8/31/2020, 3/5/2021, 9/13/2021, 3/2/2022, 9/12/2022, 3/24/2023, 3/5/2024
9/3/2024	MW-39 - Fall	Turbidity	NTU	3.49	242.76	None	3/5/2021	3/5/2021
9/3/2024	MW-40 - Fall	Chloride	mg/L	24.4	181.4	None	3/1/2018	3/1/2018
9/3/2024	MW-40 - Fall	Temperature	C	22.2	22.6	None	9/19/2018	9/19/2018, 9/5/2019

Table 8 - Summary of Ongoing and Newly Identified SSL

Table 8
Summary of Ongoing and Newly Identified GWPS Exceedances
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

2024

Date	Well	Constituent	Units	Most recent result	Background Standard	GWPS	Initial Exceedance	Consecutive Compliance Dates			Notes
								1st Occurrence	Most Recent	Duration	
9/3/2024	MW-34 - Fall	Arsenic	mg/L	0.0203	0.0333	0.0333	3/5/2021	9/12/2022	9/3/2024	2.0 years	Intermittent
9/3/2024	MW-35 - Fall	Arsenic	mg/L	0.0216	0.0333	0.0333	10/27/2016	9/3/2024	9/3/2024	0.5 years	Intermittent
9/3/2024	MW-39 - Fall	Arsenic	mg/L	<0.004	0.0333	0.0333	8/31/2020	9/13/2021	9/3/2024	3.0 years	Intermittent

Combined Table 9 & 10– Analytical Data Summary & Exceedance Tracking

Table 9 & Table 10
Analytical Data Summary & Exceedance Tracking
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

See Following Pages

	= Exceedance of Background
0.4	**= Exceedance of a GWPS**

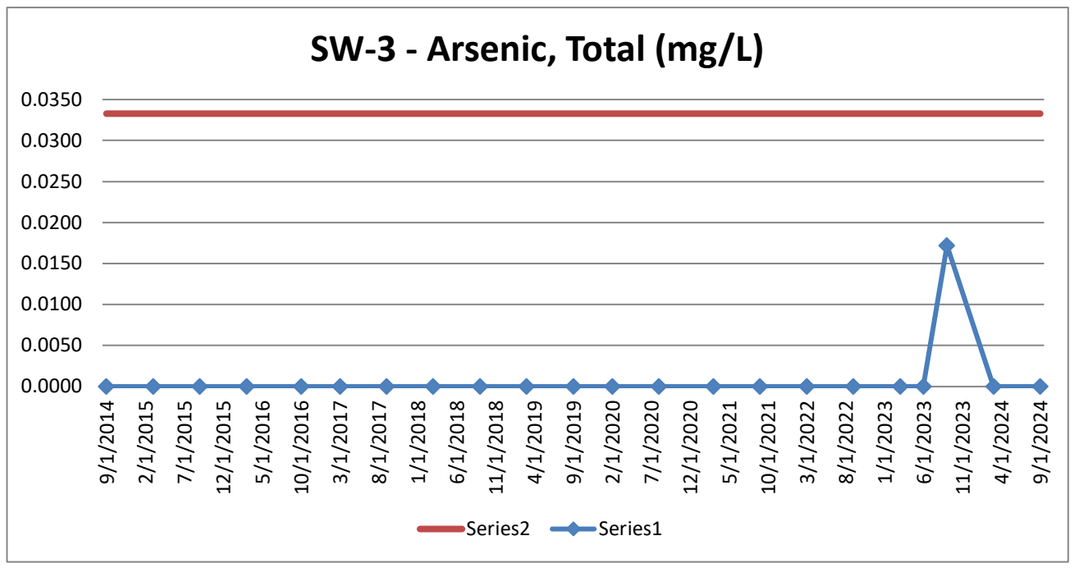
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

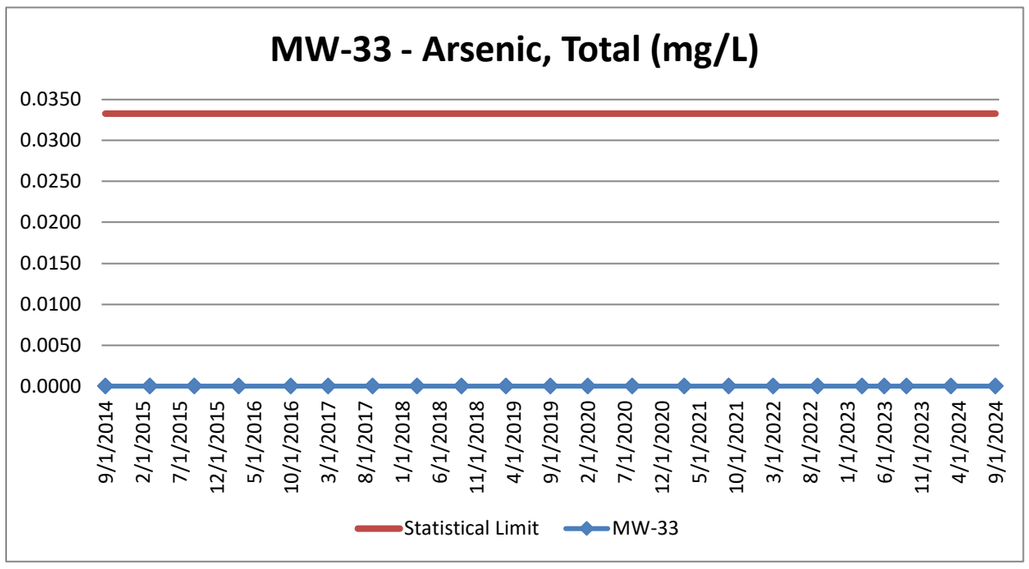
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
10/15/1991	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
01/23/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/23/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/30/1992	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/05/1993	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/21/1993	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/23/1994	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/16/1995	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
09/13/1995	Arsenic, Total	0.0333	0.0333		NT	NT	NT		NT	NT	NT	NT
03/28/1996	Arsenic, Total	0.0333	0.0333	NT	plugged	NT	NT	NT	plugged	NT	NT	NT
06/20/1996	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/13/1996	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
12/16/1996	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/19/1997	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
06/18/1997	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
08/30/1997	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/10/1998	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/21/1998	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/18/1999	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/21/1999	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/21/2000	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
06/28/2000	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/28/2000	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
12/27/2000	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/28/2001	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/02/2001	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/19/2002	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/19/2002	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/14/2003	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/29/2003	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/08/2004	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/27/2004	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/17/2005	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/22/2005	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/17/2006	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/22/2006	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/01/2007	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/22/2007	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/03/2008	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/05/2008	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/09/2009	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/23/2009	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/16/2010	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/10/2010	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/01/2011	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/22/2011	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/02/2012	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/05/2012	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/08/2013	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/15/2013	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
03/06/2014	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT		NT	NT	NT
09/09/2014	Arsenic, Total	0.0333	0.0333	0.0279		<0.004	<0.004	0.0375		0.0239	0.0226	0.0187
03/11/2015	Arsenic, Total	0.0333	0.0333	NT		NT	NT	0.0187		NT	NT	NT
09/09/2015	Arsenic, Total	0.0333	0.0333	NT		NT	NT	0.014		0.0146	0.0174	0.0213
03/11/2016	Arsenic, Total	0.0333	0.0333	0.0051		<0.004	<0.004	0.0153		0.0061	0.0056	0.0183
10/27/2016	Arsenic, Total	0.0333	0.0333	0.0081		<0.004	<0.004	0.015		0.0252	<0.004	0.0212
03/27/2017	Arsenic, Total	0.0333	0.0333	0.0248		<0.004	<0.004	0.017		0.0214	NT	0.0181
09/07/2017	Arsenic, Total	0.0333	0.0333	0.007		<0.004	<0.004	0.0154		0.0214	0.0173	0.0184
03/01/2018	Arsenic, Total	0.0333	0.0333	0.0056		<0.004	<0.004	0.0143		0.0075	0.0118	0.0233
09/19/2018	Arsenic, Total	0.0333	0.0333	0.0493		<0.004	<0.004	0.0132		0.013	0.0227	0.0255
03/27/2019	Arsenic, Total	0.0333	0.0333	0.0101		<0.004	<0.004	0.0138		0.0154	0.0042	0.0157
09/05/2019	Arsenic, Total	0.0333	0.0333	0.0137		<0.004	<0.004	0.0125		0.0214	0.034	0.0212
02/28/2020	Arsenic, Total	0.0333	0.0333	0.0183		<0.004	<0.004	0.0143		0.007	0.0062	0.0346
08/31/2020	Arsenic, Total	0.0333	0.0333	0.0151		<0.004	<0.004	0.0108		0.0147	0.0424	0.019
03/05/2021	Arsenic, Total	0.0333	0.0333	0.0076		<0.004	<0.004	0.0286		0.0088	0.0062	0.019
09/13/2021	Arsenic, Total	0.0333	0.0333	0.0068		<0.004	<0.004	0.0118		0.017	0.0506	0.0205
03/02/2022	Arsenic, Total	0.0333	0.0333	0.0048		<0.004	<0.004	0.0124		0.0097	0.0042	0.022
09/12/2022	Arsenic, Total	0.0333	0.0333	0.0052		<0.004	<0.004	0.0106		0.0111	0.0159	0.0165
03/24/2023	Arsenic, Total	0.0333	0.0333	NT		NT	<0.004	NT		NT	0.0122	NT
06/13/2023	Arsenic, Total	0.0333	0.0333	NT		NT	NT	NT	NT	NT	NT	NT
09/13/2023	Arsenic, Total	0.0333	0.0333	NT	NT	<0.004	NT	NT	NT	NT	NT	0.0128
03/05/2024	Arsenic, Total	0.0333	0.0333	0.0258	NT	NT	NT	NT	NT	0.0086	NT	NT
09/03/2024	Arsenic, Total	0.0333	0.0333	NT	NT	NT	<0.004	0.023	NT	NT	NT	NT
	Mean			0.015		#DIV/0!	#DIV/0!	0.017		0.015	0.018	0.020
	Standard Deviation (STD)			0.012		#DIV/0!	#DIV/0!	0.007		0.006	0.014	0.005
	Mean + 2 STD			0.038		#DIV/0!	#DIV/0!	0.030		0.027	0.046	0.030

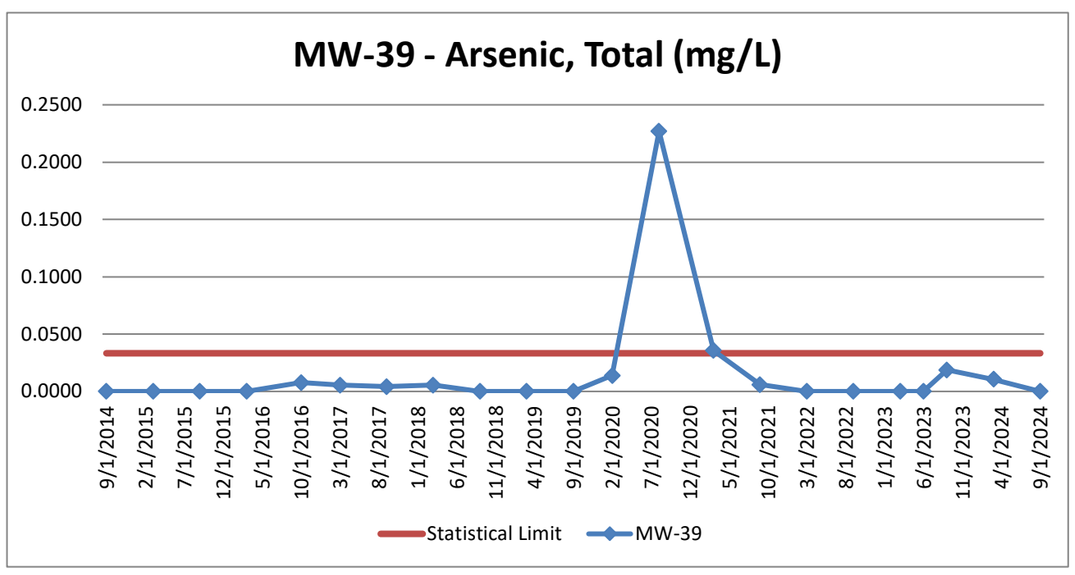
AMES-STORY ENVIRONMENTAL LANDFILL

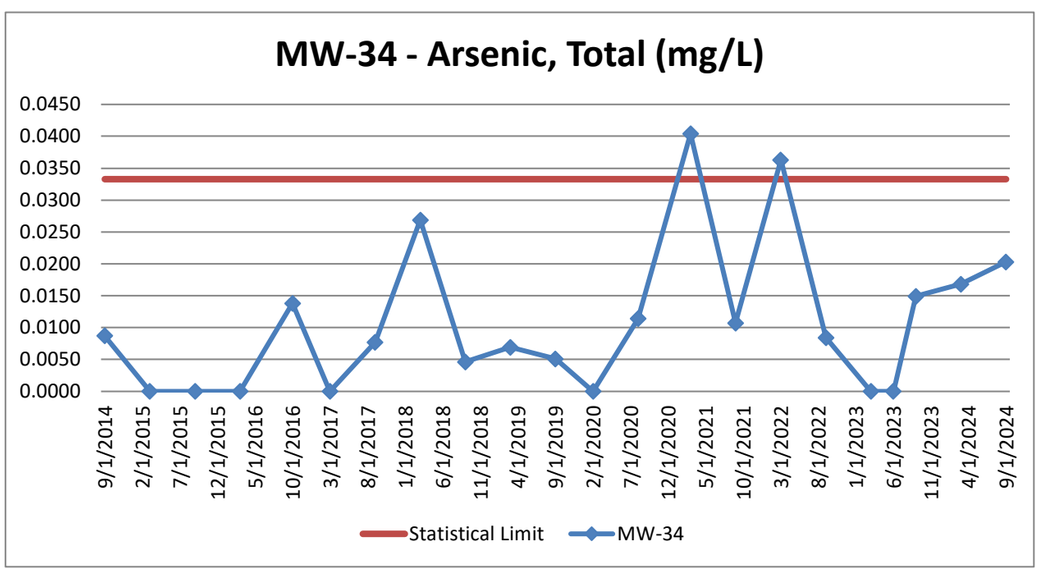
MONITORING WELL SAMPLING RESULTS

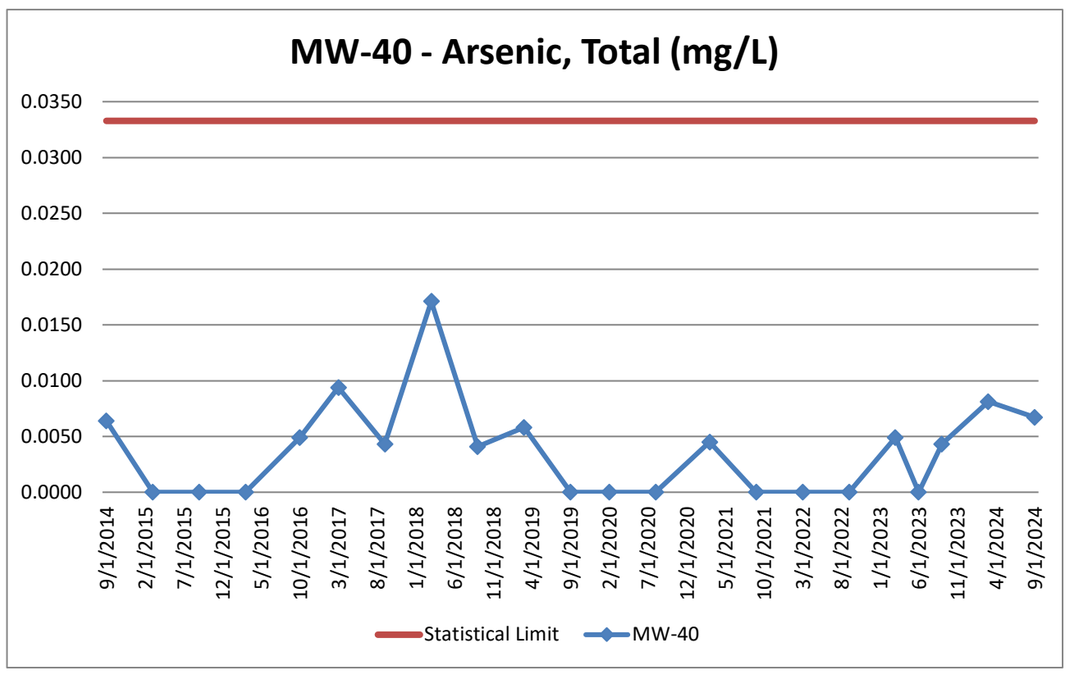
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Arsenic, Total	0.0333	0.0333	NT			NT	---	NT	
10/15/1991	Arsenic, Total	0.0333	0.0333	NT			NT	---	NT	
01/23/1992	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
03/23/1992	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
09/30/1992	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
03/05/1993	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
09/21/1993	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
03/23/1994	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
09/16/1994	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
03/16/1995	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	
09/13/1995	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
03/28/1996	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
06/20/1996	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
09/13/1996	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
12/16/1996	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
03/19/1997	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
06/18/1997	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
08/30/1997	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
03/10/1998	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
09/21/1998	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
03/18/1999	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
09/21/1999	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
03/21/2000	Arsenic, Total	0.0333	0.0333	NT			NT	NT	NT	NT
06/28/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/28/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	DRY
12/27/2000	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/19/2002	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/14/2003	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/29/2003	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/08/2004	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/27/2004	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/17/2005	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/22/2005	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/17/2006	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/22/2006	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/01/2007	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/22/2007	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/03/2008	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/05/2008	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/09/2009	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/23/2009	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/16/2010	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/10/2010	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/01/2011	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/22/2011	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/02/2012	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/05/2012	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/08/2013	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/15/2013	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/06/2014	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/09/2014	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	0.0064	<0.004	<0.004	0.0087	0.0046
03/11/2015	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
09/09/2015	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
03/11/2016	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	NT
10/27/2016	Arsenic, Total	0.0333	0.0333	Dry	0.0076	0.0049	0.0044	<0.004	0.0138	**0.0679**
03/27/2017	Arsenic, Total	0.0333	0.0333	NT	0.0055	0.0094	NT	NT	NT	0.0243
09/07/2017	Arsenic, Total	0.0333	0.0333	<0.004	0.0043	0.0043	<0.004	<0.004	0.0077	0.0193
03/01/2018	Arsenic, Total	0.0333	0.0333	<0.004	0.0054	0.0171	<0.004	<0.004	0.0269	**0.0371**
09/19/2018	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	0.0041	<0.004	<0.004	0.0046	0.0267
03/27/2019	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	0.0058	<0.004	<0.004	0.0069	**0.0553**
09/05/2019	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	<0.004	<0.004	<0.004	0.0051	0.0196
02/28/2020	Arsenic, Total	0.0333	0.0333	<0.004	0.0139	<0.004	0.0042	<0.004		0.0173
08/31/2020	Arsenic, Total	0.0333	0.0333	<0.004	**0.227**	<0.004	<0.004	<0.004	0.0114	**0.0404**
03/05/2021	Arsenic, Total	0.0333	0.0333	<0.004	**0.0356**	0.0045	<0.004	<0.004	**0.0404**	0.0118
09/13/2021	Arsenic, Total	0.0333	0.0333	Dry	0.0058	<0.004	<0.004	<0.004	0.0107	<0.004
03/02/2022	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	<0.004	<0.004	<0.004	**0.0363**	**0.0846**
09/12/2022	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	<0.004	<0.004	<0.004	0.0084	0.0121
03/24/2023	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	0.0049	<0.004	<0.004	<0.004	**0.102**
06/13/2023	Arsenic, Total	0.0333	0.0333	NT	NT	NT	NT	NT	NT	0.0051
09/13/2023	Arsenic, Total	0.0333	0.0333	0.0172	0.0187	0.0043	<0.004	<0.004	0.0149	0.0069
03/05/2024	Arsenic, Total	0.0333	0.0333	DRY	0.0105	0.0081	<0.004	<0.004	0.0168	**0.194**
09/03/2024	Arsenic, Total	0.0333	0.0333	<0.004	<0.004	0.0067	<0.004	<0.004	0.0203	0.0216
	Mean			0.02	0.033	0.007	0.004	#DIV/0!	0.016	0.042
	Standard Deviation (STD)			0.00	0.065	0.004	0.000	#DIV/0!	0.011	0.046
	Mean + 2 STD			0.02	0.164	0.014	0.005	#DIV/0!	0.037	0.133

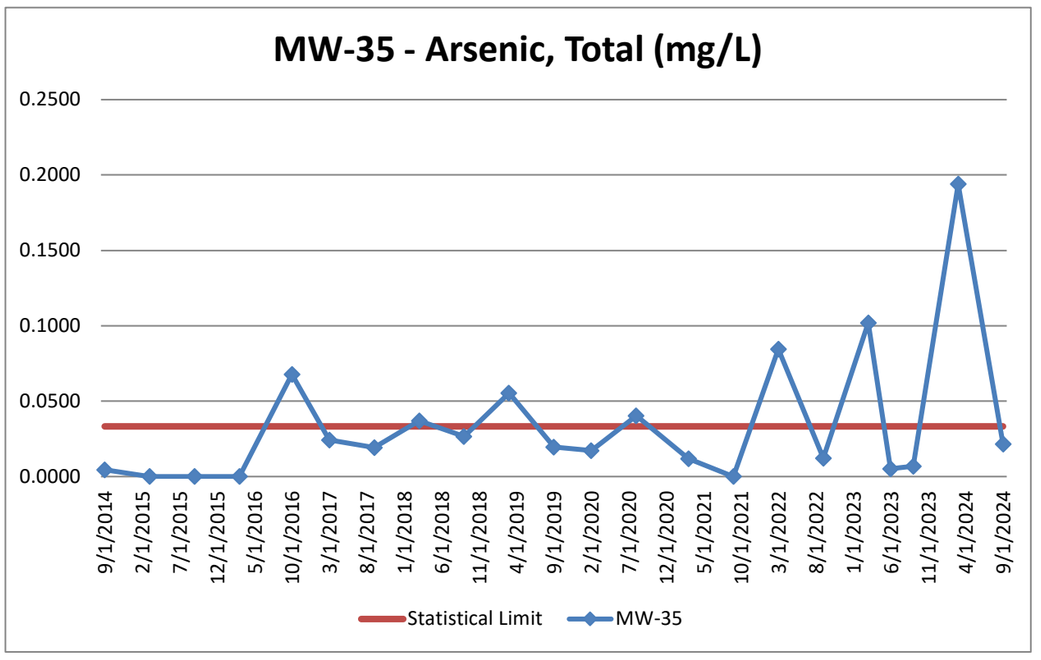

SW-3 - Arsenic, Total (mg/L)
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Series2
Series1

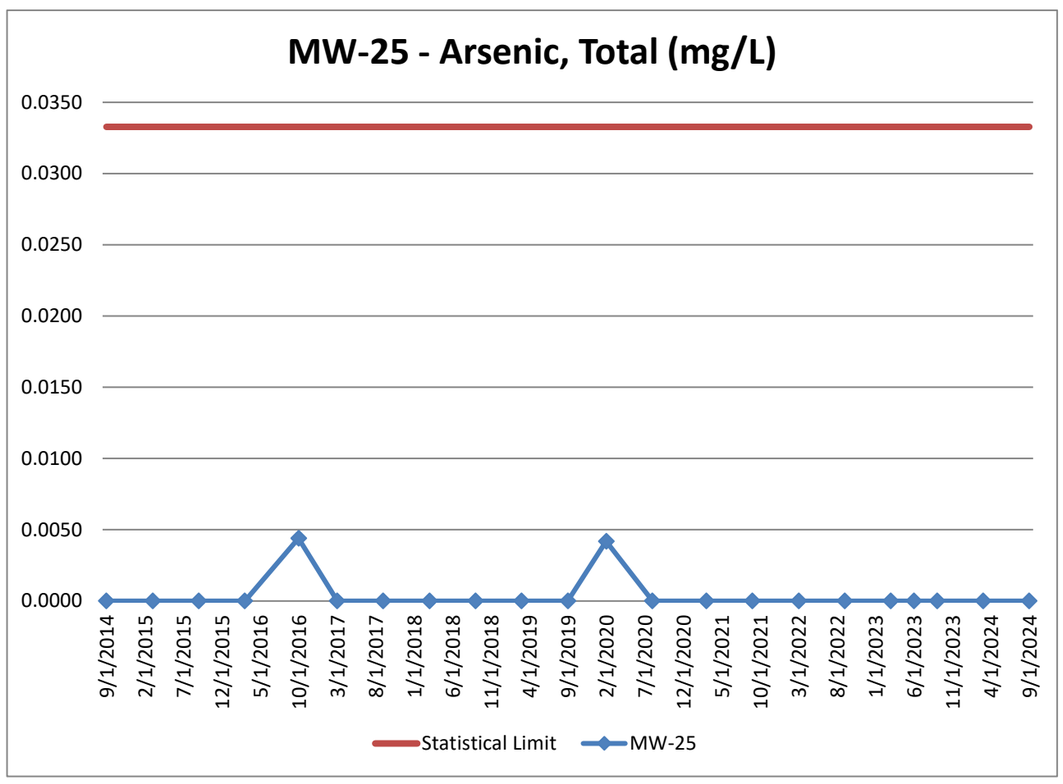

MW-33 - Arsenic, Total (mg/L)
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33


MW-39 - Arsenic, Total (mg/L)
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 - Arsenic, Total (mg/L)
0.0450
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34


MW-40 - Arsenic, Total (mg/L)
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - Arsenic, Total (mg/L)
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - Arsenic, Total (mg/L)
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

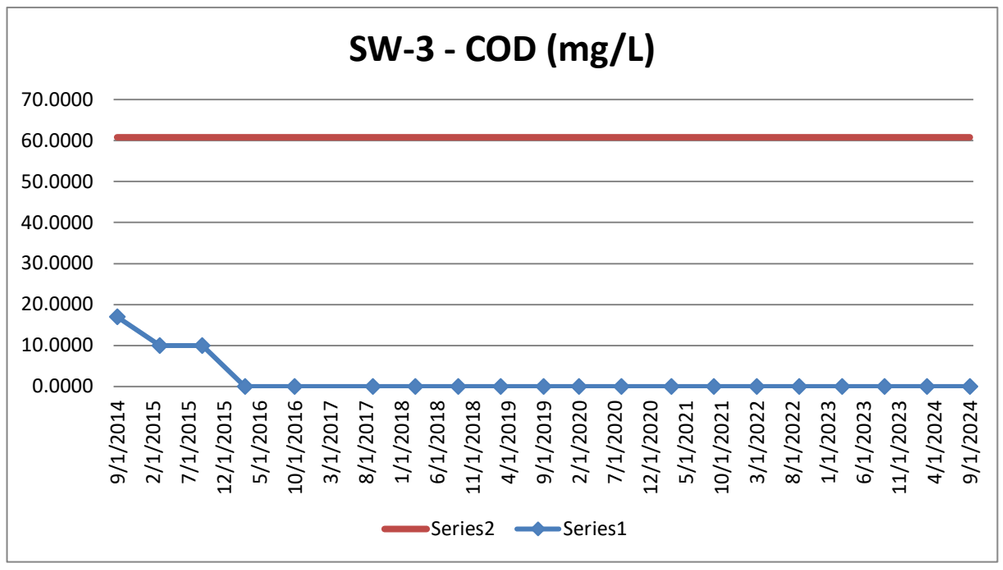
AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

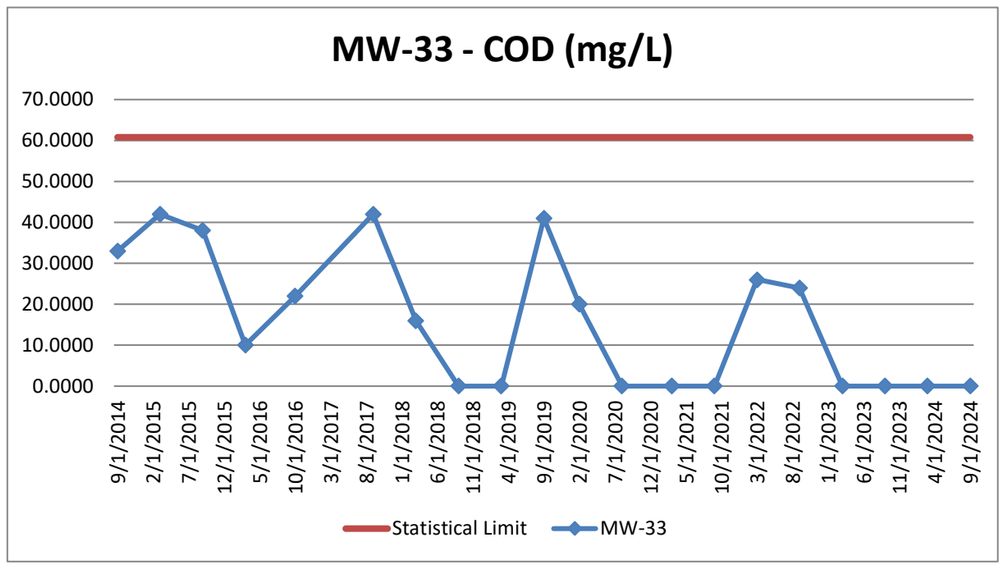
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Chemical Oxygen Demand	--	60.8		8.3	67.8	NT		12	20.1	NT	NT
10/15/1991	Chemical Oxygen Demand	--	60.8		15	64.8	NT		16.5	19.4	NT	NT
01/23/1992	Chemical Oxygen Demand	--	60.8		24.2	84.1	NT		<10	NT	NT	NT
03/23/1992	Chemical Oxygen Demand	--	60.8		<10	119	NT		<10	50	NT	NT
09/30/1992	Chemical Oxygen Demand	--	60.8		50	NT	NT		24	180	NT	NT
03/05/1993	Chemical Oxygen Demand	--	60.8		<10	50.8	NT		<10	NT	NT	NT
09/21/1993	Chemical Oxygen Demand	--	60.8		<10	47.3	<10		<10	47.3	<10	<10
03/23/1994	Chemical Oxygen Demand	--	60.8		<10	64	<10		<10	64	<10	<10
09/16/1994	Chemical Oxygen Demand	--	60.8		<10	52	<10		<10	52	<10	<10
03/16/1995	Chemical Oxygen Demand	--	60.8		38	57	<10		32	26	<10	<10
09/13/1995	Chemical Oxygen Demand	--	60.8		<10	34	35		<10	<10	<10	12
03/28/1996	Chemical Oxygen Demand	--	60.8	<10	plugged	26	<10	11	plugged	<10	<10	<10
06/20/1996	Chemical Oxygen Demand	--	60.8	<10		NT	<10	10		NT	<10	<10
09/13/1996	Chemical Oxygen Demand	--	60.8	<10		18	<10	<10		<10	<10	<10
12/16/1996	Chemical Oxygen Demand	--	60.8	NT		28	<10	NT		<10	<10	<10
03/19/1997	Chemical Oxygen Demand	--	60.8	<10		19	<10	<10		<10	<10	<10
06/18/1997	Chemical Oxygen Demand	--	60.8	<10		27	12	<10		<10	<10	10
08/30/1997	Chemical Oxygen Demand	--	60.8	<10		<10	<10	12		<10	<10	<10
03/10/1998	Chemical Oxygen Demand	--	60.8	<10		<10	<10	12		<10	<10	<10
09/21/1998	Chemical Oxygen Demand	--	60.8	<10		<10	<10	12		<10	<10	<10
03/18/1999	Chemical Oxygen Demand	--	60.8	<10		<10	<10	<10		<10	<10	<10
09/21/1999	Chemical Oxygen Demand	--	60.8	<10		<10	<10	<10		<10	<10	<10
03/21/2000	Chemical Oxygen Demand	--	60.8	NT		<10	<10	NT		<10	<10	<10
06/28/2000	Chemical Oxygen Demand	--	60.8	NT		NT	<10	NT		NT	<10	11
09/28/2000	Chemical Oxygen Demand	--	60.8	<10		11	20	<10		<10	<10	<10
12/27/2000	Chemical Oxygen Demand	--	60.8	NT		NT	<10	NT		NT	<10	<10
03/28/2001	Chemical Oxygen Demand	--	60.8	<10		<10	11	<10		<10	<10	<10
09/02/2001	Chemical Oxygen Demand	--	60.8	<10		11	19	<10		<10	<10	<10
03/19/2002	Chemical Oxygen Demand	--	60.8	<10		24	<10	<10		<10	<10	<10
09/19/2002	Chemical Oxygen Demand	--	60.8	<10		11	12	<10		<10	<10	<10
03/14/2003	Chemical Oxygen Demand	--	60.8	<10		28	<10	<10		<10	<10	<10
09/29/2003	Chemical Oxygen Demand	--	60.8	<10		23	12	<10		<10	<10	<10
03/08/2004	Chemical Oxygen Demand	--	60.8	20		17	<10	<10		<10	<10	<10
09/27/2004	Chemical Oxygen Demand	--	60.8	<10		17	<10	<10		<10	<10	10
03/17/2005	Chemical Oxygen Demand	--	60.8	<10		21	18	<10		<10	<10	<10
09/22/2005	Chemical Oxygen Demand	--	60.8	<10		23	19	<10		10	19	<10
03/17/2006	Chemical Oxygen Demand	--	60.8	<10		14	11	<10		<10	<10	<10
09/22/2006	Chemical Oxygen Demand	--	60.8	<10		10	<10	<10		<10	<10	<10
03/14/2007	Chemical Oxygen Demand	--	60.8	<10		<10	<10	<10		<10	<10	<10
09/22/2007	Chemical Oxygen Demand	--	60.8	<10		18	16	<10		<10	<10	<10
03/03/2008	Chemical Oxygen Demand	--	60.8	<10		<10	15	<10		23	<10	<10
09/05/2008	Chemical Oxygen Demand	--	60.8	17		65	46	10		24	29	31
03/09/2009	Chemical Oxygen Demand	--	60.8	<10		62	36	<10		<10	<10	38
09/23/2009	Chemical Oxygen Demand	--	60.8	<10		43	41	12		<10	<10	11
03/16/2010	Chemical Oxygen Demand	--	60.8	NT		<10	<10	NT		38	38	24
09/10/2010	Chemical Oxygen Demand	--	60.8	<10		64	22	<10		32	44	<10
03/01/2011	Chemical Oxygen Demand	--	60.8	74		76	71	<10		<10	<10	<10
09/22/2011	Chemical Oxygen Demand	--	60.8	46		38	19	<10		<10	35	<10
03/02/2012	Chemical Oxygen Demand	--	60.8	30		65	40	24		<10	109	<10
09/05/2012	Chemical Oxygen Demand	--	60.8	19		51	49	16		32	150	32
03/08/2013	Chemical Oxygen Demand	--	60.8	18		60	45	<10		27	77	35
09/13/2013	Chemical Oxygen Demand	--	60.8	18		62	59	<10		13	65	32
03/06/2014	Chemical Oxygen Demand	--	60.8	11		54	42	<10		12	52	10
09/09/2014	Chemical Oxygen Demand	--	60.8	20		59	57	<10		23	24	31
03/11/2015	Chemical Oxygen Demand	--	60.8	10		45	50	<10		49	84	<10
09/09/2015	Chemical Oxygen Demand	--	60.8	10		46	37	<10		32	37	12
03/11/2016	Chemical Oxygen Demand	--	60.8	<10		25	<10	<10		15	35	19
10/27/2016	Chemical Oxygen Demand	--	60.8	11		19	12	10		25	46	20
09/07/2017	Chemical Oxygen Demand	--	60.8	<10		29	13	<10		15	36	13
03/01/2018	Chemical Oxygen Demand	--	60.8	<10		31	10	<10		55	54	31
09/19/2018	Chemical Oxygen Demand	--	60.8	<20		27	<20	<20		49	41	53
03/27/2019	Chemical Oxygen Demand	--	60.8	<20		34	<20	<20		<20	<20	26
09/05/2019	Chemical Oxygen Demand	--	60.8	45		26	<20	<20		84	24	<20
02/28/2020	Chemical Oxygen Demand	--	60.8	73		37	<20	35		35	38	31
08/31/2020	Chemical Oxygen Demand	--	60.8	<20		28	<20	<20		<20	38	<20
03/05/2021	Chemical Oxygen Demand	--	60.8	<20		24	<20	<20		<20	27	<20
09/13/2021	Chemical Oxygen Demand	--	60.8	<20		22	23	<20		32	41	20
03/02/2022	Chemical Oxygen Demand	--	60.8	<20		31	22	<20		38	34	30
09/12/2022	Chemical Oxygen Demand	--	60.8	<20		<20	34	48		26	34	<20
03/24/2023	Chemical Oxygen Demand	--	60.8	NT		NT	34	NT		NT	49	NT
09/13/2023	Chemical Oxygen Demand	--	60.8	NT		<20	NT	NT		NT	NT	29
03/05/2024	Chemical Oxygen Demand	--	60.8	29		NT	NT	NT		10	NT	NT
09/03/2024	Chemical Oxygen Demand	--	60.8	NT		NT	<20	<20		NT	NT	NT
	Mean			28.2	27.1	39.3	29.2	17.7	21.1	37.3	48.5	23.8
	Standard Deviation (STD)			20.2	15.2	22.3	16.4	11.6	7.6	31.0	28.3	11.1
	Mean + 2 STD			68.5	57.5	83.9	62.0	40.9	36.3	99.4	105.0	45.9

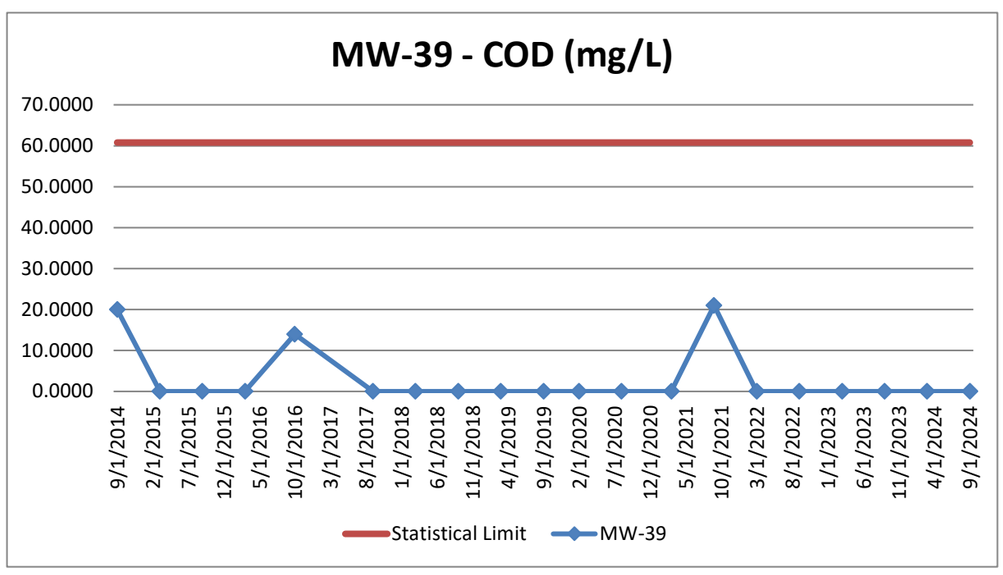
AMES-STORY ENVIRONMENTAL LANDFILL

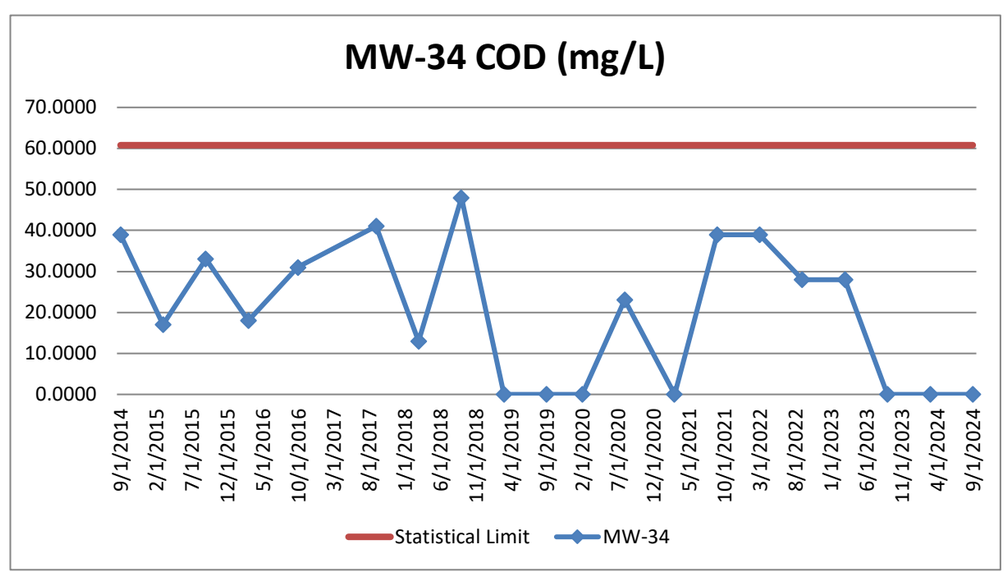
MONITORING WELL SAMPLING RESULTS

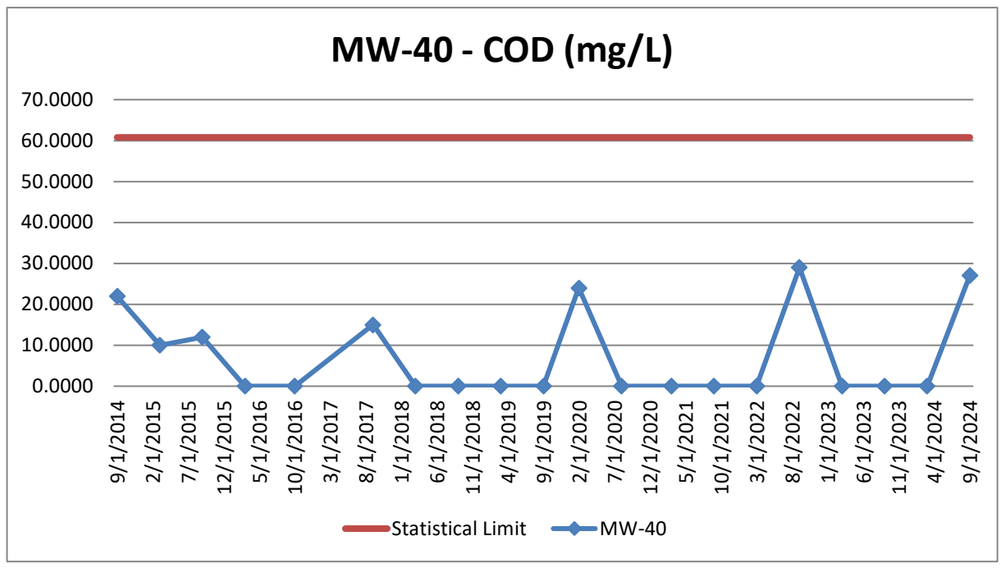
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Chemical Oxygen Demand	--	60.8	10.5			33.4	---	120.1	
10/15/1991	Chemical Oxygen Demand	--	60.8	<10			17.2	---	14.3	
01/23/1992	Chemical Oxygen Demand	--	60.8	<10			12	33.4	<10	
03/23/1992	Chemical Oxygen Demand	--	60.8	<10			20	54	10	
09/30/1992	Chemical Oxygen Demand	--	60.8	DRY			230	28	107	
03/05/1993	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	
09/21/1993	Chemical Oxygen Demand	--	60.8	<10			<10	<10	<10	
03/23/1994	Chemical Oxygen Demand	--	60.8	<10			<10	19	<10	
09/16/1994	Chemical Oxygen Demand	--	60.8	NT			<10	13	<10	
03/16/1995	Chemical Oxygen Demand	--	60.8	NT			39	69	29	
09/13/1995	Chemical Oxygen Demand	--	60.8	NT			<10	<10	<10	
03/28/1996	Chemical Oxygen Demand	--	60.8	NT			<10	<10	<10	<10
06/20/1996	Chemical Oxygen Demand	--	60.8	NT			NT	NT	NT	10
09/13/1996	Chemical Oxygen Demand	--	60.8	DRY			<10	12	<10	<10
12/16/1996	Chemical Oxygen Demand	--	60.8	NT			NT	NT	NT	NT
03/19/1997	Chemical Oxygen Demand	--	60.8	DRY			<10	14	<10	<10
06/18/1997	Chemical Oxygen Demand	--	60.8	NT			NT	NT	NT	<10
08/30/1997	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	<10
03/10/1998	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	<10
09/21/1998	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	<10
03/18/1999	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	<10
09/21/1999	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	<10	<10
03/21/2000	Chemical Oxygen Demand	--	60.8	DRY			<10	<10	55	NT
06/28/2000	Chemical Oxygen Demand	--	60.8	DRY	11	<10	NT	NT	NT	NT
09/28/2000	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	<10	<10	DRY
12/27/2000	Chemical Oxygen Demand	--	60.8	NT	<10	<10	NT	NT	NT	NT
03/28/2001	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	<10	28	<10
09/02/2001	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	17	19	11
03/19/2002	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	17	36	14
09/19/2002	Chemical Oxygen Demand	--	60.8	DRY	18	<10	<10	19	15	<10
03/14/2003	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	28	55	54
09/29/2003	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	18	17	<10
03/08/2004	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	17	36	<10
09/27/2004	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	16	37	21	27
03/17/2005	Chemical Oxygen Demand	--	60.8	DRY	23	19	<10	22	54	<10
09/22/2005	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	10	21	10	10
03/17/2006	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	13	27	<10
09/22/2006	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	12	24	53	10
03/14/2007	Chemical Oxygen Demand	--	60.8	<10	<10	<10	<10	15	32	11
09/22/2007	Chemical Oxygen Demand	--	60.8	DRY	<10	12	12	17	50	12
03/03/2008	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	<10	10	25	11
09/05/2008	Chemical Oxygen Demand	--	60.8	DRY	14	20	19	17	46	63
03/09/2009	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	16	34	33	45
09/23/2009	Chemical Oxygen Demand	--	60.8	DRY	<10	<10	24	28	25	33
03/16/2010	Chemical Oxygen Demand	--	60.8	11	159	18	67	30	47	364
09/10/2010	Chemical Oxygen Demand	--	60.8	17	18	<10	56	22	25	53
03/01/2011	Chemical Oxygen Demand	--	60.8	115	<10	<10	<10	<10	11	81
09/22/2011	Chemical Oxygen Demand	--	60.8	<10	24	15	<10	34	42	46
03/02/2012	Chemical Oxygen Demand	--	60.8	30	31	15	<10	30	37	48
09/05/2012	Chemical Oxygen Demand	--	60.8	23	21	21	15	29	52	71
03/08/2013	Chemical Oxygen Demand	--	60.8	DRY	17	24	24	31	29	114
09/13/2013	Chemical Oxygen Demand	--	60.8	DRY	10	77	15	34	<10	70
03/06/2014	Chemical Oxygen Demand	--	60.8	<10	40	16	24	<10	20	44
09/09/2014	Chemical Oxygen Demand	--	60.8	17	20	22	23	33	39	49
03/11/2015	Chemical Oxygen Demand	--	60.8	10	<10	10	14	42	17	<10
09/09/2015	Chemical Oxygen Demand	--	60.8	10	<10	12	<10	38	33	74
03/11/2016	Chemical Oxygen Demand	--	60.8	<10	<10	<10	<10	10	18	23
10/27/2016	Chemical Oxygen Demand	--	60.8	DRY	14	<10	13	22	31	65
09/07/2017	Chemical Oxygen Demand	--	60.8	<10	<10	15	<10	42	41	37
03/01/2018	Chemical Oxygen Demand	--	60.8	<10	<10	<10	<10	16	13	36
09/19/2018	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	48	24
03/27/2019	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	<20	39
09/05/2019	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	41	<20	63
02/28/2020	Chemical Oxygen Demand	--	60.8	<20	<20	24	<20	20		<20
08/31/2020	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	23	<20
03/05/2021	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	<20	<20
09/13/2021	Chemical Oxygen Demand	--	60.8	DRY	21	<20	<20	<20	39	<20
03/02/2022	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	26	39	<20
09/12/2022	Chemical Oxygen Demand	--	60.8	<20	<20	29	<20	24	28	22
03/24/2023	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	28	22
09/13/2023	Chemical Oxygen Demand	--	60.8	<20	<20	<20	<20	<20	<20	25
03/05/2024	Chemical Oxygen Demand	--	60.8	Dry	<20	<20	<20	<20	<20	48
09/03/2024	Chemical Oxygen Demand	--	60.8	<20	<20	27	<20	<20	<20	35
	Mean			27.1	29.4	22.1	32.3	26.0	35.2	49.0
	Standard Deviation (STD)			31.8	35.4	14.7	45.4	12.1	21.3	58.4
	Mean + 2 STD			90.6	100.2	51.5	123.1	50.1	77.7	165.9

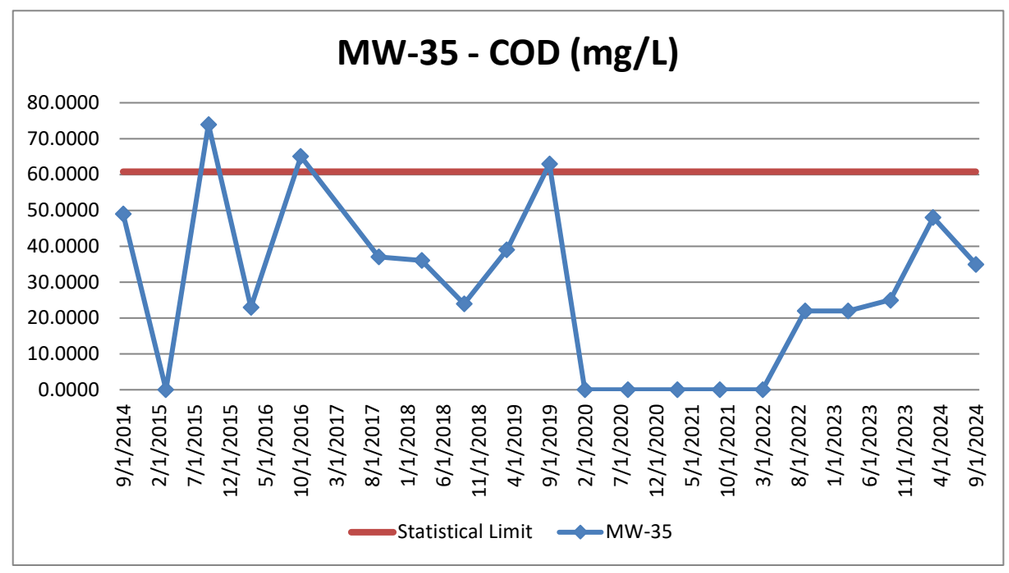

SW-3 - COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Series2
Series1

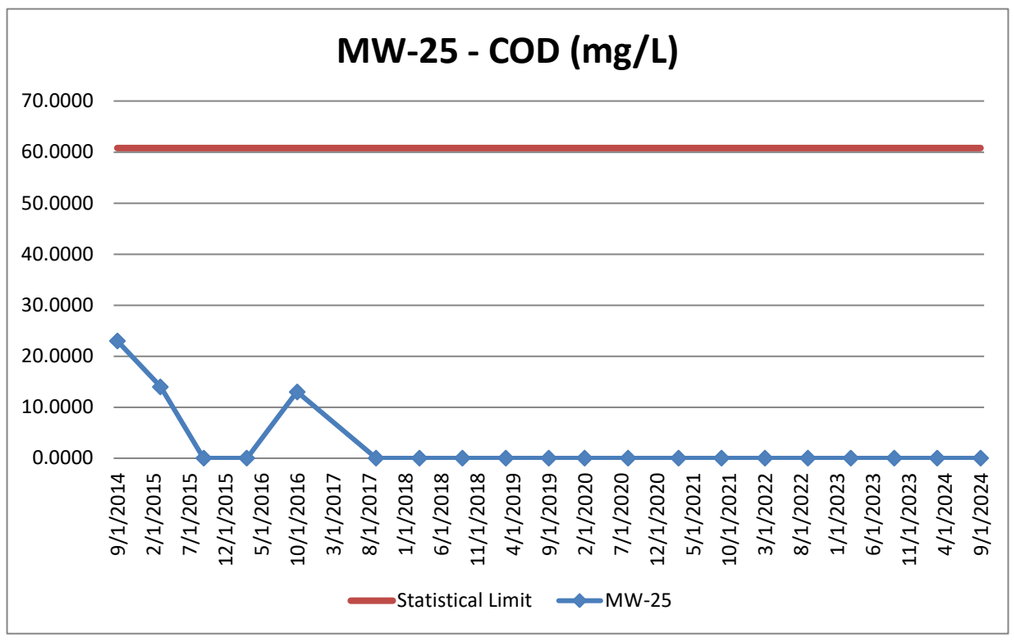

MW-33 - COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33


MW-39 - COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34


MW-40 - COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - COD (mg/L)
80.0000
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - COD (mg/L)
70.0000
60.0000
50.0000
40.0000
30.0000
20.0000
10.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL
85-SDP-13-91P
MONITORING WELL SAMPLING RESULTS

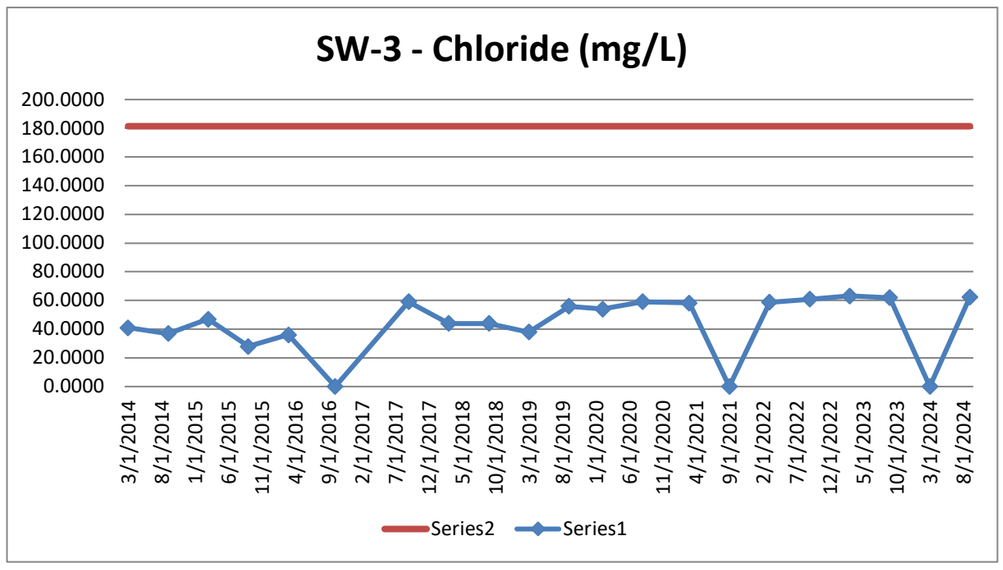
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Chloride	--	181.4		4.5	65	NT		2	4	NT	NT
10/15/1991	Chloride	--	181.4		3.77	47.6	NT		<1	1.89	NT	NT
01/23/1992	Chloride	--	181.4		5.8	50.9	NT		1.6	NT	NT	NT
03/23/1992	Chloride	--	181.4		5.3	48.1	NT		1.1	3.7	NT	NT
09/30/1992	Chloride	--	181.4		19	NT	NT		1	3	NT	NT
03/05/1993	Chloride	--	181.4		<10	59.2	NT		<10	NT	NT	NT
09/21/1993	Chloride	--	181.4		<10	90	10.8		<10	<10	<10	<10
03/23/1994	Chloride	--	181.4		<10	88.6	33.9		<10	<10	<10	<10
09/16/1994	Chloride	--	181.4		<10	79	56		<10	<10	<10	<10
03/16/1995	Chloride	--	181.4		15	52	27		11	<10	9.8	4.7
09/13/1995	Chloride	--	181.4		<10	55	36		<10	<10	14	<10
03/28/1996	Chloride	--	181.4	9	plugged	67	27	14	plugged	4.2	9.8	4.7
06/20/1996	Chloride	--	181.4	6.7		NT	NT	3.8		NT	NT	NT
09/13/1996	Chloride	--	181.4	5.1		129	25.9	1.7		2.2	9.9	1.7
12/16/1996	Chloride	--	181.4	NT		139	28	NT		<10	12	<10
03/19/1997	Chloride	--	181.4	<10		153	<10	<10		<10	10	<10
06/18/1997	Chloride	--	181.4	<10		125	25	<10		<10	11	<10
08/30/1997	Chloride	--	181.4	<10		109	23	<10		<10	<10	<10
03/10/1998	Chloride	--	181.4	<10		120	39	<10		<10	11	<10
09/21/1998	Chloride	--	181.4	<10		93	19	<10		<10	11	<10
03/18/1999	Chloride	--	181.4	<10		97	20	<10		<10	12	<10
09/21/1999	Chloride	--	181.4	<10		73	33	<10		<10	11	<10
03/21/2000	Chloride	--	181.4	NT		249	33	NT		<10	20	36
06/28/2000	Chloride	--	181.4	NT		NT	28	NT		NT	<10	<10
09/28/2000	Chloride	--	181.4	<10		78	59	<10		<10	11	<10
12/27/2000	Chloride	--	181.4	NT		NT	46	NT		NT	10	<10
03/28/2001	Chloride	--	181.4	12		122	38	<10		<10	13	<10
09/02/2001	Chloride	--	181.4	<10		96	48	<10		<10	14	<10
03/19/2002	Chloride	--	181.4	10		159	73	<10		<10	11	<10
09/19/2002	Chloride	--	181.4	10		120	67	<10		<10	11	<10
03/14/2003	Chloride	--	181.4	<10		102	85	<10		<10	12	<10
09/29/2003	Chloride	--	181.4	10		103	52	<10		<10	13	<10
03/08/2004	Chloride	--	181.4	10		143	71	<10		<10	14	34
09/27/2004	Chloride	--	181.4	12		100	56	<10		<10	14	<10
03/17/2005	Chloride	--	181.4	15		96	69	<10		<10	12	<10
09/22/2005	Chloride	--	181.4	16		75	62	<10		14	16	<10
03/17/2006	Chloride	--	181.4	16		108	83	<10		<10	15	<10
09/22/2006	Chloride	--	181.4	13		100	81	<10		<10	13	<10
03/14/2007	Chloride	--	181.4	20		100	96	<10		<10	15	<10
09/22/2007	Chloride	--	181.4	15		100	102	<10		<10	16	<10
03/03/2008	Chloride	--	181.4	22		274	121	<10		<10	15	<10
09/05/2008	Chloride	--	181.4	20		169	96	<10		<10	15	<10
03/09/2009	Chloride	--	181.4	19		166	128	<10		<10	13	<10
09/23/2009	Chloride	--	181.4	23		122	170	<10		<10	15	<10
03/16/2010	Chloride	--	181.4	NT		169	177	NT		10	22	<10
09/10/2010	Chloride	--	181.4	23		174	107	<10		<10	21	<10
03/01/2011	Chloride	--	181.4	31		189	176	<10		<10	22	<10
09/22/2011	Chloride	--	181.4	13		205	133	<10		11	25	<10
03/02/2012	Chloride	--	181.4	30		192	192	<10		<10	21	<10
09/05/2012	Chloride	--	181.4	28		165	202	<10		26	25	<10
03/08/2013	Chloride	--	181.4	27		134	171	<10		15	22	<10
09/13/2013	Chloride	--	181.4	27		121	199	<10		14	28	10
03/06/2014	Chloride	--	181.4	13		118	151	48		12	18	17
09/09/2014	Chloride	--	181.4	19		193	169	<10		13	26	35
03/11/2015	Chloride	--	181.4	34		168	201	<10		34	33	13
09/09/2015	Chloride	--	181.4	30		140	134	<10		16	31	<10
03/11/2016	Chloride	--	181.4	28		111	134	<10		19	27	<10
10/27/2016	Chloride	--	181.4	24		101	140	<10		27	31	<10
09/07/2017	Chloride	--	181.4	33		102	206	<10		29	39	12
03/01/2018	Chloride	--	181.4	38		118	231	<10		27	40	12
09/19/2018	Chloride	--	181.4	34		110	206	<10		25	47	15
03/27/2019	Chloride	--	181.4	39		131	227	<10		42	45	15
09/05/2019	Chloride	--	181.4	38		77	234	<10		27	50	15
02/28/2020	Chloride	--	181.4	40		290	244	<10		29	48	17
08/31/2020	Chloride	--	181.4	39		217	232	<10		31	57	15
03/05/2021	Chloride	--	181.4	41.8		247	283	1.7		36.1	47.7	18.1
09/13/2021	Chloride	--	181.4	38		345	291	<1.0		31.8	62.4	18
03/02/2022	Chloride	--	181.4	39.2		316	331	1.5		34.6	47.2	17.1
09/12/2022	Chloride	--	181.4	39.6		133	328	1.5		36.9	61.1	16.2
03/24/2023	Chloride	--	181.4	NT		NT	319	NT		NT	64.5	NT
09/13/2023	Chloride	--	181.4	NT		133	NT	NT		NT	NT	18.6
03/05/2024	Chloride	--	181.4	36.7		NT	NT	NT		56.3	NT	NT
09/03/2024	Chloride	--	181.4	NT		NT	316	1.2		NT	NT	NT

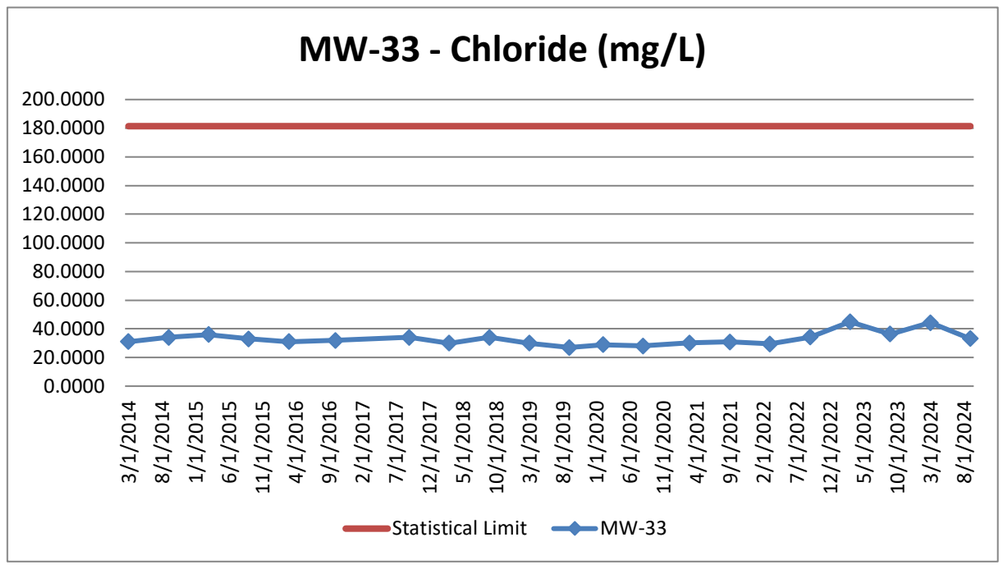
Mean	23.8	8.9	133.0	124.9	9.2	3.3	21.2	23.6	16.4
Standard Deviation (STD)	11.1	5.9	63.6	91.5	15.2	3.8	13.5	15.4	8.8
Mean + 2 STD	45.9	20.7	260.2	307.9	39.6	11.0	48.2	54.5	34.1

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Chloride	--	181.4	11.5			13.5	---	6	
10/15/1991	Chloride	--	181.4	8.02			17.4	---	6.6	
01/23/1992	Chloride	--	181.4	12.1			43.5	44.6	10	
03/23/1992	Chloride	--	181.4	14.8			70.8	70.8	9	
09/30/1992	Chloride	--	181.4	DRY			83	28	3	
03/05/1993	Chloride	--	181.4	DRY			101	22.5	<10	
09/21/1993	Chloride	--	181.4	16.6			20	26	<10	
03/23/1994	Chloride	--	181.4	19.8			65.1	29.2	<10	
09/16/1994	Chloride	--	181.4	NT			82	21	<10	
03/16/1995	Chloride	--	181.4	NT			76	27	<10	
09/13/1995	Chloride	--	181.4	NT			69	22	15	
03/28/1996	Chloride	--	181.4	NT			173	22	8.9	30
06/20/1996	Chloride	--	181.4	NT			NT	NT	NT	44
09/13/1996	Chloride	--	181.4	Dry			5.3	23.6	7.1	54.2
12/16/1996	Chloride	--	181.4	NT			NT	NT	NT	NT
03/19/1997	Chloride	--	181.4	DRY			23	38	17	96
06/18/1997	Chloride	--	181.4	NT			NT	NT	NT	95
08/30/1997	Chloride	--	181.4	DRY			30	19	<10	86
03/10/1998	Chloride	--	181.4	DRY			72	24	10	37
09/21/1998	Chloride	--	181.4	DRY			31	19	10	81
03/18/1999	Chloride	--	181.4	DRY			83	21	15	29
09/21/1999	Chloride	--	181.4	DRY			52	20	26	67
03/21/2000	Chloride	--	181.4	DRY			55	23	45	NT
06/28/2000	Chloride	--	181.4	DRY	42	65	NT	NT	NT	NT
09/28/2000	Chloride	--	181.4	DRY	36	22	124	24	13	DRY
12/27/2000	Chloride	--	181.4	NT	49	46	NT	NT	NT	NT
03/28/2001	Chloride	--	181.4	DRY	40	54	229	24	105	87
09/02/2001	Chloride	--	181.4	DRY	45	23	135	29	56	150
03/19/2002	Chloride	--	181.4	DRY	49	56	142	53	52	179
09/19/2002	Chloride	--	181.4	DRY	43	35	181	44	25	111
03/14/2003	Chloride	--	181.4	DRY	53	30	163	383	34	185
09/29/2003	Chloride	--	181.4	DRY	45	25	165	30	23	141
03/08/2004	Chloride	--	181.4	DRY	42	47	197	45	43	149
09/27/2004	Chloride	--	181.4	DRY	30	43	49	51	21	114
03/17/2005	Chloride	--	181.4	DRY	29	27	125	48	30	235
09/22/2005	Chloride	--	181.4	DRY	27	53	49	45	21	119
03/17/2006	Chloride	--	181.4	DRY	34	39	146	49	28	340
09/22/2006	Chloride	--	181.4	DRY	24	16	288	44	<10	142
03/14/2007	Chloride	--	181.4	66	22	26	52	58	<10	51
09/22/2007	Chloride	--	181.4	DRY	14	26	26	53	11	52
03/03/2008	Chloride	--	181.4	DRY	22	22	34	53	10	10
09/05/2008	Chloride	--	181.4	DRY	13	30	26	40	<10	85
03/09/2009	Chloride	--	181.4	DRY	16	14	27	44	<10	239
09/23/2009	Chloride	--	181.4	DRY	16	32	28	39	12	105
03/16/2010	Chloride	--	181.4	23	16	254	18	38	<10	98
09/10/2010	Chloride	--	181.4	39	17	13	16	35	<10	94
03/01/2011	Chloride	--	181.4	23	18	21	18	34	10	89
09/22/2011	Chloride	--	181.4	47	12	23	16	32	10	88
03/02/2012	Chloride	--	181.4	55	20	15	20	31	17	278
09/05/2012	Chloride	--	181.4	53	24	24	24	28	13	101
03/08/2013	Chloride	--	181.4	DRY	26	60	65	34	14	339
09/13/2013	Chloride	--	181.4	DRY	19	31	24	44	12	112
03/06/2014	Chloride	--	181.4	41	20	33	16	31	15	162
09/09/2014	Chloride	--	181.4	37	11	29	42	34	11	79
03/11/2015	Chloride	--	181.4	47	16	78	22	36	11	257
09/09/2015	Chloride	--	181.4	28	12	34	18	33	<10	78
03/11/2016	Chloride	--	181.4	36	12	25	14	31	<10	216
10/27/2016	Chloride	--	181.4	DRY	20	74	17	32	<10	76
09/07/2017	Chloride	--	181.4	59	18	103	21	34	15	86
03/01/2018	Chloride	--	181.4	44	19	332	19	30	<10	275
09/19/2018	Chloride	--	181.4	44	13	76	19	34	<10	93
03/27/2019	Chloride	--	181.4	38	14	42	12	30	<10	656
09/05/2019	Chloride	--	181.4	56	15	32	14	27	14	95
02/28/2020	Chloride	--	181.4	54	15	60	20	29		562
08/31/2020	Chloride	--	181.4	59	12	16	19	28	14	98
03/05/2021	Chloride	--	181.4	58.2	18.9	39.4	19.7	30.1	27.2	747
09/13/2021	Chloride	--	181.4	DRY	18.5	52.5	19.2	30.9	16.6	114
03/02/2022	Chloride	--	181.4	58.7	17.9	57.5	18.9	29.5	40.5	269
09/12/2022	Chloride	--	181.4	60.8	15.2	28	41.4	34.3	18.1	106
03/24/2023	Chloride	--	181.4	63.2	15	13.3	24.4	44.9	15.5	587
09/13/2023	Chloride	--	181.4	62.0	12.5	26.1	32.3	36.4	16.6	113
03/05/2024	Chloride	--	181.4	Dry	16.7	42.2	25.3	44.3	16.5	590
09/03/2024	Chloride	--	181.4	62.5	10.3	24.4	22.1	33.2	17.6	101
	Mean			41.8	23.3	47.8	59.0	39.8	20.4	169.7
	Standard Deviation (STD)			17.8	11.8	54.1	59.6	43.8	16.9	161.5
	Mean + 2 STD			77.5	46.9	156.0	178.1	127.4	54.2	492.6


SW-3 - Chloride (mg/L)
200.0000
180.0000
160.0000
140.0000
120.0000
100.0000
80.0000
60.0000
40.0000
20.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Series2
Series1


MW-33 - Chloride (mg/L)
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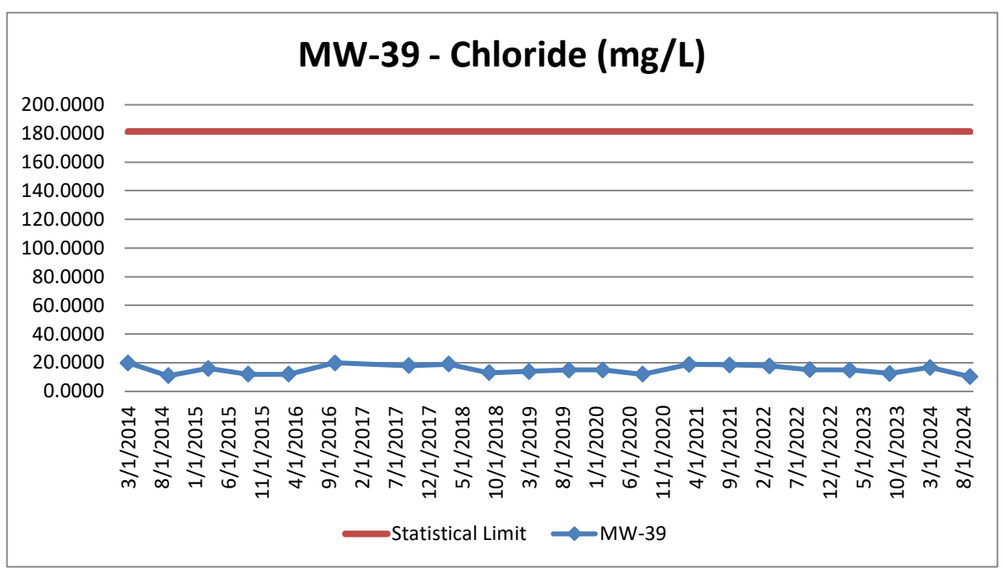
160.0000
140.0000
120.0000
100.0000
80.0000
60.0000
40.0000
20.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-33


MW-39 - Chloride (mg/L)
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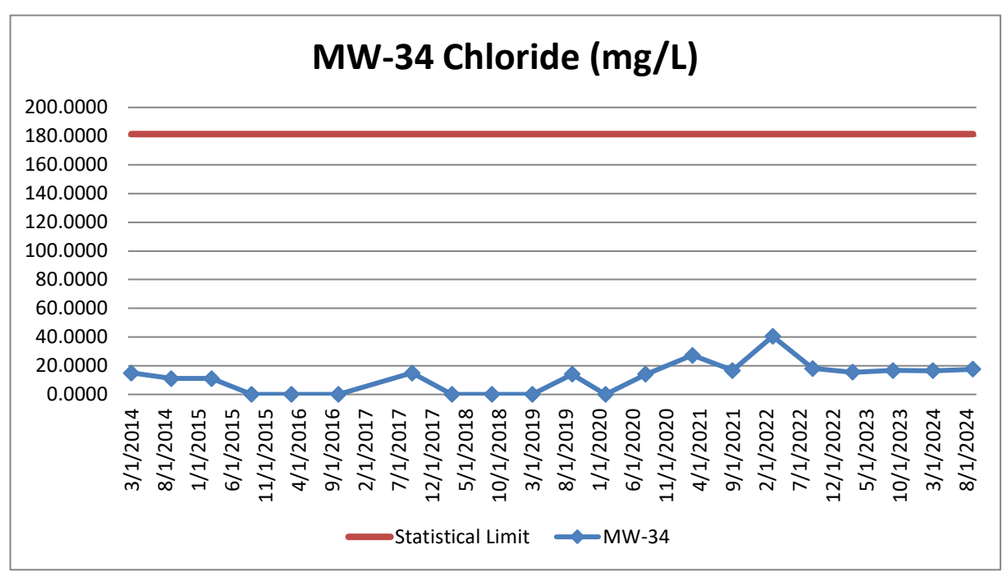
180.0000
160.0000
140.0000
120.0000
100.0000
80.0000
60.0000
40.0000
20.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-39


MW-34 Chloride (mg/L)
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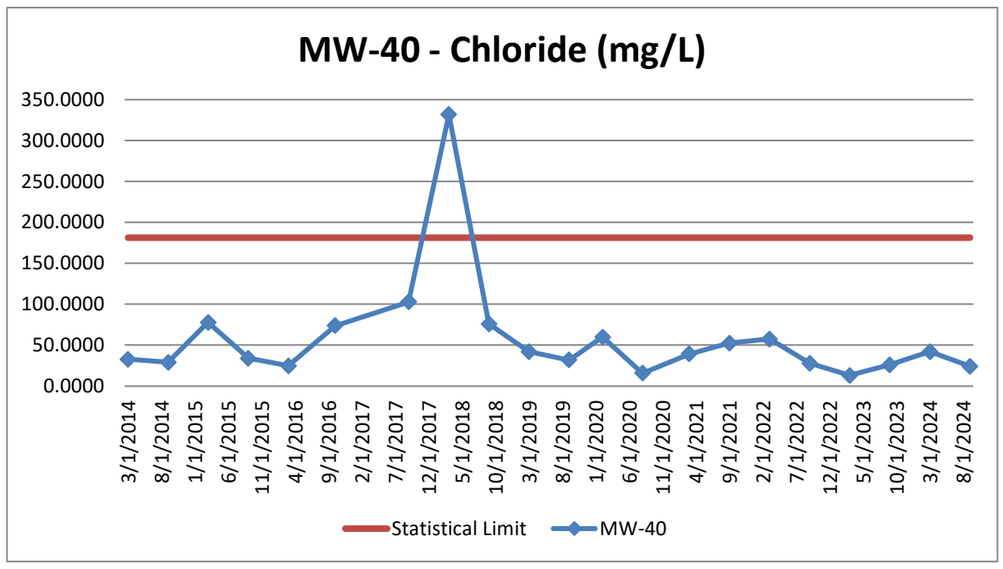
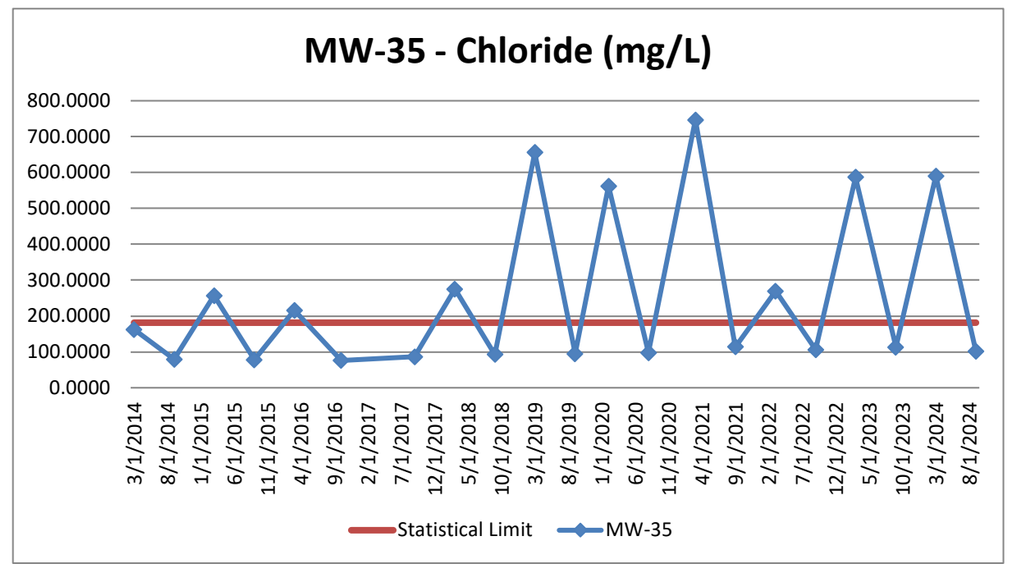
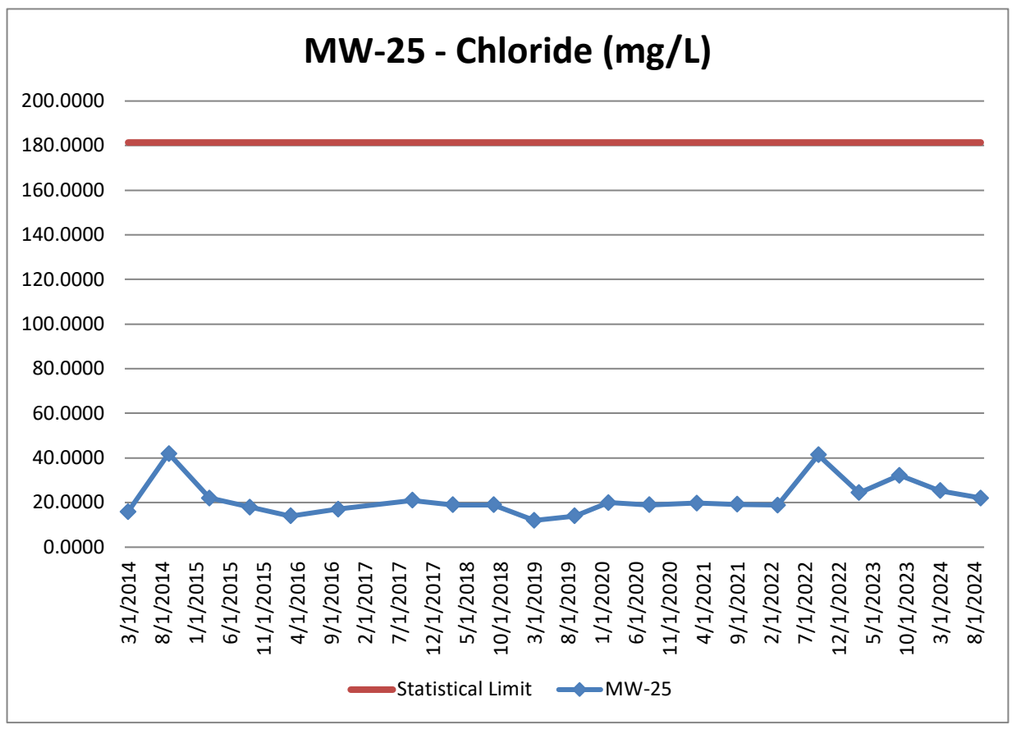
180.0000
160.0000
140.0000
120.0000
100.0000
80.0000
60.0000
40.0000
20.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-34


MW-40 - Chloride (mg/L)
350.0000
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-40


MW-35 - Chloride (mg/L)
800.0000
700.0000
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-35


MW-25 - Chloride (mg/L)
200.0000
180.0000
160.0000
140.0000
120.0000
100.0000
80.0000
60.0000
40.0000
20.0000
0.0000
3/1/2014
8/1/2014
1/1/2015
6/1/2015
11/1/2015
4/1/2016
9/1/2016
2/1/2017
7/1/2017
12/1/2017
5/1/2018
10/1/2018
3/1/2019
8/1/2019
1/1/2020
6/1/2020
11/1/2020
4/1/2021
9/1/2021
2/1/2022
7/1/2022
12/1/2022
5/1/2023
10/1/2023
3/1/2024
8/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

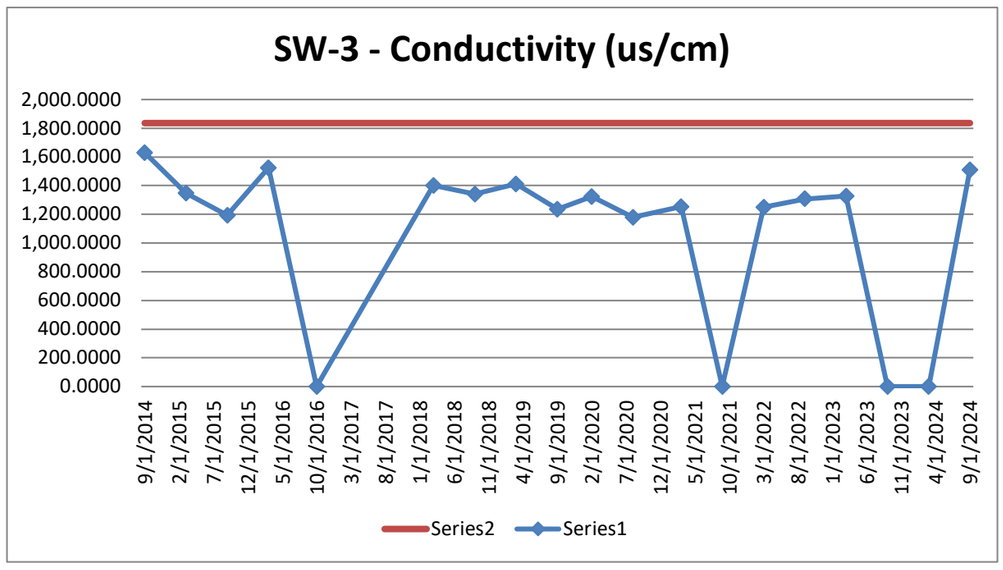
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
03/16/1995	Conductivity, us/cm	--	1836		590	890	580		550	360	320	310
09/13/1995	Conductivity, us/cm	--	1836		490	740	510		380	280	140	130
03/28/1996	Conductivity, us/cm	--	1836	500	plugged	720	420	490	plugged	340	330	340
06/20/1996	Conductivity, us/cm	--	1836	640		NT	NT	290		NT	NT	NT
09/13/1996	Conductivity, us/cm	--	1836	560		750	670	280		330	290	280
12/16/1996	Conductivity, us/cm	--	1836	NT		740	770	NT		320	360	350
03/19/1997	Conductivity, us/cm	--	1836	800		750	630	340		350	390	370
06/18/1997	Conductivity, us/cm	--	1836	530		540	540	280		250	250	250
08/30/1997	Conductivity, us/cm	--	1836	700		670	660	280		310	270	250
03/10/1998	Conductivity, us/cm	--	1836	860		710	630	410		370	350	360
09/21/1998	Conductivity, us/cm	--	1836	650		590	460	280		300	250	220
03/18/1999	Conductivity, us/cm	--	1836	1600		976	628	625		628	573	620
09/21/1999	Conductivity, us/cm	--	1836	650		590	1216	280		300	534	524
03/21/2000	Conductivity, us/cm	--	1836	NT		NT	1256	NT		NT	696	670
06/28/2000	Conductivity, us/cm	--	1836	NT		NT	1138	NT		NT	621	617
09/28/2000	Conductivity, us/cm	--	1836	688		686	466	688		1245	680	700
12/27/2000	Conductivity, us/cm	--	1836	NT		NT	1252	NT		NT	717	728
03/28/2001	Conductivity, us/cm	--	1836	1949		938	1532	812		725	764	794
09/02/2001	Conductivity, us/cm	--	1836	1583		NT	1446	687		NT	674	586
03/19/2002	Conductivity, us/cm	--	1836	NT		1607	1590	NT		724	684	663
09/19/2002	Conductivity, us/cm	--	1836	1530		1395	1521	640		686	703	673
03/14/2003	Conductivity, us/cm	--	1836	1129		1358	1379	499		658	731	710
09/29/2003	Conductivity, us/cm	--	1836	1185		890	1018	584		615	606	593
03/08/2004	Conductivity, us/cm	--	1836	1647		1294	1225	646		787	704	709
09/27/2004	Conductivity, us/cm	--	1836	1819		1580	1673	750		760	822	774
03/17/2005	Conductivity, us/cm	--	1836	1564		1413	1225	650		733	704	709
09/22/2005	Conductivity, us/cm	--	1836	1029		948	919	638		611	592	579
03/17/2006	Conductivity, us/cm	--	1836	1607		1378	1377	709		762	779	759
09/22/2006	Conductivity, us/cm	--	1836	1374		1275	1281	680		670	686	656
03/14/2007	Conductivity, us/cm	--	1836	1889		1334	1336	763		667	701	644
09/22/2007	Conductivity, us/cm	--	1836	1866		1275	1065	658		670	532	522
03/03/2008	Conductivity, us/cm	--	1836	2000		NT	NT	641		NT	NT	NT
09/05/2008	Conductivity, us/cm	--	1836	1418		685	804	688		467	504	484
03/09/2009	Conductivity, us/cm	--	1836	1376		1406	1255	758		712	796	743
09/23/2009	Conductivity, us/cm	--	1836	1160		1501	1560	520		677	681	620
03/16/2010	Conductivity, us/cm	--	1836	NT		1590	1700	NT		780	690	711
09/10/2010	Conductivity, us/cm	--	1836	1314		1270	855	587		475	720	610
03/01/2011	Conductivity, us/cm	--	1836	1080		1122	928	583		565	615	553
09/22/2011	Conductivity, us/cm	--	1836	998		1373	640	518		413	617	534
03/02/2012	Conductivity, us/cm	--	1836	1868		1945	1695	767		769	859	736
09/05/2012	Conductivity, us/cm	--	1836	998		1373	640	518		413	617	534
03/08/2013	Conductivity, us/cm	--	1836	1860		1900	1680	750		670	880	730
09/13/2013	Conductivity, us/cm	--	1836	1620		1430	1600	650		530	830	660
03/06/2014	Conductivity, us/cm	--	1836	1640		1550	1650	670		550	810	680
09/09/2014	Conductivity, us/cm	--	1836	1760		1627	1527	730		617	806	594
03/11/2015	Conductivity, us/cm	--	1836	1700		1660	1580	710		440	820	610
09/09/2015	Conductivity, us/cm	--	1836	1104		1311	1046	574		610	675	527
03/11/2016	Conductivity, us/cm	--	1836	1304		1420	1290	635		659	610	550
10/27/2016	Conductivity, us/cm	--	1836	1430		1480	1300	630		710	890	680
03/01/2018	Conductivity, us/cm	--	1836	2004		2108	1544	803		603	1022	805
09/19/2018	Conductivity, us/cm	--	1836	1455		1545	1371	664		618	857	599
03/27/2019	Conductivity, us/cm	--	1836	1565		1669	1208	603		636	849	629
09/05/2019	Conductivity, us/cm	--	1836	1355		1210	1281	563		578	880	619
02/28/2020	Conductivity, us/cm	--	1836	1707		1991	1519	620		626	864	664
08/31/2020	Conductivity, us/cm	--	1836	1517		1656	1380	575		622	945	650
03/05/2021	Conductivity, us/cm	--	1836	1572		1829	1495	622		603	893	649
09/13/2021	Conductivity, us/cm	--	1836	1463		1997	1478	588		632	937	538
03/02/2022	Conductivity, us/cm	--	1836	1532		2490	1660	578		535	925	657
09/12/2022	Conductivity, us/cm	--	1836	1634		1425	1769	586		538	879	618
03/24/2023	Conductivity, us/cm	--	1836	NT		NT	2276	NT		NT	977	NT
09/13/2023	Conductivity, us/cm	--	1836	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Conductivity, us/cm	--	1836	1846		NT	NT	NT		776	NT	NT
09/03/2024	Conductivity, us/cm	--	1836	NT		NT	3206	713		NT	NT	NT

Mean	1358	540	1294	1226	592	465	579	671	580
Standard Deviation (STD)	427	50	446	491	144	85	178	208	156
Mean + 2 STD	2211	640	2186	2208	880	635	936	1087	891

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
03/16/1995	Conductivity, us/cm	--	1836	DRY			510	420	550	
09/13/1995	Conductivity, us/cm	--	1836	DRY			770	720	660	
03/28/1996	Conductivity, us/cm	--	1836	DRY			640	500	460	520
06/20/1996	Conductivity, us/cm	--	1836	DRY			NT	NT	NT	460
09/13/1996	Conductivity, us/cm	--	1836	DRY			60	500	570	440
12/16/1996	Conductivity, us/cm	--	1836	NT			NT	NT	NT	NT
03/19/1997	Conductivity, us/cm	--	1836	DRY			620	590	580	600
06/18/1997	Conductivity, us/cm	--	1836	NT			NT	NT	NT	380
08/30/1997	Conductivity, us/cm	--	1836	DRY			540	410	490	490
03/10/1998	Conductivity, us/cm	--	1836	DRY			510	360	470	390
09/21/1998	Conductivity, us/cm	--	1836	DRY			460	590	540	490
03/18/1999	Conductivity, us/cm	--	1836	DRY			1370	902	1438	1005
09/21/1999	Conductivity, us/cm	--	1836	DRY			460	590	540	490
03/21/2000	Conductivity, us/cm	--	1836	DRY			NT	NT	NT	NT
06/28/2000	Conductivity, us/cm	--	1836	DRY	1074	884	NT	NT	NT	NT
09/28/2000	Conductivity, us/cm	--	1836	DRY	1324	923	1083	1009	1209	DRY
12/27/2000	Conductivity, us/cm	--	1836	NT	1224	960	NT	NT	NT	NT
03/28/2001	Conductivity, us/cm	--	1836	DRY	1622	1266	1161	1730	3000	1246
09/02/2001	Conductivity, us/cm	--	1836	DRY	1354	885	1455	1098	1455	1889
03/19/2002	Conductivity, us/cm	--	1836	DRY	1470	1146	1490	1313	NT	1167
09/19/2002	Conductivity, us/cm	--	1836	DRY	1235	1081	1225	1182	1287	1209
03/14/2003	Conductivity, us/cm	--	1836	DRY	1201	926	833	732	1020	709
09/29/2003	Conductivity, us/cm	--	1836	DRY	1035	819	1241	890	1055	886
03/08/2004	Conductivity, us/cm	--	1836	DRY	1446	955	1360	1154	1237	1124
09/27/2004	Conductivity, us/cm	--	1836	DRY	1588	1310	1546	1300	1218	995
03/17/2005	Conductivity, us/cm	--	1836	DRY	1364	1044	1407	1228	1432	1275
09/22/2005	Conductivity, us/cm	--	1836	DRY	949	1049	1598	1160	929	852
03/17/2006	Conductivity, us/cm	--	1836	DRY	1422	1413	1685	1451	1775	1589
09/22/2006	Conductivity, us/cm	--	1836	DRY	1274	1067	1785	1225	1495	1097
03/14/2007	Conductivity, us/cm	--	1836	1540	1550	1336	1815	1560	1118	1084
09/22/2007	Conductivity, us/cm	--	1836	DRY	1346	1980	1713	1497	1374	1277
03/03/2008	Conductivity, us/cm	--	1836	DRY	1310	NT	1700	1433	993	773
09/05/2008	Conductivity, us/cm	--	1836	DRY	NT	NT	2564	1570	1416	970
03/09/2009	Conductivity, us/cm	--	1836	DRY	1174	960	1664	1238	747	1194
09/23/2009	Conductivity, us/cm	--	1836	DRY	1180	1390	1515	1180	1148	881
03/16/2010	Conductivity, us/cm	--	1836	1650	1480	1421	1460	1560	1250	1305
09/10/2010	Conductivity, us/cm	--	1836	1205	1142	1051	1257	1125	950	974
03/01/2011	Conductivity, us/cm	--	1836	1102	921	774	1127	1071	934	1302
09/22/2011	Conductivity, us/cm	--	1836	998	1159	1042	1060	950	962	715
03/02/2012	Conductivity, us/cm	--	1836	1430	1418	993	1312	1255	1112	1196
09/05/2012	Conductivity, us/cm	--	1836	998	1159	1042	1060	950	962	715
03/08/2013	Conductivity, us/cm	--	1836	DRY	1520	1250	1610	1460	1840	1810
09/13/2013	Conductivity, us/cm	--	1836	DRY	1440	1280	1590	1440	1260	910
03/06/2014	Conductivity, us/cm	--	1836	1450	1560	1130	1750	1380	1340	1380
09/09/2014	Conductivity, us/cm	--	1836	1630	1392	952	1960	1530	1350	980
03/11/2015	Conductivity, us/cm	--	1836	1350	1500	1280	1530	1330	1500	1370
09/09/2015	Conductivity, us/cm	--	1836	1195	1003	901	1198	1102	949	761
03/11/2016	Conductivity, us/cm	--	1836	1525	1200	1067	1240	1352	1149	1340
10/27/2016	Conductivity, us/cm	--	1836	DRY	1310	1150	1200	1200	1175	900
03/01/2018	Conductivity, us/cm	--	1836	1402	1886	1679	1487	1440	995	1476
09/19/2018	Conductivity, us/cm	--	1836	1342	1460	1201	1390	1262	1023	865
03/27/2019	Conductivity, us/cm	--	1836	1413	1622	1129	1104	1410	950	2282
09/05/2019	Conductivity, us/cm	--	1836	1235	1670	1205	1200	1242	1076	793
02/28/2020	Conductivity, us/cm	--	1836	1325	1675	1231	1364	1338		1956
08/31/2020	Conductivity, us/cm	--	1836	1180	1527	1337	1428	1204	1125	769
03/05/2021	Conductivity, us/cm	--	1836	1253	1886	1219	1361	1395	1518	1440
09/13/2021	Conductivity, us/cm	--	1836	DRY	1716	1294	1208	1256	1282	796
03/02/2022	Conductivity, us/cm	--	1836	1250	1860	1305	1130	1352	1682	1241
09/12/2022	Conductivity, us/cm	--	1836	1308	1641	1374	1536	1317	1175	809
03/24/2023	Conductivity, us/cm	--	1836	1329	1713	739	1323	1448	1398	2604
09/13/2023	Conductivity, us/cm	--	1836	NT	NT	NT	NT	NT	NT	NT
03/05/2024	Conductivity, us/cm	--	1836	DRY	2250	1590	1600	1815	1400	3818
09/03/2024	Conductivity, us/cm	--	1836	1509	2550	1584	1558	1576	1597	1923
	Mean			1331	1443	1166	1283	1166	1151	1126
	Standard Deviation (STD)			174	312	246	436	349	424	595
	Mean + 2 STD			1679	2067	1657	2155	1864	2000	2315


SW-3 - Conductivity (us/cm)
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1,400.0000
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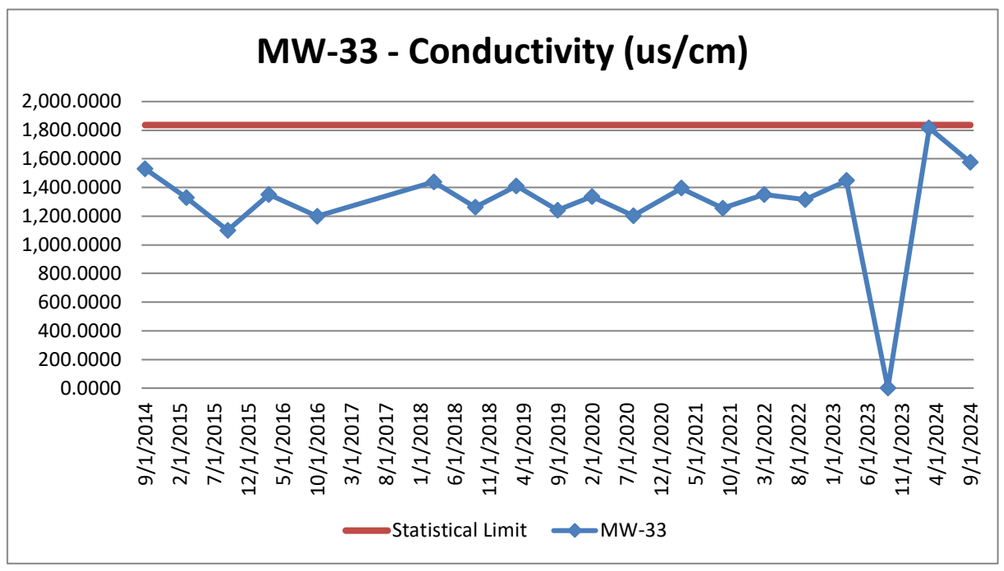
800.0000
600.0000
400.0000
200.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Series2
Series1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200.0000
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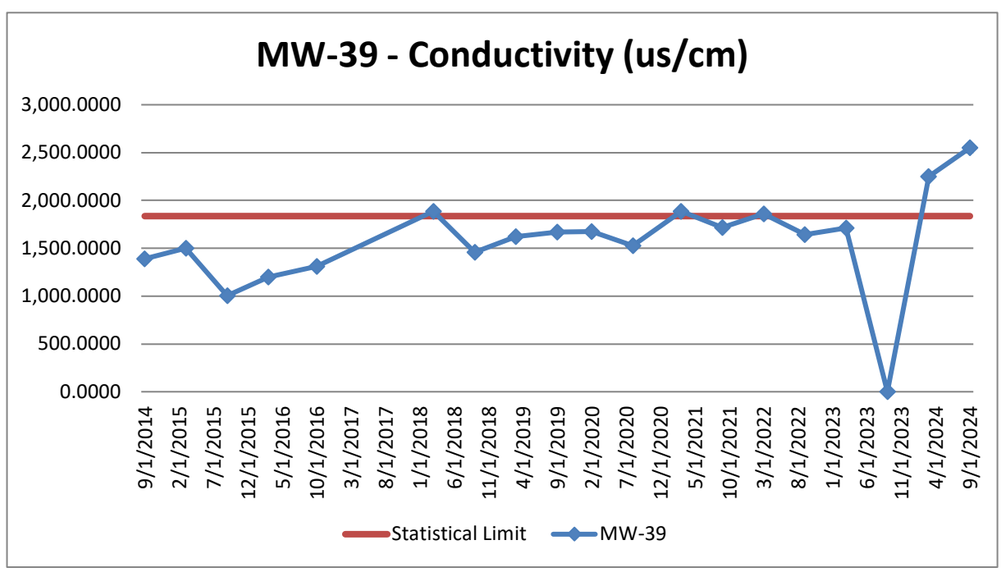
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33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7/1/2015
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5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
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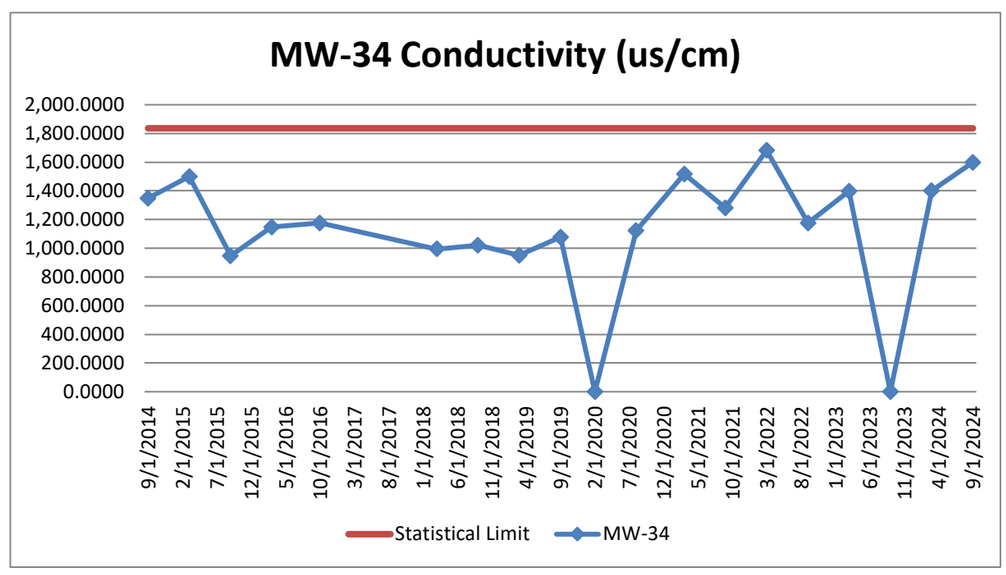
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 Conductivity (us/cm)
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200.0000
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9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
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3/1/2022
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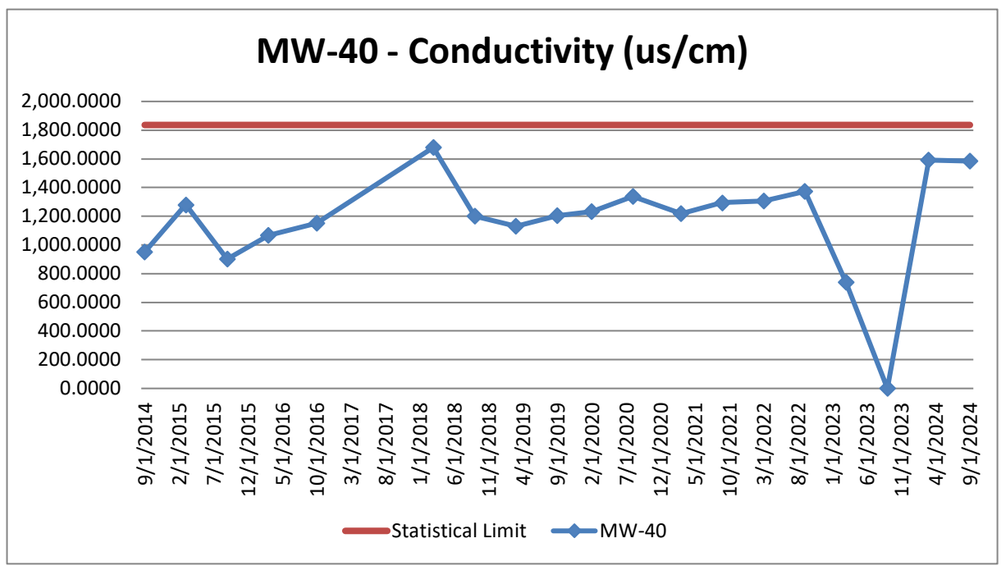
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34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600.0000
400.0000
200.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
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3/1/2022
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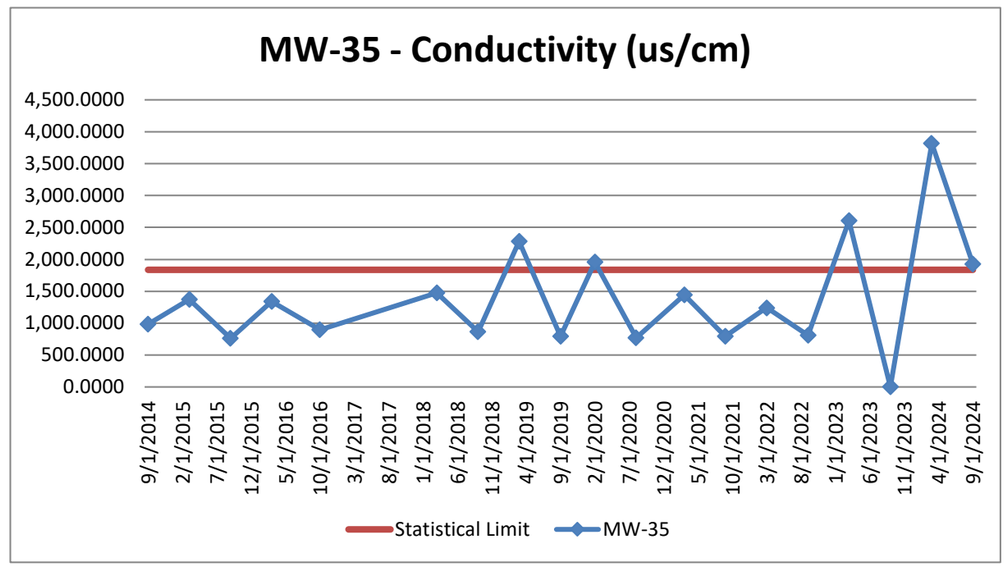
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - Conductivity (us/cm)
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500.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
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2/1/2020
7/1/2020
12/1/2020
5/1/2021
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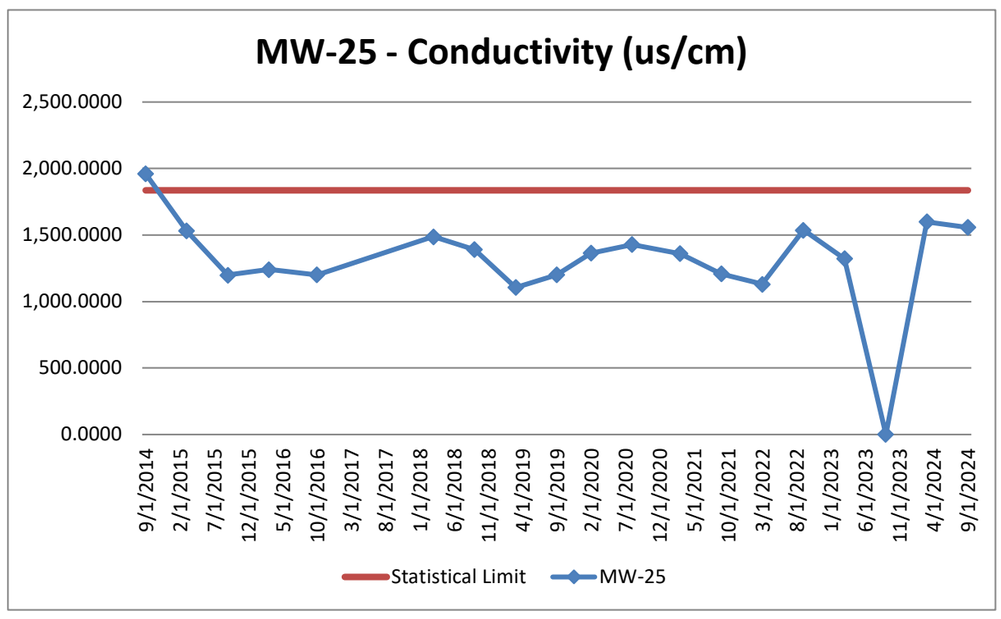
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - Conductivity (us/cm)
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2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
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4/1/2019
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2/1/2020
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5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

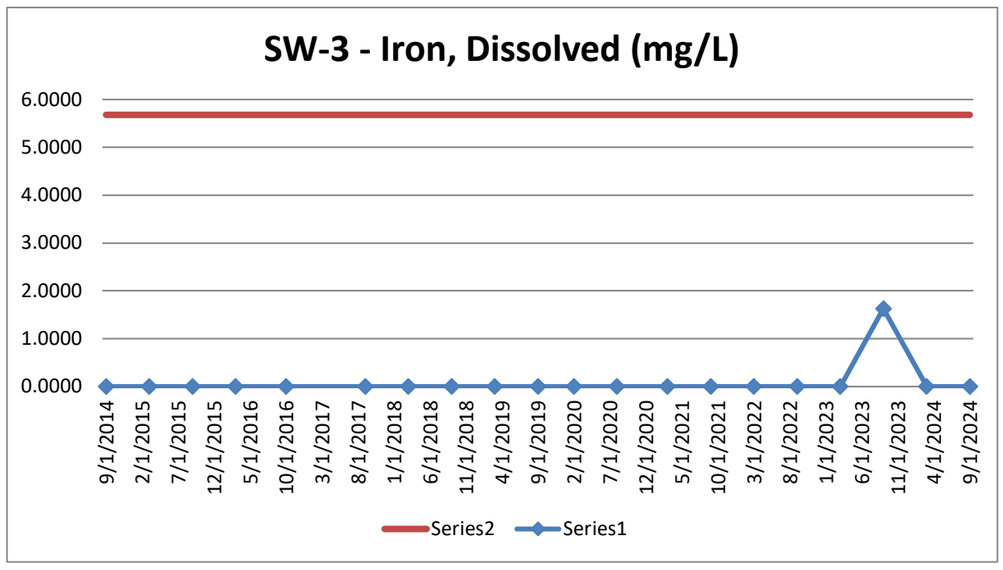
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
04/23/1991	Iron, dissolved	--	5.68		0.459	0.159	NT		1.5	0.05	NT	NT
10/15/1991	Iron, dissolved	--	5.68		1.02	0.035	NT		1.3	1.3	NT	NT
01/23/1992	Iron, dissolved	--	5.68		<0.03	<0.03	NT		0.196	NT	NT	NT
03/23/1992	Iron, dissolved	--	5.68		<0.03	0.164	NT		0.038	0.743	NT	NT
09/30/1992	Iron, dissolved	--	5.68		<0.03	NT	NT		<0.03	<0.03	NT	NT
03/05/1993	Iron, dissolved	--	5.68		<0.03	<0.03	NT		<0.03	NT	NT	NT
09/21/1993	Iron, dissolved	--	5.68		0.537	<0.03	NT		0.823	<0.03	1.04	2.08
03/23/1994	Iron, dissolved	--	5.68		0.083	<0.03	0.077		1.1	<0.03	2.92	1.85
09/16/1994	Iron, dissolved	--	5.68		0.074	<0.03	<0.03		2.6	0.037	1.55	3.28
03/16/1995	Iron, dissolved	--	5.68		5.05	<0.03	<0.03		1.94	<0.03	2.18	1.83
09/13/1995	Iron, dissolved	--	5.68		0.35	<0.03	<0.03		2.3	<0.03	1.35	0.716
03/28/1996	Iron, dissolved	--	5.68	1.8	plugged	<0.03	<0.03	<0.03	plugged	<0.03	2.18	1.83
06/20/1996	Iron, dissolved	--	5.68	4.94		NT	NT	<0.03		NT	NT	NT
09/13/1996	Iron, dissolved	--	5.68	0.793		<0.03	0.066	<0.03		<0.03	<0.03	3.42
12/16/1996	Iron, dissolved	--	5.68	NT		0.05	0.088	NT		<0.03	1.62	2.83
03/19/1997	Iron, dissolved	--	5.68	3.87		0.032	<0.03	0.329		0.032	2.62	3.01
06/18/1997	Iron, dissolved	--	5.68	4.07		<0.03	<0.03	<0.03		0.086	1.66	3.65
08/30/1997	Iron, dissolved	--	5.68	4.22		<0.03	<0.03	0.559		0.064	2.6	3.55
03/10/1998	Iron, dissolved	--	5.68	3.78		<0.03	<0.03	1.09		0.041	0.429	3.06
09/21/1998	Iron, dissolved	--	5.68	6.59		<0.03	<0.03	0.61		0.085	1.37	2.7
03/18/1999	Iron, dissolved	--	5.68	3.73		0.044	<0.03	0.767		0.052	2.59	3.11
09/21/1999	Iron, dissolved	--	5.68	7.01		<0.03	<0.03	0.519		0.043	0.665	1.76
03/21/2000	Iron, dissolved	--	5.68	NT		<0.03	<0.03	NT		0.252	2.58	3.22
06/28/2000	Iron, dissolved	--	5.68	NT		NT	<0.03	NT		NT	0.146	2.71
09/28/2000	Iron, dissolved	--	5.68	0.067		<0.03	<0.03	<0.03		0.031	0.533	3.23
12/27/2000	Iron, dissolved	--	5.68	NT		NT	<0.03	NT		NT	0.412	2.22
03/28/2001	Iron, dissolved	--	5.68	<0.03		0.039	<0.03	0.196		<0.03	0.094	2.1
09/02/2001	Iron, dissolved	--	5.68	6.85		<0.03	<0.03	0.103		<0.03	0.244	2.6
03/19/2002	Iron, dissolved	--	5.68	0.713		<0.03	<0.03	<0.03		<0.03	0.178	2.91
09/19/2002	Iron, dissolved	--	5.68	0.496		<0.03	<0.03	<0.03		<0.03	0.184	3.4
03/14/2003	Iron, dissolved	--	5.68	3.64		<0.03	0.035	<0.03		0.153	1.31	4.11
09/29/2003	Iron, dissolved	--	5.68	1.02		<0.03	<0.030	<0.030		<0.030	0.178	1.28
03/08/2004	Iron, dissolved	--	5.68	5.52		<0.03	<0.030	0.073		<0.03	0.128	3.82
09/27/2004	Iron, dissolved	--	5.68	5.25		<0.03	<0.030	<0.030		0.034	0.267	4.16
03/17/2005	Iron, dissolved	--	5.68	<0.030		0.222	<0.030	<0.030		0.039	1.96	3.17
09/22/2005	Iron, dissolved	--	5.68	0.416		<0.030	<0.030	<0.030		0.032	1.04	4.42
03/17/2006	Iron, dissolved	--	5.68	2.8		0.036	<0.030	0.057		0.066	1.32	4.82
09/22/2006	Iron, dissolved	--	5.68	6.76		<0.030	<0.030	0.039		0.096	1.44	4.95
03/14/2007	Iron, dissolved	--	5.68	3.06		<0.030	0.044	0.18		0.068	1.49	4.61
09/22/2007	Iron, dissolved	--	5.68	1.68		<0.100	<0.100	0.212		<0.100	0.297	5.05
03/03/2008	Iron, dissolved	--	5.68	3.42		<0.030	<0.030	0.258		<0.030	1.52	5.02
09/05/2008	Iron, dissolved	--	5.68	<0.030		0.039	<0.030	0.212		<0.030	1.01	4.6
03/09/2009	Iron, dissolved	--	5.68	3.82		0.161	0.181	0.131		0.103	2.3	4.96
09/23/2009	Iron, dissolved	--	5.68	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	4.3
03/16/2010	Iron, dissolved	--	5.68	NT		<0.100	<0.100	NT		<0.100	<0.100	3.87
09/10/2010	Iron, dissolved	--	5.68	7.18		<0.100	<0.100	0.505		0.152	0.17	4.12
03/01/2011	Iron, dissolved	--	5.68	6.82		<0.100	<0.100	0.135		<0.100	<0.100	4.3
09/22/2011	Iron, dissolved	--	5.68	1.49		<0.100	<0.100	0.505		0.113	4.33	4.44
03/02/2012	Iron, dissolved	--	5.68	4.98		<0.100	<0.100	<0.100		<0.100	<0.100	3.57
09/05/2012	Iron, dissolved	--	5.68	7.81		<0.100	<0.100	<0.100		<0.100	5.32	3.86
03/08/2013	Iron, dissolved	--	5.68	3.64		<0.100	<0.100	0.229		<0.100	5.14	7.19
09/13/2013	Iron, dissolved	--	5.68	7.82		<0.100	<0.100	0.325		0.315	5.04	2.87
03/06/2014	Iron, dissolved	--	5.68	3.49		<0.100	<0.100	0.183		0.131	1	3.18
09/09/2014	Iron, dissolved	--	5.68	7.29		<0.100	<0.100	<0.100		0.631	4.73	1.49
03/11/2015	Iron, dissolved	--	5.68	3.44		<0.100	<0.100	<0.100		<0.100	1.17	2.63
09/09/2015	Iron, dissolved	--	5.68	9.05		<0.100	<0.100	<0.100		0.983	5.52	1.57
03/11/2016	Iron, dissolved	--	5.68	3.73		<0.100	<0.100	0.237		0.103	0.922	2.11
10/27/2016	Iron, dissolved	--	5.68	8.18		<0.100	<0.100	0.255		<0.100	4.12	2.02
09/07/2017	Iron, dissolved	--	5.68	9.17		<0.100	<0.100	<0.100		0.141	5.58	0.0787
03/01/2018	Iron, dissolved	--	5.68	4.84		<0.100	<0.100	0.156		0.113	2.9	1.6
09/19/2018	Iron, dissolved	--	5.68	8.18		<0.100	<0.100	<0.100		0.868	6.57	0.433
03/27/2019	Iron, dissolved	--	5.68	8.00		<0.100	<0.100	<0.100		<0.100	0.458	1.08
09/05/2019	Iron, dissolved	--	5.68	8.75		<0.100	<0.100	<0.100		0.239	6.39	0.641
02/28/2020	Iron, dissolved	--	5.68	4.03		<0.100	<0.100	<0.100		<0.100	1.3	1.52
08/31/2020	Iron, dissolved	--	5.68	8.52		<0.100	<0.100	<0.100		0.128	6.09	2.46
03/05/2021	Iron, dissolved	--	5.68	5.35		<0.100	<0.100	<0.100		0.201	2.38	0.868
09/13/2021	Iron, dissolved	--	5.68	8.96		<0.100	<0.100	0.118		<0.100	14.5	3.32
03/02/2022	Iron, dissolved	--	5.68	5.68		<0.100	<0.100	<0.100		0.279	1.64	2.56
09/12/2022	Iron, dissolved	--	5.68	6.98		<0.100	<0.100	0.193		<0.100	8.21	0.395
03/24/2023	Iron, dissolved	--	5.68	NT		NT	0.05	NT		NT	1.53	NT
09/13/2023	Iron, dissolved	--	5.68	NT		<0.100	NT	NT		NT	NT	1.6
03/05/2024	Iron, dissolved	--	5.68	1.65		NT	NT	NT		0.05	NT	NT
09/03/2024	Iron, dissolved	--	5.68	NT		NT	0.05	0.189		NT	NT	NT
	Mean			4.83	1.08	0.09	0.07	0.30	1.31	0.22	2.39	2.92
	Standard Deviation (STD)			2.62	1.65	0.07	0.04	0.24	0.83	0.30	2.54	1.39
	Mean + 2 STD			10.06	4.38	0.23	0.16	0.77	2.97	0.81	7.46	5.70

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Iron, dissolved	--	5.68	<0.03			0.177	---	0.133	
10/15/1991	Iron, dissolved	--	5.68	<0.03			0.205	---	0.767	
01/23/1992	Iron, dissolved	--	5.68	<0.03			<0.03	<0.03	<0.03	
03/23/1992	Iron, dissolved	--	5.68	<0.03			0.121	0.052	<0.03	
09/30/1992	Iron, dissolved	--	5.68	DRY			<0.03	0.033	0.043	
03/05/1993	Iron, dissolved	--	5.68	DRY			<0.03	0.035	<0.03	
09/21/1993	Iron, dissolved	--	5.68	<0.03			<0.03	2.46	0.05	
03/23/1994	Iron, dissolved	--	5.68	<0.03			<0.03	9.65	0.084	
09/16/1994	Iron, dissolved	--	5.68	NT			0.05	2.9	0.55	
03/16/1995	Iron, dissolved	--	5.68	NT			0.038	1.24	0.47	
09/13/1995	Iron, dissolved	--	5.68	NT			<0.03	8.5	0.317	
03/28/1996	Iron, dissolved	--	5.68	NT			<0.03	5.77	0.386	0.067
06/20/1996	Iron, dissolved	--	5.68	NT			NT	NT	NT	0.927
09/13/1996	Iron, dissolved	--	5.68	DRY			0.134	2.27	1.3	1.02
12/16/1996	Iron, dissolved	--	5.68	NT			NT	NT	NT	NT
03/19/1997	Iron, dissolved	--	5.68	DRY			<0.03	7.18	<0.03	0.484
06/18/1997	Iron, dissolved	--	5.68	NT			NT	NT	NT	0.523
08/30/1997	Iron, dissolved	--	5.68	DRY			0.076	5.02	1.93	5.05
03/10/1998	Iron, dissolved	--	5.68	DRY			0.717	5.83	1.52	0.5
09/21/1998	Iron, dissolved	--	5.68	DRY			0.166	2.2	3.09	0.415
03/18/1999	Iron, dissolved	--	5.68	DRY			0.131	5.64	4.78	0.162
09/21/1999	Iron, dissolved	--	5.68	DRY			0.076	3.99	5.53	0.337
03/21/2000	Iron, dissolved	--	5.68	DRY			0.371	5.69	4.15	NT
06/28/2000	Iron, dissolved	--	5.68	DRY	0.033	<0.03	NT	NT	NT	NT
09/28/2000	Iron, dissolved	--	5.68	DRY	<0.03	<0.03	<0.03	0.303	3.3	DRY
12/27/2000	Iron, dissolved	--	5.68	NT	0.109	<0.03	NT	NT	NT	NT
03/28/2001	Iron, dissolved	--	5.68	DRY	<0.03	<0.03	<0.03	2.7	<0.03	0.108
09/02/2001	Iron, dissolved	--	5.68	DRY	1.15	<0.03	<0.03	4.47	6.97	0.168
03/19/2002	Iron, dissolved	--	5.68	DRY	0.04	<0.03	<0.03	4.46	0.654	<0.03
09/19/2002	Iron, dissolved	--	5.68	DRY	0.087	<0.03	<0.03	4.12	5.65	<0.03
03/14/2003	Iron, dissolved	--	5.68	DRY	0.041	<0.03	<0.03	4.95	4.67	<0.03
09/29/2003	Iron, dissolved	--	5.68	DRY	0.041	<0.030	<0.030	0.556	5.63	0.078
03/08/2004	Iron, dissolved	--	5.68	DRY	3.46	<0.030	0.121	7.99	0.231	0.109
09/27/2004	Iron, dissolved	--	5.68	DRY	0.136	<0.030	0.034	2.56	0.39	<0.030
03/17/2005	Iron, dissolved	--	5.68	DRY	0.288	<0.030	0.073	6.07	0.046	<0.030
09/22/2005	Iron, dissolved	--	5.68	DRY	0.033	<0.030	0.034	5.11	0.666	0.042
03/17/2006	Iron, dissolved	--	5.68	DRY	0.042	<0.030	0.03	4.99	<0.030	<0.030
09/22/2006	Iron, dissolved	--	5.68	DRY	0.135	0.132	0.048	3.83	0.074	<0.030
03/14/2007	Iron, dissolved	--	5.68	<0.030	0.45	<0.030	0.066	6.06	<0.030	<0.030
09/22/2007	Iron, dissolved	--	5.68	DRY	0.151	<0.100	<0.100	3.24	1.85	<0.100
03/03/2008	Iron, dissolved	--	5.68	DRY	0.091	<0.030	0.14	6.72	<0.030	<0.030
09/05/2008	Iron, dissolved	--	5.68	DRY	0.11	<0.030	0.18	3.88	<0.030	<0.030
03/09/2009	Iron, dissolved	--	5.68	DRY	2.07	<0.100	0.091	8.65	0.036	<0.100
09/23/2009	Iron, dissolved	--	5.68	DRY	<0.100	<0.100	<0.100	1.27	1.01	<0.100
03/16/2010	Iron, dissolved	--	5.68	<0.100	2.76	<0.100	<0.100	10.4	<0.100	<0.100
09/10/2010	Iron, dissolved	--	5.68	<0.100	4.00	<0.100	0.589	9.09	0.623	<0.100
03/01/2011	Iron, dissolved	--	5.68	<0.100	5.06	<0.100	0.46	9.59	<0.100	<0.100
09/22/2011	Iron, dissolved	--	5.68	<0.100	6.65	<0.100	0.82	8.11	3.67	<0.100
03/02/2012	Iron, dissolved	--	5.68	<0.100	6.75	<0.100	0.935	8.24	0.217	<0.100
09/05/2012	Iron, dissolved	--	5.68	0.109	3.62	<0.100	0.554	7.97	1.9	<0.100
03/08/2013	Iron, dissolved	--	5.68	DRY	3.08	<0.100	0.606	11.7	3.88	<0.100
09/13/2013	Iron, dissolved	--	5.68	DRY	1.79	<0.100	0.364	10.3	3.64	<0.100
03/06/2014	Iron, dissolved	--	5.68	<0.100	1.26	0.499	0.85	8.89	5.6	<0.100
09/09/2014	Iron, dissolved	--	5.68	<0.100	1.20	0.213	0.717	10.4	0.829	<0.100
03/11/2015	Iron, dissolved	--	5.68	<0.100	0.938	<0.100	0.809	9.78	1.45	0.159
09/09/2015	Iron, dissolved	--	5.68	<0.100	1.16	<0.100	1.68	10.2	1.26	<0.100
03/11/2016	Iron, dissolved	--	5.68	<0.100	0.81	<0.100	1.11	9.71	0.165	<0.100
10/27/2016	Iron, dissolved	--	5.68	DRY	1.64	0.168	0.793	10.4	3.96	<0.100
09/07/2017	Iron, dissolved	--	5.68	<0.100	5.32	0.406	1.1	8.98	5.86	<0.100
03/01/2018	Iron, dissolved	--	5.68	NT	3.98	<0.100	NT	NT	NT	NT
09/19/2018	Iron, dissolved	--	5.68	<0.100	2.45	0.186	1.93	10.8	1.87	<0.100
03/27/2019	Iron, dissolved	--	5.68	<0.100	2.86	<0.100	2.39	10.8	0.201	<0.100
09/05/2019	Iron, dissolved	--	5.68	<0.100	4.55	0.293	2.08	9.89	5.95	<0.100
02/28/2020	Iron, dissolved	--	5.68	<0.100	3.80	<0.100	2.28	10.2		0.181
08/31/2020	Iron, dissolved	--	5.68	<0.100	5.43	<0.100	2.88	10.4	8.86	<0.100
03/05/2021	Iron, dissolved	--	5.68	<0.100	2.85	<0.100	1.85	10.1	4.60	<0.100
09/13/2021	Iron, dissolved	--	5.68	DRY	4.31	0.438	1.90	9.34	11.3	0.120
03/02/2022	Iron, dissolved	--	5.68	<0.100	2.32	<0.100	0.76	9.9	7.60	<0.100
09/12/2022	Iron, dissolved	--	5.68	<0.100	2.77	<0.100	2.20	11.2	11.4	0.243
03/24/2023	Iron, dissolved	--	5.68	<0.100	0.189	<0.100	0.39	11.2	<0.100	<0.100
09/13/2023	Iron, dissolved	--	5.68	1.63	0.44	<0.100	1.13	9.81	12.3	<0.100
03/05/2024	Iron, dissolved	--	5.68	Dry	0.336	<0.100	0.313	5.45	10.3	<0.100
09/03/2024	Iron, dissolved	--	5.68	<0.100	2.06	0.131	1.00	9.79	12.2	<0.100

Mean	0.87	1.98	0.27	0.73	6.61	3.26	0.56
Standard Deviation (STD)	#DIV/0!	1.93	0.13	0.76	3.45	3.49	1.09
Mean + 2 STD	#DIV/0!	5.84	0.54	2.24	13.51	10.24	2.75


SW-3 - Iron, Dissolved (mg/L)
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
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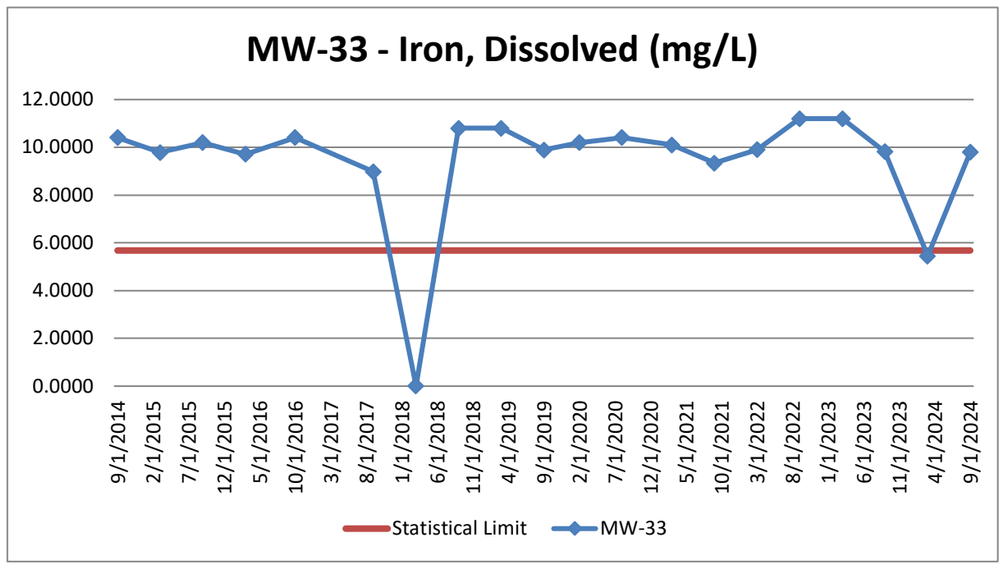
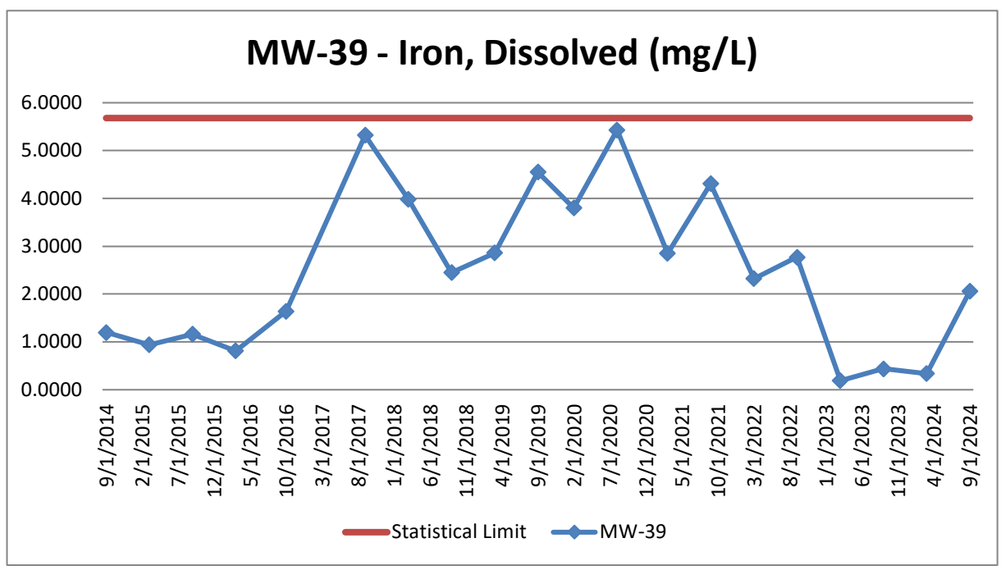
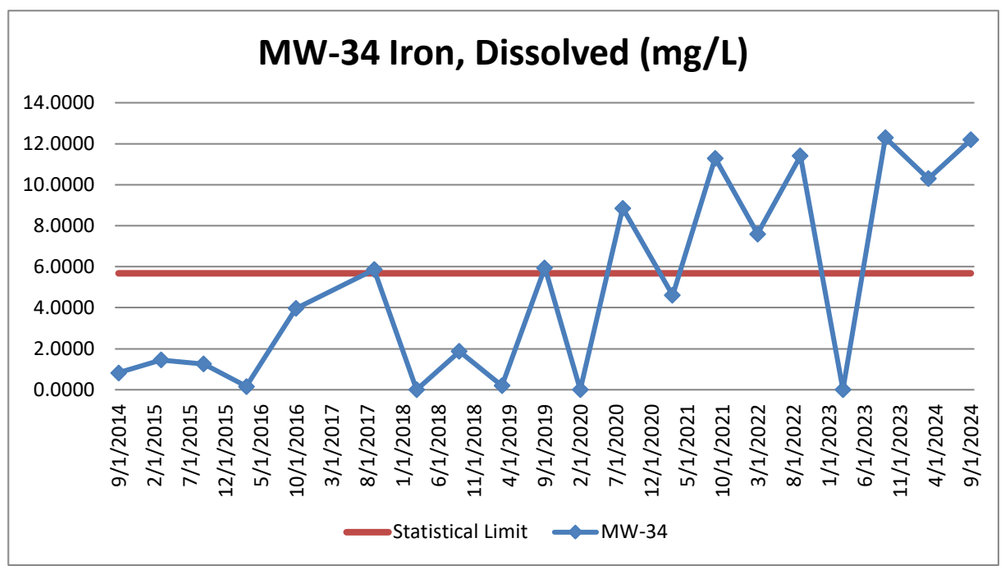
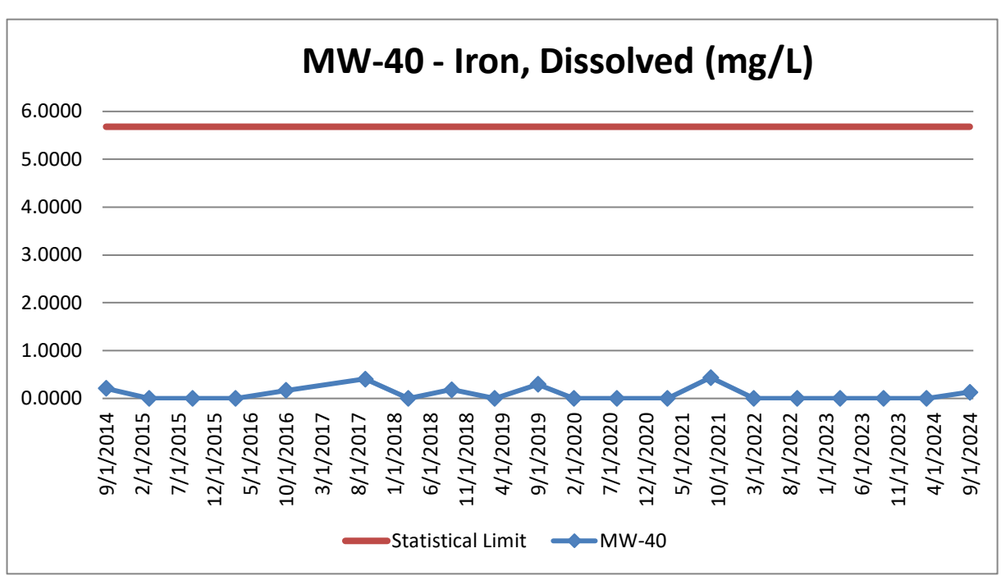
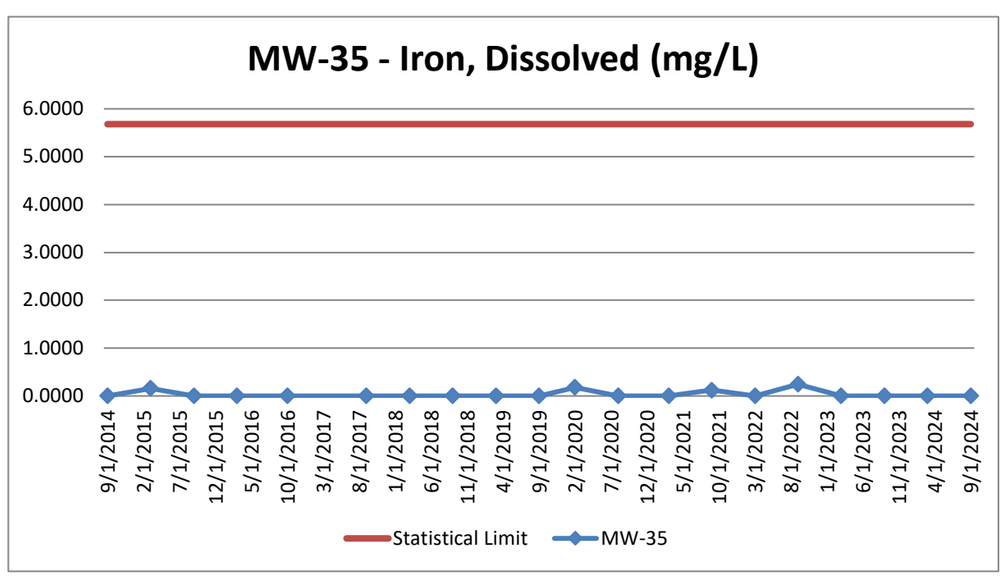
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Series2
Series1

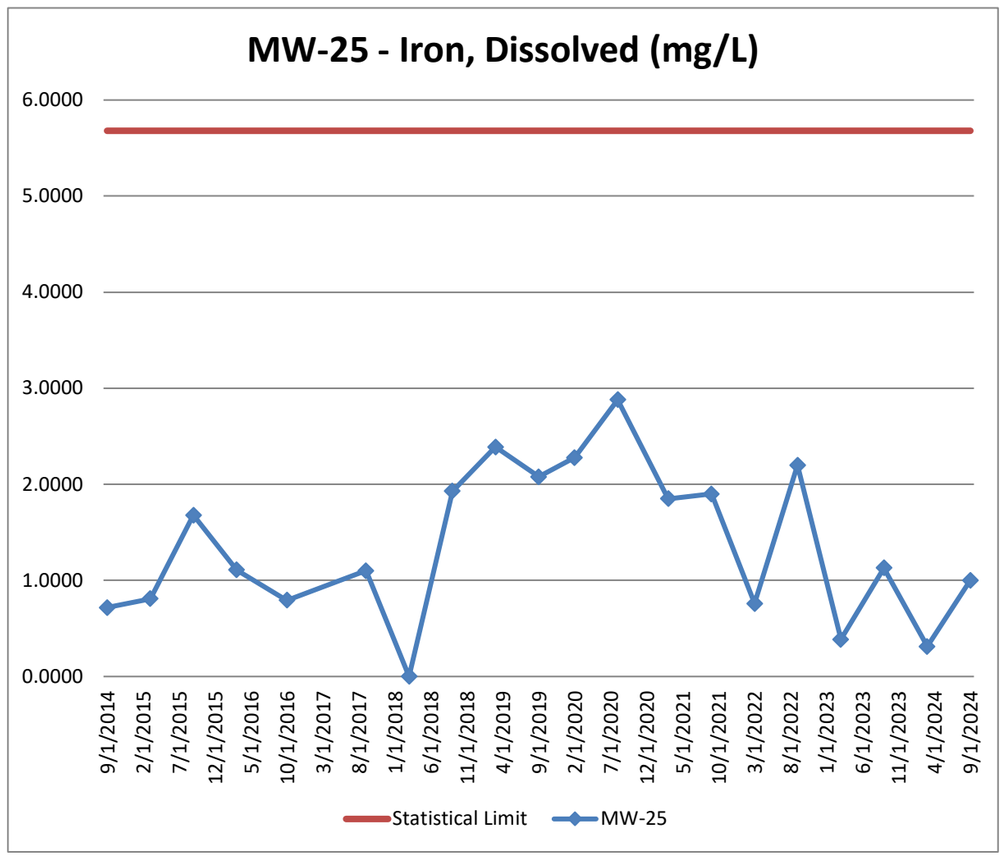

MW-33 - Iron, Dissolved (mg/L)
12.0000
10.0000
8.0000
6.0000
4.0000
2.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33


MW-39 - Iron, Dissolved (mg/L)
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 Iron, Dissolved (mg/L)
14.0000
12.0000
10.0000
8.0000
6.0000
4.0000
2.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34


MW-40 - Iron, Dissolved (mg/L)
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - Iron, Dissolved (mg/L)
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - Iron, Dissolved (mg/L)
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

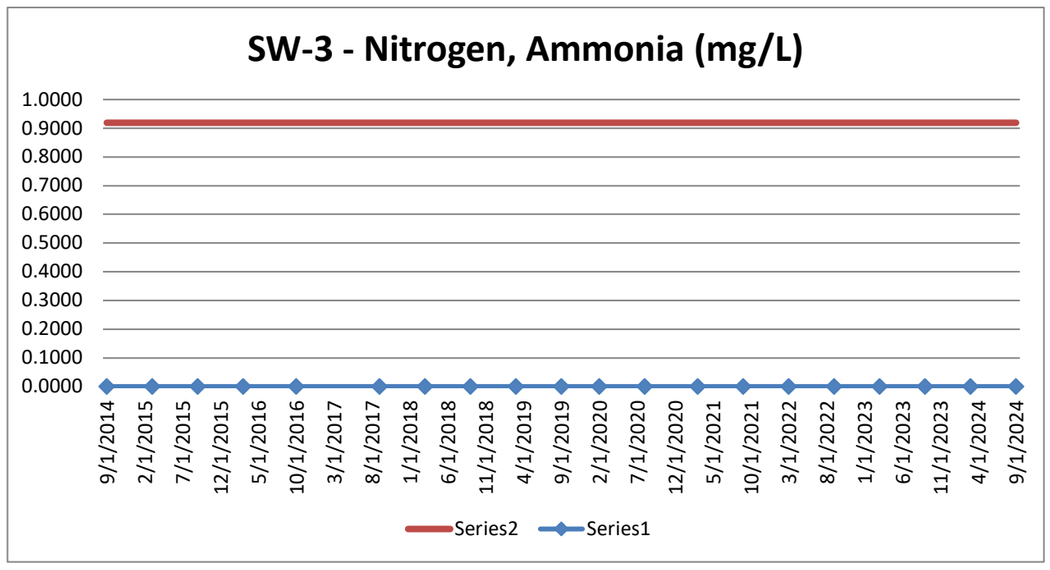
MONITORING WELL SAMPLING RESULTS

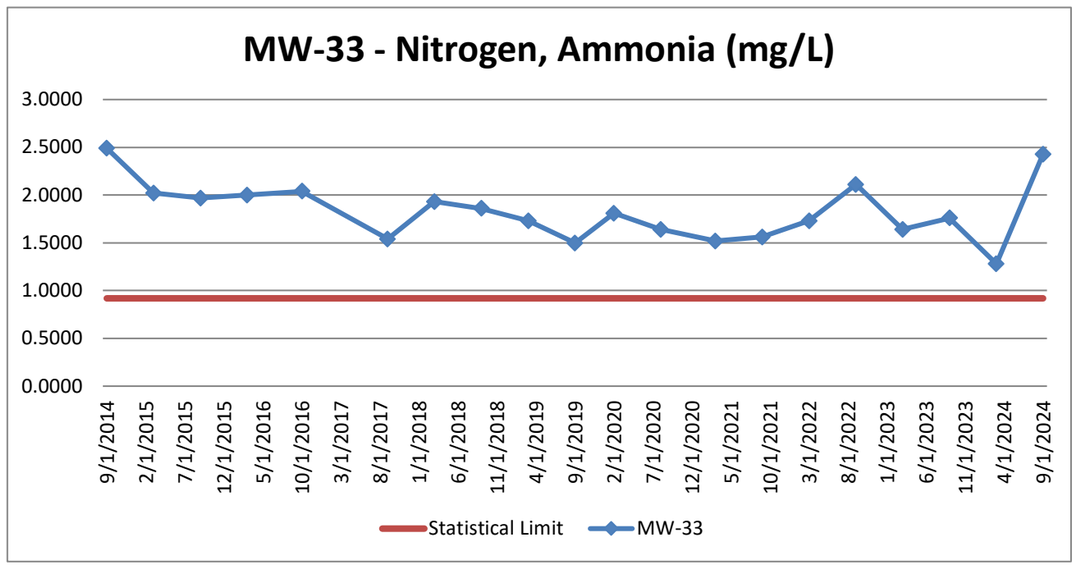
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
04/23/1991	Nitrogen, Ammonia	30	0.9		<0.5	<0.5	NT		<0.5	<0.5	NT	NT
10/15/1991	Nitrogen, Ammonia	30	0.9		<0.5	<0.5	NT		<0.5	<0.5	NT	NT
01/23/1992	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	NT	NT	NT
03/23/1992	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	NT	NT
09/30/1992	Nitrogen, Ammonia	30	0.9		<1.0	NT	NT		<1.0	<1.0	NT	NT
03/05/1993	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	NT	NT	NT
09/21/1993	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	<1	<1
03/23/1994	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	<1	1.2
09/16/1994	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	<1	<1
03/16/1995	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	<1	1.1
09/13/1995	Nitrogen, Ammonia	30	0.9		<1.0	<1.0	NT		<1.0	<1.0	<1	1.1
03/28/1996	Nitrogen, Ammonia	30	0.9	1.4	plugged	<1	<1	1.2	plugged	<1	<1	1.1
06/20/1996	Nitrogen, Ammonia	30	0.9	<1		NT	NT	<1		NT	NT	NT
09/13/1996	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	<1
12/16/1996	Nitrogen, Ammonia	30	0.9	NT		<1	<1	NT		<1	<1	1.2
03/19/1997	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.1
06/18/1997	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.2
08/30/1997	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.1
03/10/1998	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	<1
09/21/1998	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	<1
03/18/1999	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	<1
09/21/1999	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.3
03/21/2000	Nitrogen, Ammonia	30	0.9	NT		<1	<1	NT		<1	<1	1
06/28/2000	Nitrogen, Ammonia	30	0.9	NT		NT	<1	NT		NT	<1	1.13
09/28/2000	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.1
12/27/2000	Nitrogen, Ammonia	30	0.9	NT		NT	<1	NT		NT	<1	1.08
03/28/2001	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.1
09/02/2001	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.3
03/19/2002	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	1.1
09/19/2002	Nitrogen, Ammonia	30	0.9	<1		<1	<1	<1		<1	<1	<1
03/14/2003	Nitrogen, Ammonia	30	0.9	<1		<1	1.2	<1		<1	<1	<1
09/29/2003	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/08/2004	Nitrogen, Ammonia	30	0.9	<1.0		<1	<1.0	<1.0		<1.0	<1.0	1.3
09/27/2004	Nitrogen, Ammonia	30	0.9	<1.0		<1	<1.0	<1.0		<1.0	<1.0	<1.0
03/17/2005	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.5
09/22/2005	Nitrogen, Ammonia	30	0.9	<1.0		<1	<1.0	<1.0		<1.0	<1.0	<1.0
03/17/2006	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/22/2006	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.2
03/14/2007	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/22/2007	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.1
03/03/2008	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/05/2008	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/09/2009	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/23/2009	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/16/2010	Nitrogen, Ammonia	30	0.9	NT		<1.0	<1.0	NT		<1.0	<1.0	<1.0
09/10/2010	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		1.0	<1.0	1.4
03/01/2011	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	NT		<1.0	<1.0	<1.0
09/22/2011	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/02/2012	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/05/2012	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/08/2013	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.1
09/13/2013	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.1
03/06/2014	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/09/2014	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/11/2015	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.09
09/09/2015	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/11/2016	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
10/27/2016	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1
09/07/2017	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/01/2018	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/19/2018	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	1.02
03/27/2019	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/05/2019	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
02/28/2020	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
08/31/2020	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/05/2021	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/13/2021	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
03/02/2022	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	<1.0	<1.0
09/12/2022	Nitrogen, Ammonia	30	0.9	<1.0		<1.0	<1.0	<1.0		<1.0	1.54	1.28
03/24/2023	Nitrogen, Ammonia	30	0.9	NT		NT	<1.0	NT		NT	<1.0	NT
09/13/2023	Nitrogen, Ammonia	30	0.9	<1.0		NT	NT	NT		NT	NT	<1.0
03/05/2024	Nitrogen, Ammonia	30	0.9	<1.0		NT	NT	NT		<1.0	NT	NT
09/03/2024	Nitrogen, Ammonia	30	0.9	NT		NT	<1.0	<1.0		NT	NT	NT
	Mean			1.4	#DIV/0!	#DIV/0!	1.2	1.2	#DIV/0!	1.0	1.5	1.2
	Standard Deviation (STD)			0.0	#DIV/0!	#DIV/0!	0.0	0.0	#DIV/0!	0.0	0.0	0.1
	Mean + 2 STD			1.4	#DIV/0!	#DIV/0!	1.2	1.2	#DIV/0!	1.0	1.5	1.4

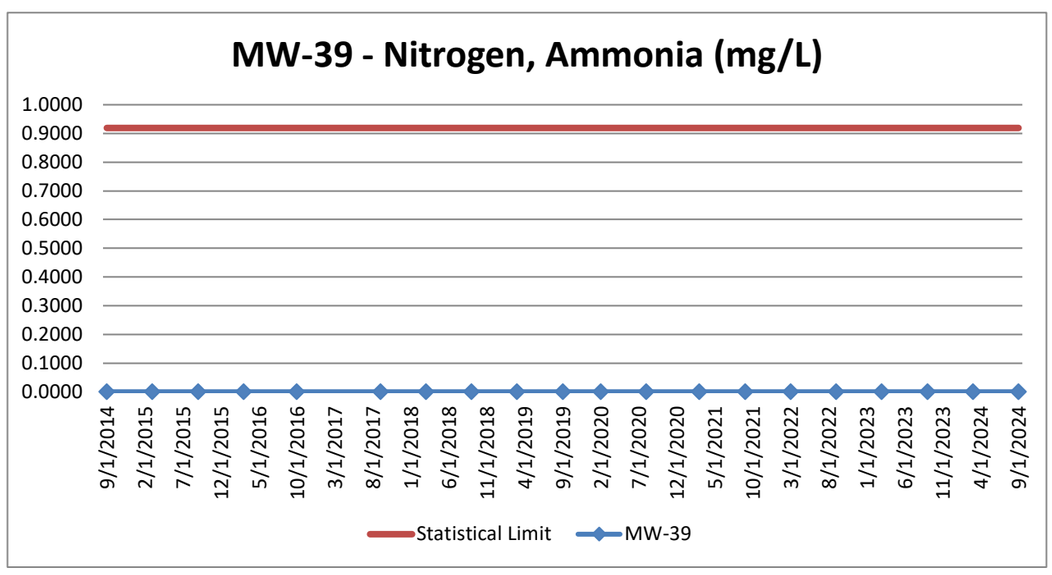
AMES-STORY ENVIRONMENTAL LANDFILL

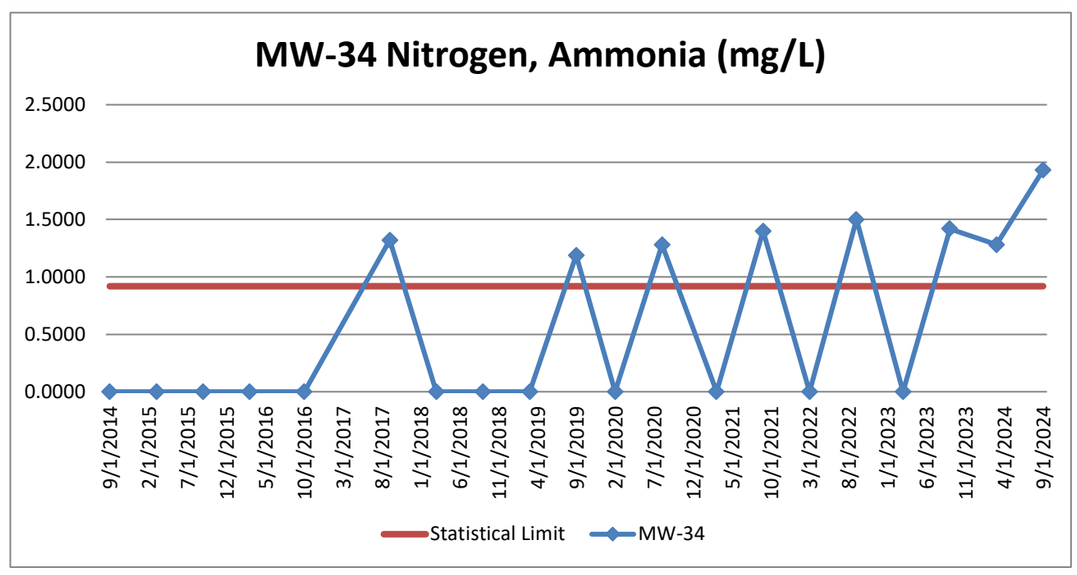
MONITORING WELL SAMPLING RESULTS

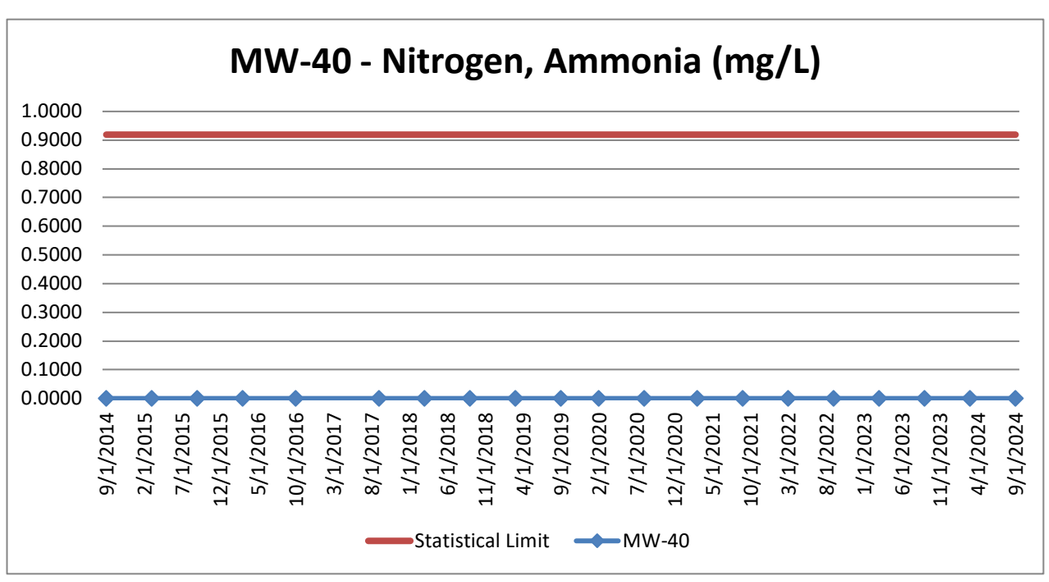
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Nitrogen, Ammonia	30	0.9	<0.5			<0.5	---	<0.5	
10/15/1991	Nitrogen, Ammonia	30	0.9	<0.5			<0.5	---	<0.5	
01/23/1992	Nitrogen, Ammonia	30	0.9	<1.0			<1.0	<1.0	<1.0	
03/23/1992	Nitrogen, Ammonia	30	0.9	<1.0			<1.0	<1.0	<1.0	
09/30/1992	Nitrogen, Ammonia	30	0.9	DRY			<1	<1	<1	
03/05/1993	Nitrogen, Ammonia	30	0.9	DRY			<1	1.7	<1	
09/21/1993	Nitrogen, Ammonia	30	0.9	<1			<1	1.7	<1	
03/23/1994	Nitrogen, Ammonia	30	0.9	<1			<1	1.8	1.1	
09/16/1994	Nitrogen, Ammonia	30	0.9	NT			<1	1.8	1.3	
03/16/1995	Nitrogen, Ammonia	30	0.9	NT			<1	1.6	1	
09/13/1995	Nitrogen, Ammonia	30	0.9	NT			<1	1.5	1.2	
03/28/1996	Nitrogen, Ammonia	30	0.9	NT			<1	1.4	1.8	<1
06/20/1996	Nitrogen, Ammonia	30	0.9	NT			NT	NT	NT	<1
09/13/1996	Nitrogen, Ammonia	30	0.9	DRY			<1	1.6	1.4	<1
12/16/1996	Nitrogen, Ammonia	30	0.9	NT			NT	NT	NT	NT
03/19/1997	Nitrogen, Ammonia	30	0.9	DRY			<1	1.5	<1	<1
06/18/1997	Nitrogen, Ammonia	30	0.9	NT			NT	NT	NT	<1
08/30/1997	Nitrogen, Ammonia	30	0.9	DRY			<1	1.4	1.4	<1
03/10/1998	Nitrogen, Ammonia	30	0.9	DRY			<1	1.4	1.4	<1
09/21/1998	Nitrogen, Ammonia	30	0.9	DRY			<1	1.4	1.4	<1
03/18/1999	Nitrogen, Ammonia	30	0.9	DRY			<1	1.4	<1	<1
09/21/1999	Nitrogen, Ammonia	30	0.9	DRY			<1	1.5	<1	<1
03/21/2000	Nitrogen, Ammonia	30	0.9	DRY			<1	1.6	<1	NT
06/28/2000	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	NT	NT	NT	NT
09/28/2000	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	1.35	<1	DRY
12/27/2000	Nitrogen, Ammonia	30	0.9	NT	<1	<1	NT	NT	NT	NT
03/28/2001	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	1.8	<1	<1
09/02/2001	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	1.6	<1	<1
03/19/2002	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	2.2	<1	<1
09/19/2002	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	<1	<1	<1
03/14/2003	Nitrogen, Ammonia	30	0.9	DRY	<1	<1	<1	1.4	<1	<1
09/29/2003	Nitrogen, Ammonia	30	0.9	DRY	<1	<1.0	<1.0	1.6	1.2	<1.0
03/08/2004	Nitrogen, Ammonia	30	0.9	DRY	<1	<1.0	<1.0	2	<1.0	<1.0
09/27/2004	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	2.2	1	<1.0
03/17/2005	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.5	<1.0	<1.0
09/22/2005	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	2.2	1	<1.0
03/17/2006	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.8	<1.0	<1.0
09/22/2006	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.8	<1.0	<1.0
03/14/2007	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0
09/22/2007	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
03/03/2008	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.6	<1.0	<1.0
09/05/2008	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	2.1	<1.0	<1.0
03/09/2009	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.6	<1.0	<1.0
09/23/2009	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.9	1.2	<1.0
03/16/2010	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
09/10/2010	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
03/01/2011	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0
09/22/2011	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0
03/02/2012	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
09/05/2012	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0
03/08/2013	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
09/13/2013	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.8	<1.0	<1.0
03/06/2014	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2.05	<1.0	<1.0
09/09/2014	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2.49	<1.0	<1.0
03/11/2015	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2.02	<1.0	<1.0
09/09/2015	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.97	<1.0	<1.0
03/11/2016	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2	<1.0	<1.0
10/27/2016	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	2.04	<1.0	<1.0
09/07/2017	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.54	1.32	<1.0
03/01/2018	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.93	<1.0	<1.0
09/19/2018	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.86	<1.0	<1.0
03/27/2019	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.73	<1.0	<1.0
09/05/2019	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.5	1.19	<1.0
02/28/2020	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.81		<1.0
08/31/2020	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.64	1.28	<1.0
03/05/2021	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.52	<1.0	<1.0
09/13/2021	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.56	1.40	<1.0
03/02/2022	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.73	<1.0	<1.0
09/12/2022	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2.11	1.50	<1.0
03/24/2023	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.64	<1.0	<1.0
09/13/2023	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	1.76	1.42	<1.0
03/05/2024	Nitrogen, Ammonia	30	0.9	DRY	<1.0	<1.0	<1.0	1.28	1.28	<1.0
09/03/2024	Nitrogen, Ammonia	30	0.9	<1.0	<1.0	<1.0	<1.0	2.43	1.93	<1.0
	Mean			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	1.7	1.3	#DIV/0!
	Standard Deviation (STD)			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.3	0.2	#DIV/0!
	Mean + 2 STD			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	2.3	1.8	#DIV/0!

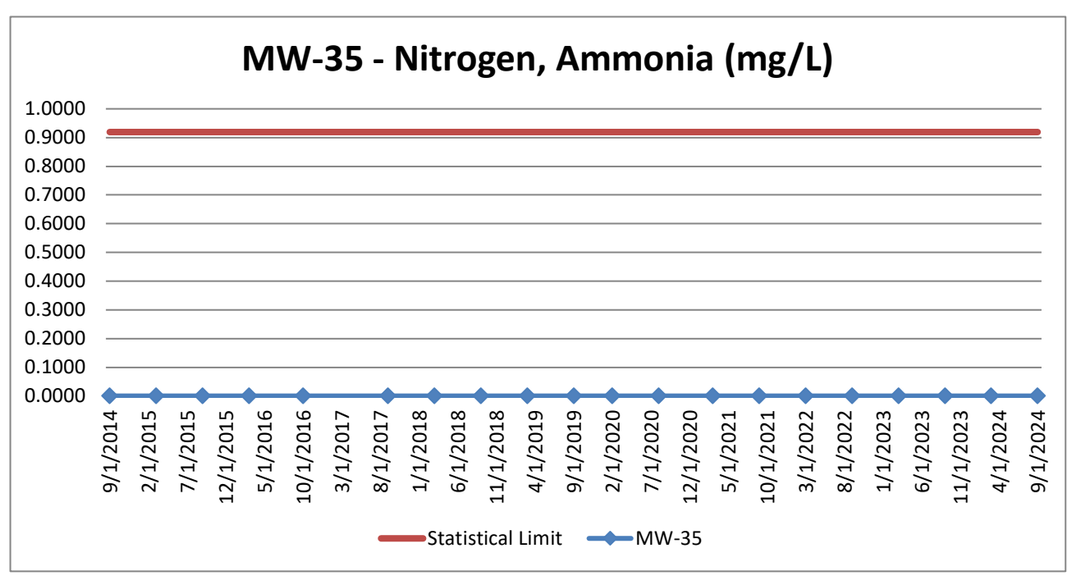

SW-3 - Nitrogen, Ammonia (mg/L)
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Series2
Series1

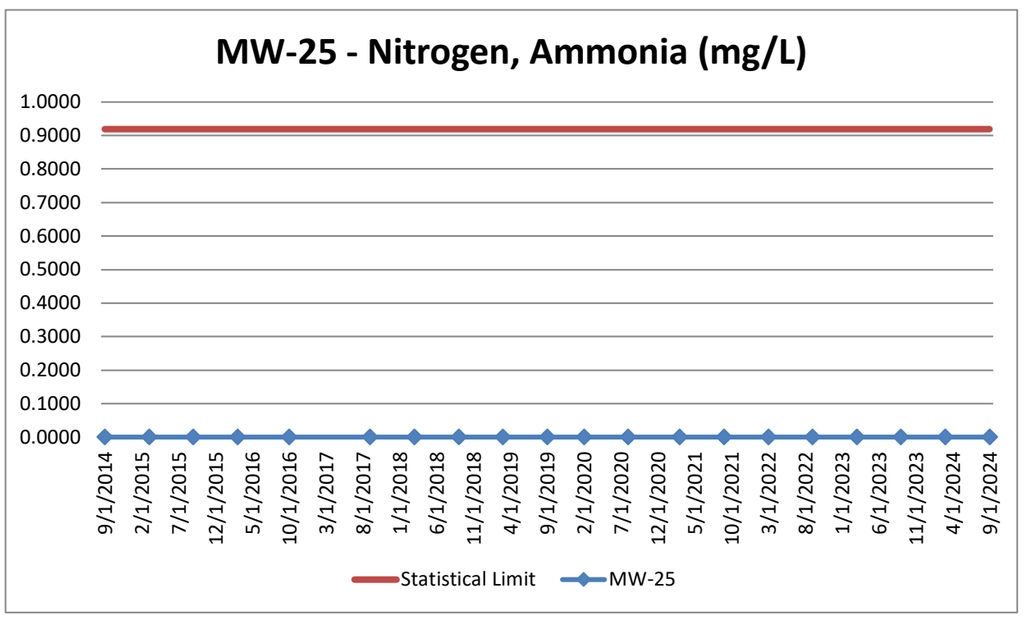

MW-33 - Nitrogen, Ammonia (mg/L)
3.0000
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33


MW-39 - Nitrogen, Ammonia (mg/L)
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 Nitrogen, Ammonia (mg/L)
2.5000
2.0000
1.5000
1.0000
0.5000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34


MW-40 - Nitrogen, Ammonia (mg/L)
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - Nitrogen, Ammonia (mg/L)
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - Nitrogen, Ammonia (mg/L)
1.0000
0.9000
0.8000
0.7000
0.6000
0.5000
0.4000
0.3000
0.2000
0.1000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

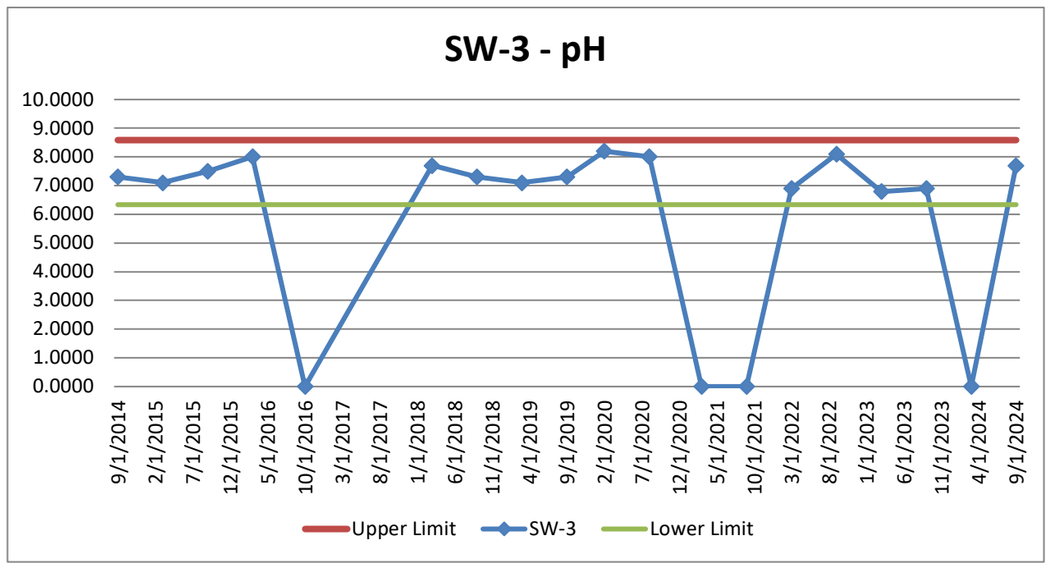
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
04/23/1991	pH	6.3	8.6		7.01	6.99	NT		7.82	7.8	NT	NT
10/15/1991	pH	6.3	8.6		7.05	7.71	NT		7.76	6.96	NT	NT
01/23/1992	pH	6.3	8.6		7.16	7.41	NT		7.53	NT	NT	NT
03/23/1992	pH	6.3	8.6		7.61	7.32	NT		7.51	7.68	NT	NT
09/30/1992	pH	6.3	8.6		7.22	NT	NT		7.68	7.36	NT	NT
03/05/1993	pH	6.3	8.6		7.58	6.72	NT		7.73	NT	NT	NT
09/21/1993	pH	6.3	8.6		7.34	6.73	7		7.61	7.1	7	7.3
03/23/1994	pH	6.3	8.6		7.4	7.05	7.3		7.5	7.1	7.4	7.3
09/16/1994	pH	6.3	8.6		6.82	6.57	7		6.86	6.95	7.4	7.3
03/16/1995	pH	6.3	8.6		7.2	6.9	7.5		7.6	6.7	7.8	7.9
09/13/1995	pH	6.3	8.6		7.3	7	7.8		7.6	7.1	8.2	8
03/28/1996	pH	6.3	8.6	7.9	plugged	8.4	7.8	8	plugged	8.2	7.8	7.8
06/20/1996	pH	6.3	8.6	6.7		NT	NT	7		NT	NT	NT
09/13/1996	pH	6.3	8.6	7.8		7.7	7.6	8.3		8.3	7.9	7.9
12/16/1996	pH	6.3	8.6	NT		6.8	6.9	NT		7.2	6.8	6.7
03/19/1997	pH	6.3	8.6	7.7		7.7	7.7	8.2		7.7	7.4	7.3
06/18/1997	pH	6.3	8.6	7.5		7.8	8.4	8.2		7.8	7.8	7.6
08/30/1997	pH	6.3	8.6	8.1		8	8	7.7		7.8	6.8	6.7
03/10/1998	pH	6.3	8.6	7.8		8.1	8.3	7.8		7.8	8.2	8.1
09/21/1998	pH	6.3	8.6	7		7	6.4	7.2		7.2	3.2	2.8
03/18/1999	pH	6.3	8.6	7.3		7.7	7.2	7.4		7.8	6.9	7
09/21/1999	pH	6.3	8.6	7		7	7.2	7.2		7.2	7.4	7.7
03/21/2000	pH	6.3	8.6	NT		NT	7.9	NT		NT	8.1	7.9
06/28/2000	pH	6.3	8.6	NT		NT	7.1	NT		NT	7.3	7.1
09/28/2000	pH	6.3	8.6	7		7.4	6.8	7.5		7.1	7.3	7.3
12/27/2000	pH	6.3	8.6	NT		NT	8.2	NT		NT	8.5	8.5
03/28/2001	pH	6.3	8.6	7.3		7.8	6.8	7.5		7.4	7.9	7.5
09/02/2001	pH	6.3	8.6	7.7		NT	6.9	7.5		NT	7.4	7.7
03/19/2002	pH	6.3	8.6	6.8		7.4	6.5	NT		7.2	7.2	7.1
09/19/2002	pH	6.3	8.6	6.7		6.8	6.6	7.8		7.7	7.1	6.9
03/14/2003	pH	6.3	8.6	7.5		6.7	6.6	7.6		7	7	7.1
09/29/2003	pH	6.3	8.6	7.5		7.4	6.9	7.8		7.7	7.4	7.4
03/08/2004	pH	6.3	8.6	7.1		7.5	7.1	7		7.5	7.1	7.7
09/27/2004	pH	6.3	8.6	7.1		7.3	6.7	7.5		7.7	7.8	7.6
03/17/2005	pH	6.3	8.6	7.3		6.9	7.1	8		7.4	7.1	7.7
09/22/2005	pH	6.3	8.6	7.3		7.2	7.2	7.6		7.7	8	8.3
03/17/2006	pH	6.3	8.6	8		7.8	8.1	8.3		8.2	8.3	8.4
09/22/2006	pH	6.3	8.6	7.7		8	7.7	8.1		8.4	8.3	8.4
03/14/2007	pH	6.3	8.6	6.9		7.2	6.7	7.4		7.3	7.2	7.3
09/22/2007	pH	6.3	8.6	7.9		7.2	6.9	7.71		8.4	7.4	7.5
03/03/2008	pH	6.3	8.6	6.93		7	6.7	7.44		7.1	7.2	7.2
09/05/2008	pH	6.3	8.6	7		7	6.6	7.3		7.3	7.2	7.1
03/09/2009	pH	6.3	8.6	7.3		7.3	8	7.7		7.6	7.6	7.6
09/23/2009	pH	6.3	8.6	8.1		8.4	7.8	8.2		7.9	7.9	8
03/16/2010	pH	6.3	8.6	NT		8	7.3	NT		7.8	7.7	7.7
09/10/2010	pH	6.3	8.6	7.8		7	7.2	8		7	7.1	7.1
03/01/2011	pH	6.3	8.6	7.9		7.7	7.8	7.9		7.9	7.9	7.8
09/22/2011	pH	6.3	8.6	7.5		7.6	7.7	7.8		7.9	7.9	7.7
03/02/2012	pH	6.3	8.6	7.7		7.2	7.2	7.4		7.5	7.2	7.3
09/05/2012	pH	6.3	8.6	8		8	8	8.1		8.2	8.1	8.2
03/08/2013	pH	6.3	8.6	6.7		6.7	6.3	7		7	6.7	6.8
09/13/2013	pH	6.3	8.6	7.2		7.2	7	7.6		7.9	7.1	7.6
03/06/2014	pH	6.3	8.6	7.8		8.8	7.6	8.9		8.4	8.5	8.3
09/09/2014	pH	6.3	8.6	7.5		7.1	7.5	7.7		7.7	7.3	7.8
03/11/2015	pH	6.3	8.6	7.9		7.6	6.7	7.7		8	7.4	7.5
09/09/2015	pH	6.3	8.6	7.2		7.2	6.9	7.9		7.5	7.4	7.7
03/11/2016	pH	6.3	8.6	7.8		7.9	7.6	8.3		8.1	8.3	8.2
10/27/2016	pH	6.3	8.6	7.4		7.1	7	7.8		7.6	7.3	7.5
03/01/2018	pH	6.3	8.6	6.9		7.4	7.1	7.9		8	7.4	7.7
09/19/2018	pH	6.3	8.6	7		7.3	7.5	7		7.4	7.4	8.1
03/27/2019	pH	6.3	8.6	7.2		7.3	7.1	7.9		7.7	7.5	7.8
09/05/2019	pH	6.3	8.6	7.4		7.4	7.1	7.7		7.7	7.6	7.8
02/28/2020	pH	6.3	8.6	7.3		7.4	7.5	7.7		7.8	7.8	8.3
08/31/2020	pH	6.3	8.6	7.5		7.3	7.1	8.3		8.3	7.4	7.6
03/05/2021	pH	6.3	8.6									
09/13/2021	pH	6.3	8.6	6.9		6.8	6.9	7.5		8	7.1	7.2
03/02/2022	pH	6.3	8.6	6.8		6.9	6.9	7.4		7.6	7	7.3
09/12/2022	pH	6.3	8.6	7.1		7.3	6.9	8.1		8.8	7.5	8.2
03/24/2023	pH	6.3	8.6	NT		NT	7	NT		NT	6.9	NT
09/13/2023	pH	6.3	8.6	NT		6.7	NT	NT		NT	NT	6.8
03/05/2024	pH	6.3	8.6	7		NT	NT	NT		8.8	NT	NT
09/03/2024	pH	6.3	8.6	NT		NT	6.3	7.2		NT	NT	NT
	Mean			7.4	7.2	7.4	7.2	7.7	7.6	7.7	7.4	7.5
	Standard Deviation (STD)			0.4	0.2	0.5	0.5	0.4	0.2	0.5	0.7	0.8
	Mean + 2 STD			8.2	7.7	8.3	8.2	8.5	8.1	8.6	8.8	9.0
	Mean - 2 STD			6.6	6.8	6.4	6.2	6.9	7.1	6.7	6.0	6.0

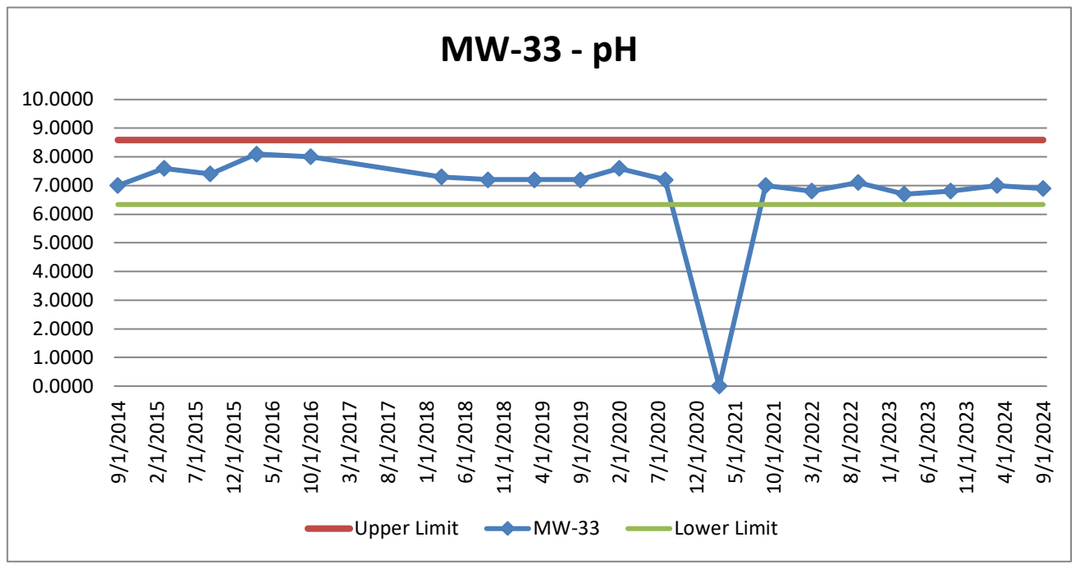
AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
04/23/1991	pH	6.3	8.6	7.73			7.55	---	7.01	
10/15/1991	pH	6.3	8.6	7.80			7.60	---	7.03	
01/23/1992	pH	6.3	8.6	7.72			7.27	7.26	7.31	
03/23/1992	pH	6.3	8.6	7.45			7.39	7.37	7.32	
09/30/1992	pH	6.3	8.6	7.45			7.31	7.3	7.13	
03/05/1993	pH	6.3	8.6	DRY			7.41	7.42	7.34	
09/21/1993	pH	6.3	8.6	7.34			6.85	7.29	7.12	
03/23/1994	pH	6.3	8.6	7.39			7.16	7.18	7.4	
09/16/1994	pH	6.3	8.6	7.39			6.46	7.22	6.99	
03/16/1995	pH	6.3	8.6	DRY			7.7	7.6	7.7	
09/13/1995	pH	6.3	8.6	DRY			7.6	7.6	7.6	
03/28/1996	pH	6.3	8.6	Dry			7.9	7.9	8	8
06/20/1996	pH	6.3	8.6	NT			NT	NT	NT	7.5
09/13/1996	pH	6.3	8.6	DRY			7.7	7.7	8	8.1
12/16/1996	pH	6.3	8.6	NT			NT	NT	NT	NT
03/19/1997	pH	6.3	8.6	DRY			7.5	7.5	7.7	8.1
06/18/1997	pH	6.3	8.6	NT			NT	NT	NT	8.2
08/30/1997	pH	6.3	8.6	DRY			7.8	7.9	8	8
03/10/1998	pH	6.3	8.6	DRY			6.4	5.8	5.8	5.4
09/21/1998	pH	6.3	8.6	DRY			6.2	5.8	7.4	7.4
03/18/1999	pH	6.3	8.6	DRY			7.3	7.4	7.7	6.9
09/21/1999	pH	6.3	8.6	DRY			6.2	5.8	7.4	7.4
03/21/2000	pH	6.3	8.6	DRY			NT	NT	NT	NT
06/28/2000	pH	6.3	8.6	DRY	5.9	5.8	NT	NT	NT	NT
09/28/2000	pH	6.3	8.6	DRY	7.1	7.1	7.2	7.3	7.2	NT
12/27/2000	pH	6.3	8.6	NT	8	8.1	NT	NT	NT	NT
03/28/2001	pH	6.3	8.6	DRY	7.2	7.7	7.5	7.4	7.5	7.5
09/02/2001	pH	6.3	8.6	DRY	7.1	7.9	7.7	7.8	7.3	7.3
03/19/2002	pH	6.3	8.6	DRY	6.9	7.5	7	7.2	7	7.1
09/19/2002	pH	6.3	8.6	DRY	6.7	6.9	7.5	7	6.7	6.9
03/14/2003	pH	6.3	8.6	DRY	8	8.1	7.1	7.4	7.3	7.1
09/29/2003	pH	6.3	8.6	DRY	7.2	7.5	7.4	7.8	7.4	7.5
03/08/2004	pH	6.3	8.6	DRY	7.1	7.5	7.6	7.4	7.4	7.4
09/27/2004	pH	6.3	8.6	DRY	7	7.6	7	7.1	7.2	7.2
03/17/2005	pH	6.3	8.6	DRY	7.2	7.9	7.5	7.6	7.5	7.6
09/22/2005	pH	6.3	8.6	DRY	7.5	7.3	7	7.6	7.4	7.3
03/22/2006	pH	6.3	8.6	DRY	8.2	8.4	7.7	7.7	8	7.9
09/22/2006	pH	6.3	8.6	DRY	8.1	7.8	7.8	7.9	7.7	7.5
03/14/2007	pH	6.3	8.6	7.4	6.8	7	6.8	7	7.4	6.9
09/22/2007	pH	6.3	8.6	DRY	6.88	7.04	7.06	7.27	7.22	6.66
03/03/2008	pH	6.3	8.6	DRY	7.11	6.9	6.73	7.13	7.48	6.42
09/05/2008	pH	6.3	8.6	DRY	6.9	6.9	6.8	7.2	7.3	7.2
03/09/2009	pH	6.3	8.6	DRY	7.1	7.3	7	6.9	7.5	7.1
09/23/2009	pH	6.3	8.6	DRY	7.8	7.8	8.4	7.9	8.4	9.1
03/16/2010	pH	6.3	8.6	7.3	7.6	7.7	7.1	6.9	7.2	7.1
09/10/2010	pH	6.3	8.6	7.4	7.8	8	7.3	7.2	7.3	7.3
03/01/2011	pH	6.3	8.6	7.7	7.9	7.9	7.7	8	7.9	7.6
09/22/2011	pH	6.3	8.6	7.5	8	7.7	7.4	7.8	7.6	7.5
03/02/2012	pH	6.3	8.6	7.1	7.1	7.2	6.9	6.9	6.7	6.5
09/05/2012	pH	6.3	8.6	8	8	8	8.1	8	8.1	8.1
03/08/2013	pH	6.3	8.6	DRY	6.6	6.7	7.1	7.1	7.2	7.1
09/13/2013	pH	6.3	8.6	DRY	7	7.1	7.1	7.2	7.4	7.7
03/06/2014	pH	6.3	8.6	7.2	7.8	8.2	7.4	7.5	7.4	6.4
09/09/2014	pH	6.3	8.6	7.3	7.3	7.5	6.6	7	7	6.5
03/11/2015	pH	6.3	8.6	7.1	7.7	7.8	7.7	7.6	7.7	7.4
09/09/2015	pH	6.3	8.6	7.5	7	7.1	6.9	7.4	7	8
03/11/2016	pH	6.3	8.6	8	7.6	8	7.8	8.1	8	8.6
10/27/2016	pH	6.3	8.6	DRY	7.8	7.3	7.9	8	7.1	8.6
03/01/2018	pH	6.3	8.6	7.7	7.2	7.4	7	7.3	7.5	7.7
09/19/2018	pH	6.3	8.6	7.3	7.1	7.3	7.2	7.2	7.2	7.2
03/27/2019	pH	6.3	8.6	7.1	7.2	7.3	7.1	7.2	7.5	7.6
09/05/2019	pH	6.3	8.6	7.3	7.1	7.3	7.2	7.2	7.2	7.2
02/28/2020	pH	6.3	8.6	8.2	7.4	7.6	7.3	7.6		8.1
08/31/2020	pH	6.3	8.6	8	7.3	7.2	7	7.2	7.3	8.1
03/05/2021	pH	6.3	8.6							
09/13/2021	pH	6.3	8.6	DRY	6.9	7.2	6.7	7	6.7	7.4
03/02/2022	pH	6.3	8.6	6.9	7.1	7	6.7	6.8	6.7	7.1
09/12/2022	pH	6.3	8.6	8.1	7.1	7.1	6.8	7.1	7.2	8.4
03/24/2023	pH	6.3	8.6	6.8	6.6	7.5	6.7	6.7	6.9	7.2
09/13/2023	pH	6.3	8.6	6.9	6.6	6.6	6.7	6.8	6.9	7.0
03/05/2024	pH	6.3	8.6	DRY	7.6	6.8	6.9	7	7	8.5
09/03/2024	pH	6.3	8.6	7.7	6.8	6.9	6.9	6.9	7	7.5

Mean	7.5	7.3	7.4	7.2	7.3	7.3	7.5
Standard Deviation (STD)	0.4	0.5	0.5	0.4	0.5	0.4	0.6
Mean + 2 STD	8.2	8.2	8.4	8.1	8.2	8.2	8.7
Mean - 2 STD	6.8	6.3	6.4	6.3	6.3	6.5	6.2


SW-3 - pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
SW-3
Lower Limit


MW-33 - pH
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9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
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7/1/2020
12/1/2020
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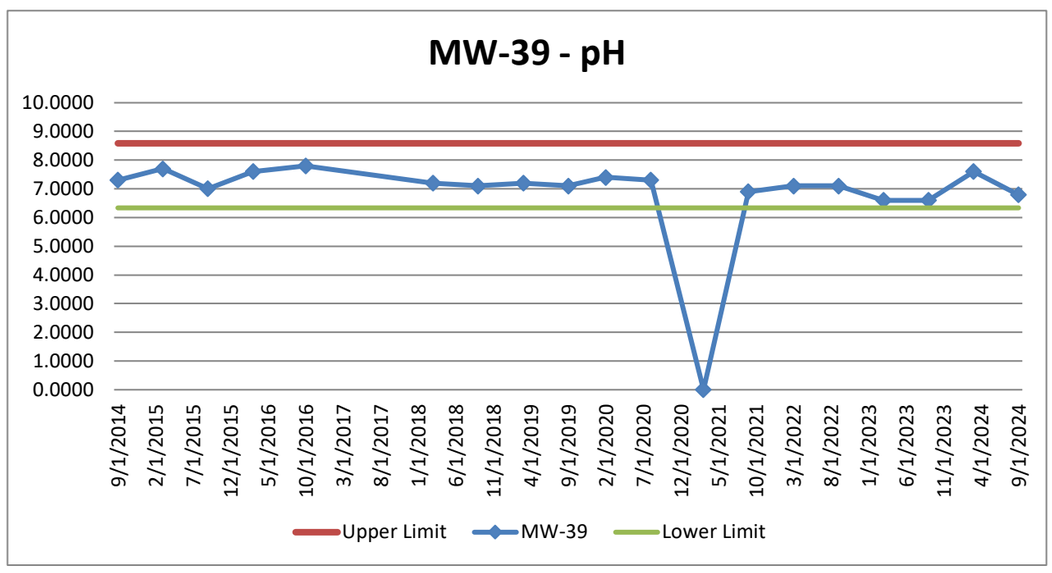
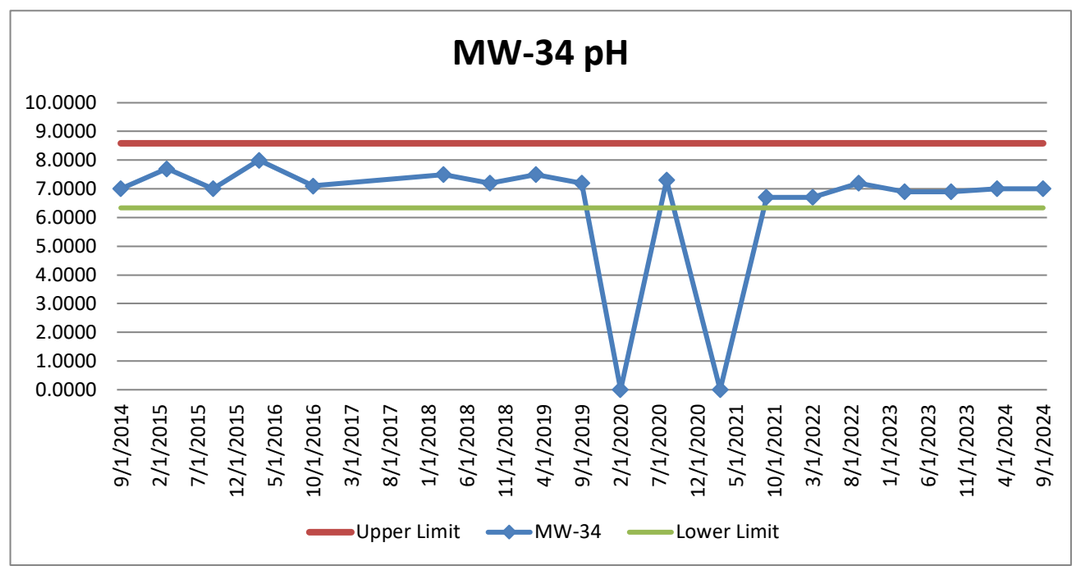
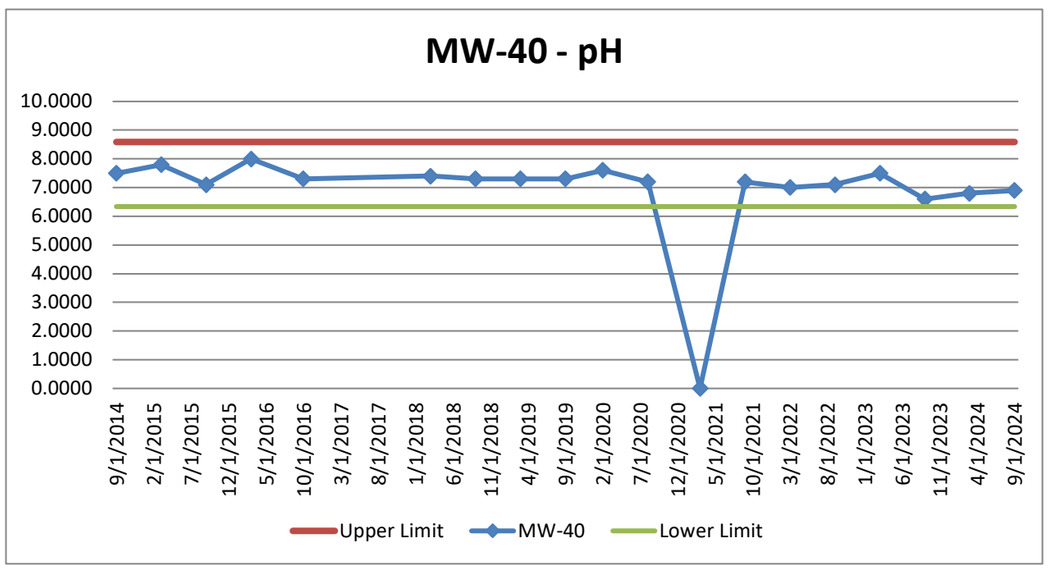
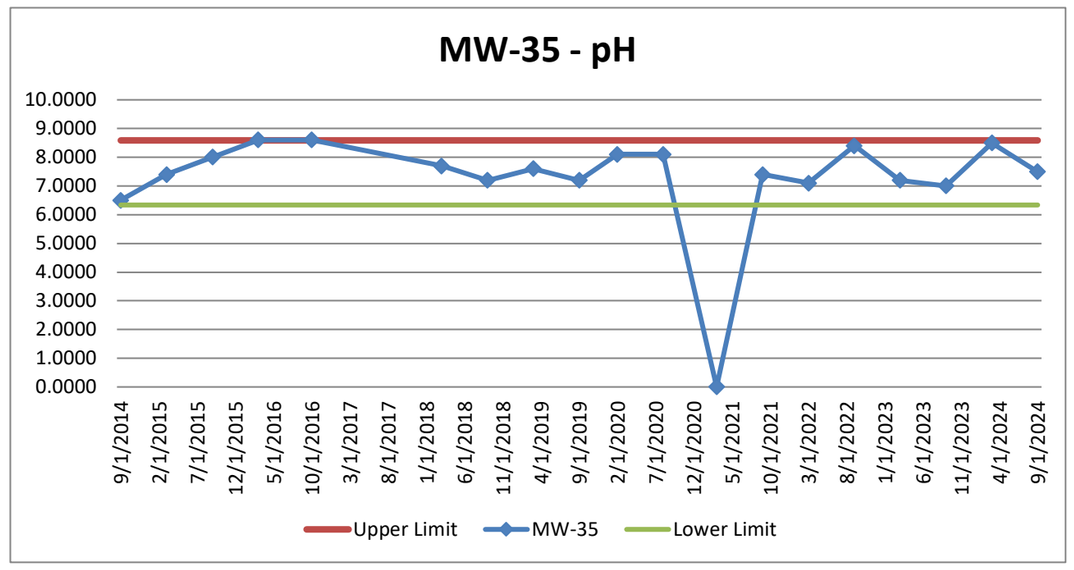
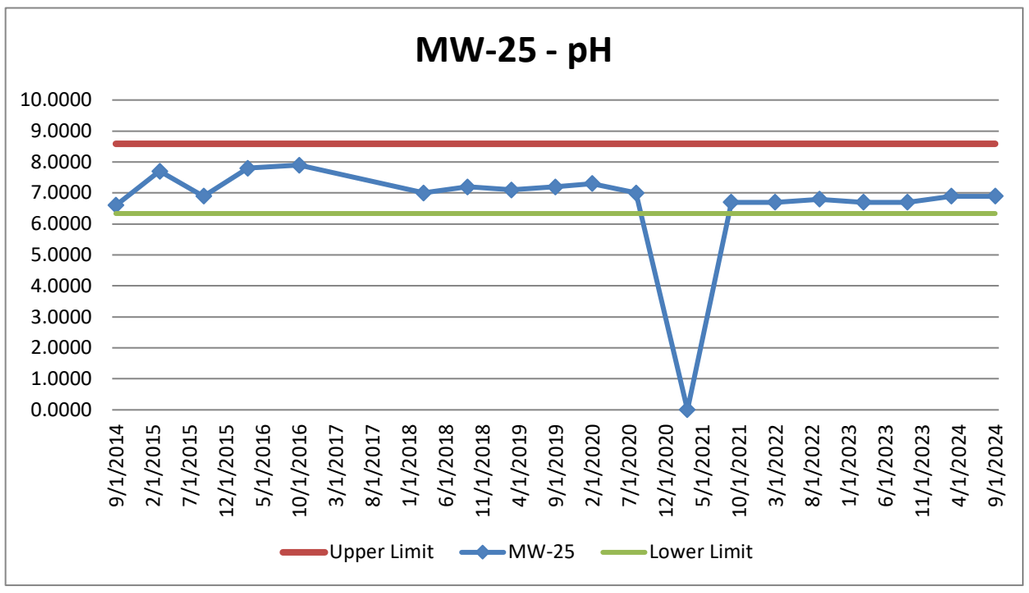
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-33
Lower Limit


MW-39 - pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-39
Lower Limit


MW-34 pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-34
Lower Limit


MW-40 - pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-40
Lower Limit


MW-35 - pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-35
Lower Limit


MW-25 - pH
10.0000
9.0000
8.0000
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Upper Limit
MW-25
Lower Limit

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
04/23/1991	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	<0.100	NT	NT
10/15/1991	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	<0.100	NT	NT
01/23/1992	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	NT	NT	NT
03/23/1992	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	<0.100	NT	NT
09/30/1992	Phenols	2	0.07		<0.1	NT	NT		<0.100	<0.100	NT	NT
03/05/1993	Phenols	2	0.07		NT	NT	<0.1		NT	NT	NT	NT
09/21/1993	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	<0.100	<0.1	<0.1
03/23/1994	Phenols	2	0.07		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Phenols	2	0.07		<0.1	<0.1	<0.1		<0.100	<0.100	<0.1	<0.1
03/16/1995	Phenols	2	0.07		NT	NT	<0.1		NT	NT	<0.1	<0.1
09/13/1995	Phenols	2	0.07		<0.1	<0.1	NT		<0.100	<0.100	NT	NT
03/28/1996	Phenols	2	0.07	NT	plugged	NT	NT	NT	plugged	<0.1	NT	NT
06/20/1996	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/1996	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
12/16/1996	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/19/1997	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
06/18/1997	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
08/30/1997	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
03/10/1998	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/21/1998	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
03/18/1999	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/21/1999	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
03/21/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
06/28/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/28/2000	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
12/27/2000	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/28/2001	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/02/2001	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
03/19/2002	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/19/2002	Phenols	2	0.07	<0.1		<0.1	<0.1	<0.1		<0.1	<0.1	<0.1
03/14/2003	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/29/2003	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/08/2004	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/27/2004	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/17/2005	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2005	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/17/2006	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2006	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/14/2007	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2007	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/03/2008	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2008	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		0.216	<0.100	<0.100
03/09/2009	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/23/2009	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/16/2010	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/10/2010	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/01/2011	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/22/2011	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/02/2012	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2012	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/08/2013	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2013	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/06/2014	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/09/2014	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/11/2015	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/09/2015	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/11/2016	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
10/27/2016	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
09/07/2017	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/01/2018	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/19/2018	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/27/2019	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/05/2019	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
02/28/2020	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
08/31/2020	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/05/2021	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2021	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/02/2022	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/12/2022	Phenols	2	0.07	<0.100		<0.100	<0.100	<0.100		<0.100	<0.100	<0.100
03/24/2023	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/13/2023	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
09/03/2024	Phenols	2	0.07	NT		NT	NT	NT		NT	NT	NT
	Mean			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.216	#DIV/0!	#DIV/0!
	Standard Deviation (STD)			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0	#DIV/0!	#DIV/0!
	Mean + 2 STD			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	0.216	#DIV/0!	#DIV/0!

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Phenols	2	0.07	<0.100			<0.1	---	<0.1	
10/15/1991	Phenols	2	0.07	<0.100			<0.1	---	<0.1	
01/23/1992	Phenols	2	0.07	<0.100			<0.1	<0.1	<0.1	
03/23/1992	Phenols	2	0.07	<0.100			<0.1	<0.1	<0.1	
09/30/1992	Phenols	2	0.07	DRY			<0.1	<0.1	<0.1	
03/05/1993	Phenols	2	0.07	NT			NT	NT	NT	
09/21/1993	Phenols	2	0.07	<0.100			<0.1	<0.1	<0.1	
03/23/1994	Phenols	2	0.07	NT			NT	NT	NT	
09/16/1994	Phenols	2	0.07	NT			<0.1	<0.1	<0.1	
03/16/1995	Phenols	2	0.07	NT			<0.1	<0.1	<0.1	
09/13/1995	Phenols	2	0.07	NT			NT	NT	NT	
03/28/1996	Phenols	2	0.07	NT			NT	NT	NT	NT
06/20/1996	Phenols	2	0.07	NT			NT	NT	NT	NT
09/13/1996	Phenols	2	0.07	DRY			<0.1	<0.1	<0.1	<0.1
12/16/1996	Phenols	2	0.07	NT			NT	NT	NT	NT
03/19/1997	Phenols	2	0.07	NT			NT	NT	NT	NT
06/18/1997	Phenols	2	0.07	NT			NT	NT	NT	NT
08/30/1997	Phenols	2	0.07	DRY			<0.1	<0.1	<0.1	<0.1
03/10/1998	Phenols	2	0.07	NT			NT	NT	NT	NT
09/21/1998	Phenols	2	0.07	DRY			<0.1	<0.1	<0.1	<0.1
03/18/1999	Phenols	2	0.07	DRY			NT	NT	NT	NT
09/21/1999	Phenols	2	0.07	DRY			<0.1	<0.1	<0.1	<0.1
03/21/2000	Phenols	2	0.07	DRY			NT	NT	NT	NT
06/28/2000	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/28/2000	Phenols	2	0.07	DRY	<0.1	<0.1	<0.1	<0.1	<0.1	DRY
12/27/2000	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Phenols	2	0.07	DRY	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/19/2002	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Phenols	2	0.07	DRY	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
03/14/2003	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/29/2003	Phenols	2	0.07	DRY	NT	<0.100	<0.100	<0.100	<0.100	<0.100
03/08/2004	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/27/2004	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/17/2005	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/22/2005	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/17/2006	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/22/2006	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/14/2007	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/22/2007	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/03/2008	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/05/2008	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/09/2009	Phenols	2	0.07	DRY	NT	NT	NT	NT	NT	NT
09/23/2009	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/16/2010	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/10/2010	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/01/2011	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/22/2011	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/02/2012	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/05/2012	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/08/2013	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/13/2013	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/06/2014	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/09/2014	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/06/2014	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/09/2014	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/11/2016	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
10/27/2016	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
09/07/2017	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/01/2018	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/19/2018	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/27/2019	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/05/2019	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
02/28/2020	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
08/31/2020	Phenols	2	0.07	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/05/2021	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/13/2021	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/02/2022	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/12/2022	Phenols	2	0.07	DRY	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
03/24/2023	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/13/2023	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
03/05/2024	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
09/03/2024	Phenols	2	0.07	NT	NT	NT	NT	NT	NT	NT
	Mean			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Standard Deviation (STD)			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
	Mean + 2 STD			#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!

AMES-STORY ENVIRONMENTAL LANDFILL

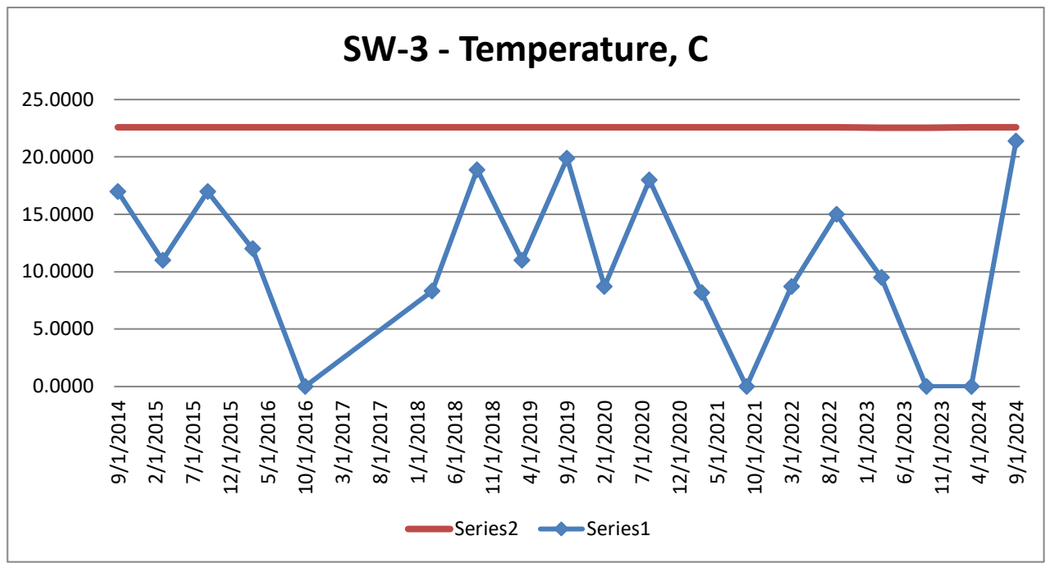
MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
			MEAN +	Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
04/23/1991	Temperature, celsius	--	22.6		14.1	16.9	NT		11.4	12.7	NT	NT
10/15/1991	Temperature, celsius	--	22.6		13.6	12.4	NT		10.7	11.9	NT	NT
01/23/1992	Temperature, celsius	--	22.6		8.2	6.1	NT		8.4	NT	NT	NT
03/23/1992	Temperature, celsius	--	22.6		7.6	9.5	NT		11	10.5	NT	NT
09/30/1992	Temperature, celsius	--	22.6		10.6	NT	NT		11.5	12.1	NT	NT
03/05/1993	Temperature, celsius	--	22.6		8.8	5.2	NT		10.3	NT	NT	NT
09/21/1993	Temperature, celsius	--	22.6		17.3	17.5	14.2		14.4	14.6	10.9	10.4
03/23/1994	Temperature, celsius	--	22.6		11.6	10.2	9.2		12.1	8.2	8.4	9.3
09/16/1994	Temperature, celsius	--	22.6		18.7	21.3	18		14.8	17.1	15	14
03/16/1995	Temperature, celsius	--	22.6		7	5	6		8	6	NT	10
09/13/1995	Temperature, celsius	--	22.6		4.73	4.72	4.3		4.71	4.62	4.3	4.3
03/28/1996	Temperature, celsius	--	22.6	9	plugged	6	5	10	plugged	7	10	10
06/20/1996	Temperature, celsius	--	22.6	13		NT	NT	14		NT	NT	NT
09/13/1996	Temperature, celsius	--	22.6	17		19	17	12		17	14	13
12/16/1996	Temperature, celsius	--	22.6	NT		10	7	NT		12	7	8
03/19/1997	Temperature, celsius	--	22.6	9		6	4	10		8	7	7
06/18/1997	Temperature, celsius	--	22.6	14		15	14	13		14	15	14
08/30/1997	Temperature, celsius	--	22.6	20		20	23	14		17	18	16
03/10/1998	Temperature, celsius	--	22.6	8		6	8	10		8	11	8
09/21/1998	Temperature, celsius	--	22.6	16		18	19	11		14	15	15
03/18/1999	Temperature, celsius	--	22.6	8		5	12	10		6	11	11
09/21/1999	Temperature, celsius	--	22.6	16		18	21	11		14	13	13
03/21/2000	Temperature, celsius	--	22.6	NT		NT	11	NT		NT	9	9
06/28/2000	Temperature, celsius	--	22.6	NT		NT	19	NT		NT	NT	NT
09/28/2000	Temperature, celsius	--	22.6	19		17	20	15		18	16	15
12/27/2000	Temperature, celsius	--	22.6	NT		NT	13	NT		NT	14	13
03/28/2001	Temperature, celsius	--	22.6	8		6	10	10		8	13	13
09/02/2001	Temperature, celsius	--	22.6	17		NT	NT	14		NT	NT	NT
03/19/2002	Temperature, celsius	--	22.6	10		7	8	12		10	11	11
09/19/2002	Temperature, celsius	--	22.6	19		20	18	14		18	15	14
03/14/2003	Temperature, celsius	--	22.6	12		7	6	13		5	10	11
09/29/2003	Temperature, celsius	--	22.6	17		15	18	14		15	14	14
03/08/2004	Temperature, celsius	--	22.6	11		6	7	12		10	12	12
09/27/2004	Temperature, celsius	--	22.6	19		21	18	16		17	15	14
03/17/2005	Temperature, celsius	--	22.6	10		9	7	13		13	12	12
09/22/2005	Temperature, celsius	--	22.6	21		27	25	20		22	23	25
03/17/2006	Temperature, celsius	--	22.6	14		9	8	14		10	11	11
09/22/2006	Temperature, celsius	--	22.6	22		24	22	23		21	18	24
03/14/2007	Temperature, celsius	--	22.6	8		6	7	11		9	12	12
09/22/2007	Temperature, celsius	--	22.6	19.2		19	19.6	15.9		21	14.9	14.8
03/03/2008	Temperature, celsius	--	22.6	8		6	8	10.5		10	12	12
09/05/2008	Temperature, celsius	--	22.6	16.9		18.4	18.2	13.5		15.9	13.4	13.5
03/09/2009	Temperature, celsius	--	22.6	5		5	6	11		10	12	12
09/23/2009	Temperature, celsius	--	22.6	17		16	16	15		14	13	14
03/16/2010	Temperature, celsius	--	22.6	NT		8	8	NT		10	11	12
09/10/2010	Temperature, celsius	--	22.6	15		18	18	14		14	19	23
03/01/2011	Temperature, celsius	--	22.6	13		10	10	13		13	13	13
09/22/2011	Temperature, celsius	--	22.6	14		18	17	13		14	14	14
03/02/2012	Temperature, celsius	--	22.6	13		9	9	12		12	11	12
09/05/2012	Temperature, celsius	--	22.6	15		18	18	13		13	14	13
03/08/2013	Temperature, celsius	--	22.6	11		9	9	12		12	12	12
09/13/2013	Temperature, celsius	--	22.6	14		18	18	15		15	15	14
03/06/2014	Temperature, celsius	--	22.6	12		9	8	10		11	12	13
09/09/2014	Temperature, celsius	--	22.6	14		16.5	18.4	13		17.4	16.7	16
03/11/2015	Temperature, celsius	--	22.6	11		8	10	12		12	13	14
09/09/2015	Temperature, celsius	--	22.6	14		16	16	13		13	13	13
03/11/2016	Temperature, celsius	--	22.6	14		11	10	14		14	14	15
10/27/2016	Temperature, celsius	--	22.6	15		17	17	14		14	14	14
03/01/2018	Temperature, celsius	--	22.6	11.5		7.3	7.5	9.1		8	9.5	10.8
09/19/2018	Temperature, celsius	--	22.6	20.2		20.8	21.5	20.7		19.1	18.7	19.5
03/27/2019	Temperature, celsius	--	22.6	16.4		14.9	18.4	16.7		17.6	14.8	16.1
09/05/2019	Temperature, celsius	--	22.6	22.7		26	24.1	22.3		21.4	17.2	19.3
02/28/2020	Temperature, celsius	--	22.6	10		6.6	4.9	10.1		7.1	8.8	10.6
08/31/2020	Temperature, celsius	--	22.6	17		19	20.5	16		20	14.9	15.1
03/05/2021	Temperature, celsius	--	22.6	14.5		8.6	12.3	12.6		10.9	14.5	14.5
09/13/2021	Temperature, celsius	--	22.6	21.2		19.4	23.9	19.3		21.3	17.8	24.4
03/02/2022	Temperature, celsius	--	22.6	15.3		12.7	14	17		12.2	13.8	14.6
09/12/2022	Temperature, celsius	--	22.6	16		17	20.9	16.6		18.8	18.5	19.2
03/24/2023	Temperature, celsius	--	22.5	NT		NT	6.5	NT		NT	9.5	NT
09/13/2023	Temperature, celsius	--	22.5	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Temperature, celsius	--	22.6	9		NT	NT	NT		7.6	NT	NT
09/03/2024	Temperature, celsius	--	22.6	NT		NT	20.3	20.3		NT	NT	NT
	Mean			14.2	11.1	13.0	13.7	13.8	10.7	13.1	13.2	13.6
	Standard Deviation (STD)			4.2	4.2	6.1	6.0	3.2	2.7	4.4	3.3	3.9
	Mean + 2 STD			22.5	19.5	25.2	25.7	20.2	16.1	21.9	19.8	21.4

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
04/23/1991	Temperature, celsius	--	22.6	13.1			15.1	---	12.4	
10/15/1991	Temperature, celsius	--	22.6	14.7			14.6	---	16.2	
01/23/1992	Temperature, celsius	--	22.6	3.5			8.3	8.3	6.2	
03/23/1992	Temperature, celsius	--	22.6	5.5			7.2	7.3	6.5	
09/30/1992	Temperature, celsius	--	22.6	7.1			10.7	10.7	10.1	
03/05/1993	Temperature, celsius	--	22.6	DRY			6.9	6.9	6.1	
09/21/1993	Temperature, celsius	--	22.6	15.2			14.6	14.7	14.8	
03/23/1994	Temperature, celsius	--	22.6	11.8			9.4	11.7	12	
09/16/1994	Temperature, celsius	--	22.6	11.8			19.9	18.5	2.11	
03/16/1995	Temperature, celsius	--	22.6	DRY			7	7	6	
09/13/1995	Temperature, celsius	--	22.6	DRY			4.63	4.24	4.66	
03/28/1996	Temperature, celsius	--	22.6	DRY			7	7	7	6
06/20/1996	Temperature, celsius	--	22.6	NT			NT	NT	NT	13
09/13/1996	Temperature, celsius	--	22.6	Dry			15	16	16	16
12/16/1996	Temperature, celsius	--	22.6	NT			NT	NT	NT	NT
03/19/1997	Temperature, celsius	--	22.6	DRY			6	7	6	6
06/18/1997	Temperature, celsius	--	22.6	NT			NT	NT	NT	12
08/30/1997	Temperature, celsius	--	22.6	DRY			19	20	21	17
03/10/1998	Temperature, celsius	--	22.6	DRY			10	9	9	9
09/21/1998	Temperature, celsius	--	22.6	DRY			17	18	17	15
03/18/1999	Temperature, celsius	--	22.6	DRY			9	8	9	9
09/21/1999	Temperature, celsius	--	22.6	DRY			17	18	17	15
03/21/2000	Temperature, celsius	--	22.6	DRY			NT	NT	NT	NT
06/28/2000	Temperature, celsius	--	22.6	DRY	14	NT	NT	NT	NT	NT
09/28/2000	Temperature, celsius	--	22.6	DRY	16	17	17	16	17	NT
12/27/2000	Temperature, celsius	--	22.6	NT	13	11	NT	NT	NT	NT
03/28/2001	Temperature, celsius	--	22.6	DRY	11	8	9	9	6	7
09/02/2001	Temperature, celsius	--	22.6	DRY	15	17	14	13	17	15
03/19/2002	Temperature, celsius	--	22.6	DRY	10	8	10	11	10	10
09/19/2002	Temperature, celsius	--	22.6	DRY	18	17	NT	NT	19	16
03/14/2003	Temperature, celsius	--	22.6	DRY	13	10	9	10	10	10
09/29/2003	Temperature, celsius	--	22.6	DRY	15	16	15	14	19	17
03/08/2004	Temperature, celsius	--	22.6	DRY	12	8	9	12	7	5
09/27/2004	Temperature, celsius	--	22.6	DRY	18	18	15	15	18	16
03/17/2005	Temperature, celsius	--	22.6	DRY	11	9	9	9	8	9
09/22/2005	Temperature, celsius	--	22.6	DRY	22	22	17	17	18	20
03/17/2006	Temperature, celsius	--	22.6	DRY	16	10	10	11	14	8
09/22/2006	Temperature, celsius	--	22.6	DRY	17	20	17	16	21	18
03/14/2007	Temperature, celsius	--	22.6	6	9	6	8	9	4	6
09/22/2007	Temperature, celsius	--	22.6	DRY	15.1	16.1	17	16.6	21.1	16.8
03/03/2008	Temperature, celsius	--	22.6	DRY	9.2	8	7.2	7.5	2.5	6.7
09/05/2008	Temperature, celsius	--	22.6	DRY	12.7	15.7	14.1	14	16.6	16
03/09/2009	Temperature, celsius	--	22.6	DRY	11	6	8	7	3	7
09/23/2009	Temperature, celsius	--	22.6	DRY	14	15	14	14	16	14
03/16/2010	Temperature, celsius	--	22.6	11	10	9	8	9	6	8
09/10/2010	Temperature, celsius	--	22.6	17	15	16	15	15	19	20
03/01/2011	Temperature, celsius	--	22.6	8	13	11	10	11	9	9
09/22/2011	Temperature, celsius	--	22.6	16	14	16	13	13	16	18
03/02/2012	Temperature, celsius	--	22.6	6	13	10	10	10	7	8
09/22/2011	Temperature, celsius	--	22.6	18	16	17	14	13	18	17
03/08/2013	Temperature, celsius	--	22.6	DRY	13	9	10	11	10	10
09/13/2013	Temperature, celsius	--	22.6	DRY	14	15	13	14	17	15
03/06/2014	Temperature, celsius	--	22.6	7	12	9	8	11	8	7
09/09/2014	Temperature, celsius	--	22.6	17	14.4	17.3	14	13	17	18
03/11/2015	Temperature, celsius	--	22.6	11	12	8	10	12	8	10
09/09/2015	Temperature, celsius	--	22.6	17	13	16	14	13	18	17
03/11/2016	Temperature, celsius	--	22.6	12	14	10	10	11	11	9
10/27/2016	Temperature, celsius	--	22.6	DRY	16	17	15	14	17	18
03/01/2018	Temperature, celsius	--	22.6	8.3	9.2	8.2	9.3	8.5	7.5	6.5
09/19/2018	Temperature, celsius	--	22.6	18.9	20.5	24.8	17.4	18.3	19.5	20.5
03/27/2019	Temperature, celsius	--	22.6	11	14.9	13.9	7.7	9.4	8.8	8.2
09/05/2019	Temperature, celsius	--	22.6	19.9	18.3	26.1	19.2	18.9	20.4	22.8
02/28/2020	Temperature, celsius	--	22.6	8.7	10	8.6	11.9	12.4		8.1
08/31/2020	Temperature, celsius	--	22.6	18	20.1	17.2	14.7	15.6	17	19
03/05/2021	Temperature, celsius	--	22.6	8.2	7.4	8.8	8.2	9.4	8.8	7.7
09/13/2021	Temperature, celsius	--	22.6	DRY	20.5	21.4	18.3	17.2	20.9	21.4
03/02/2022	Temperature, celsius	--	22.6	8.7	14.8	13.6	11.8	10.7	9.4	8.5
09/12/2022	Temperature, celsius	--	22.6	15	19.6	17.7	13.8	12.9	13.7	16
03/24/2023	Temperature, celsius	--	22.5	9.5	11.8	9.9	9.1	10.6	9.7	7.8
09/13/2023	Temperature, celsius	--	22.5	NT	NT	NT	NT	NT	NT	NT
03/05/2024	Temperature, celsius	--	22.6	DRY	12.2	12.2	10	7.7	8.6	4.6
09/03/2024	Temperature, celsius	--	22.6	21.4	20.4	22.2	18.4	19.6	20.9	20.7
	Mean			12.1	14.2	13.7	12.1	12.2	12.4	12.6
	Standard Deviation (STD)			4.7	3.4	5.1	3.9	3.8	5.6	5.1
	Mean + 2 STD			21.6	21.0	23.8	19.8	19.7	23.5	22.8


SW-3 - Temperature, C
25.0000
20.0000
15.0000
10.0000
5.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
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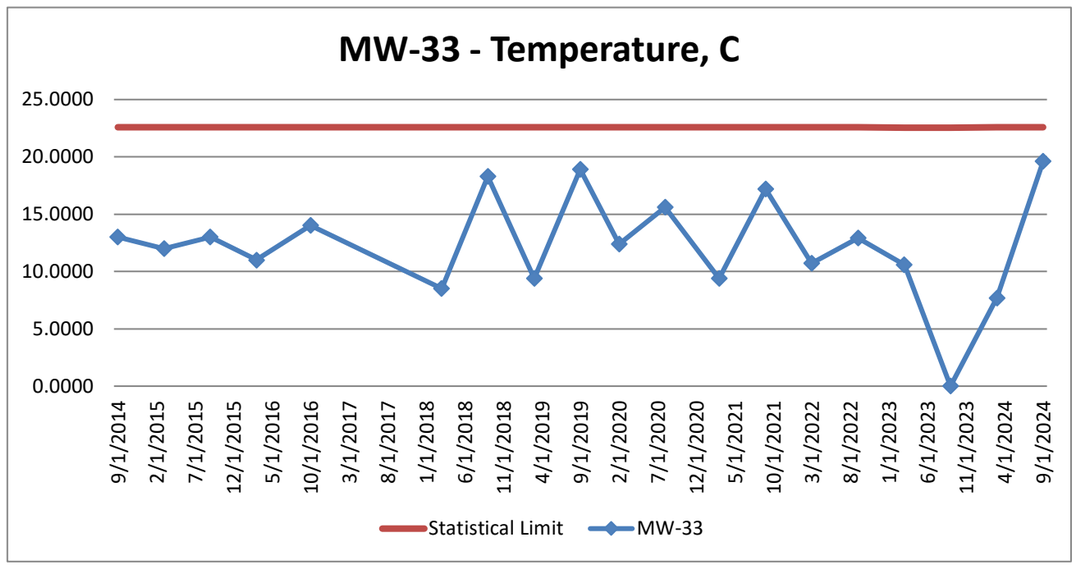
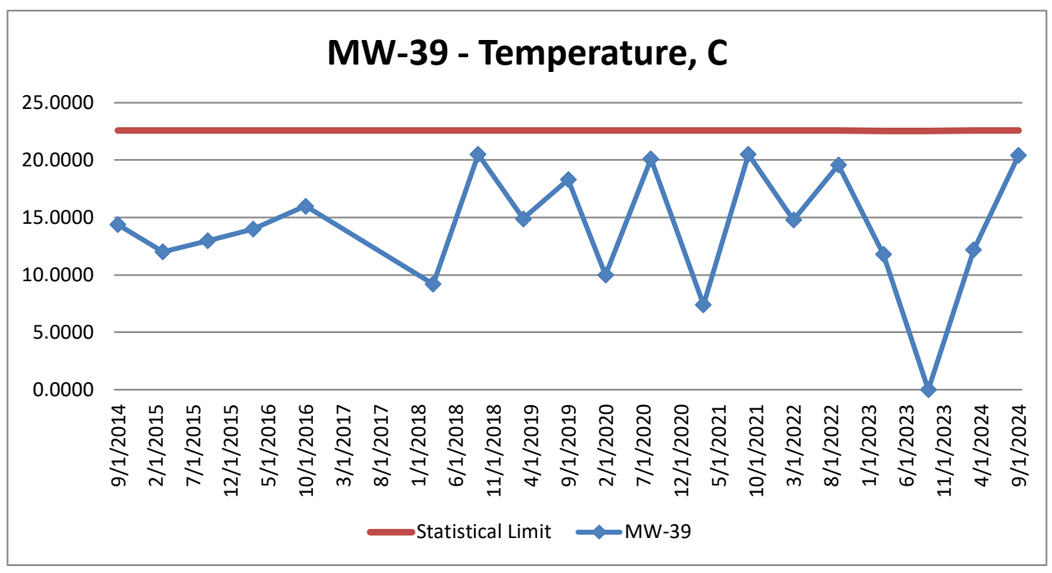
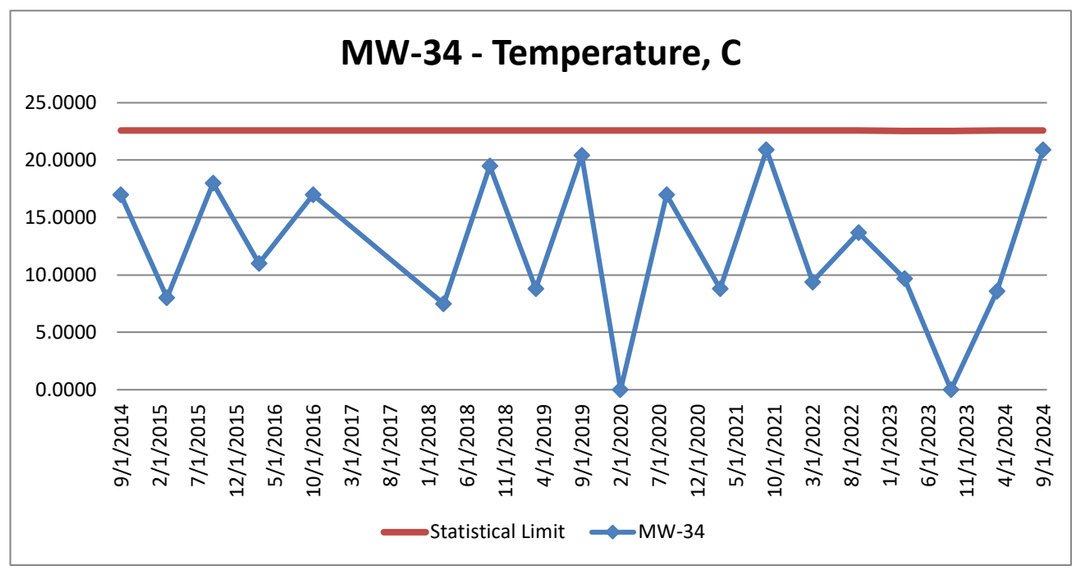
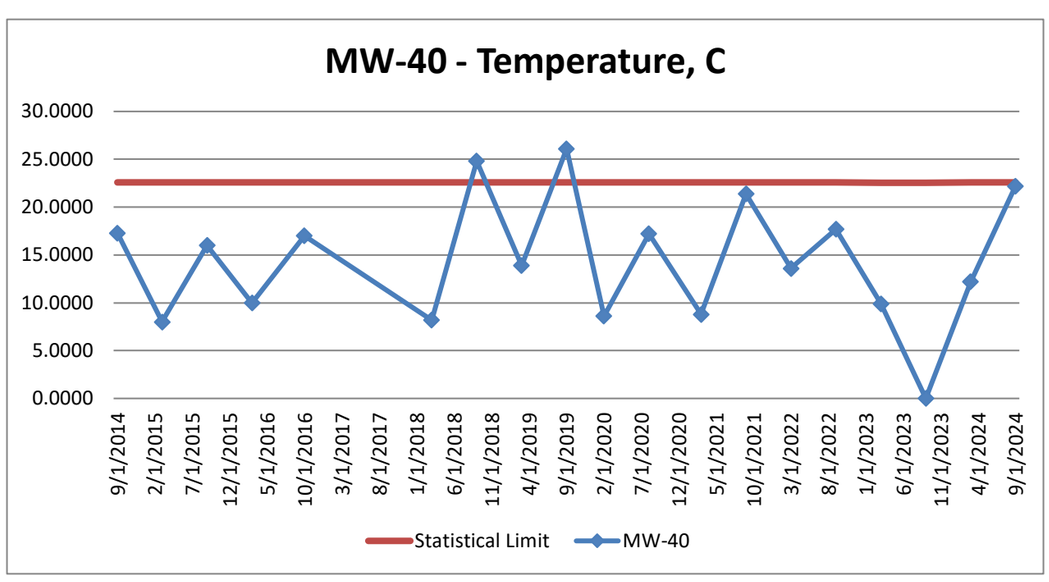
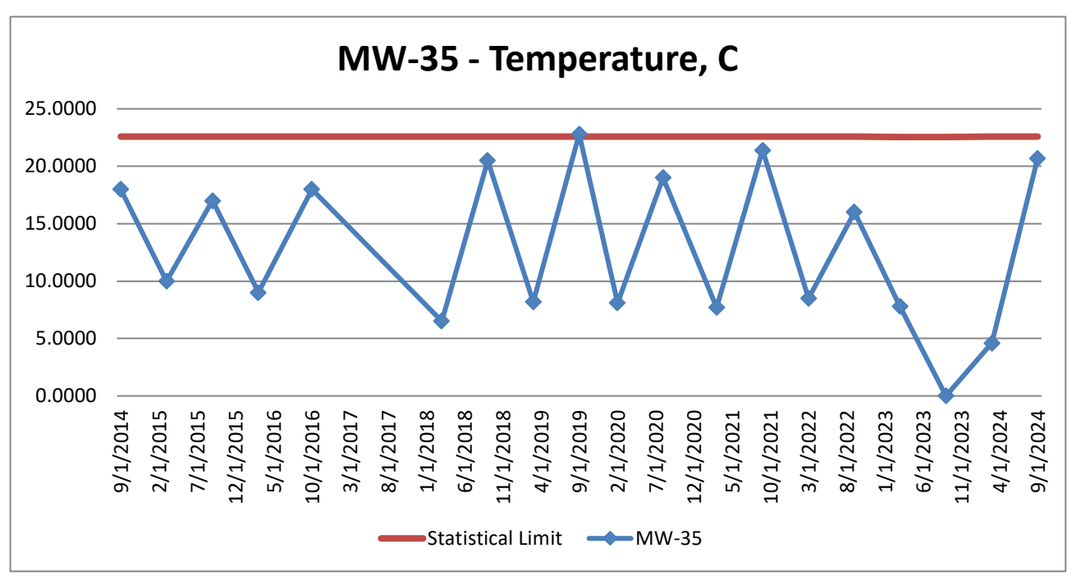
4/1/2024
9/1/2024
Series2
Series1


MW-33 - Temperature, C
25.0000
20.0000
15.0000
10.0000
5.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-33


MW-39 - Temperature, C
25.0000
20.0000
15.0000
10.0000
5.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-39


MW-34 - Temperature, C
25.0000
20.0000
15.0000
10.0000
5.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34


MW-40 - Temperature, C
30.0000
25.0000
20.0000
15.0000
10.0000
5.0000
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40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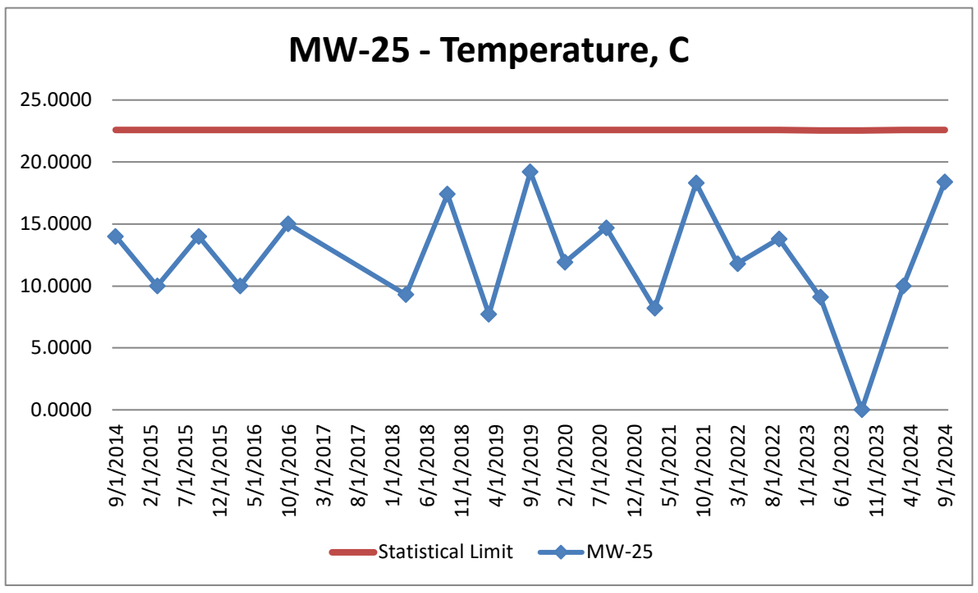
Statistical Limit
MW-35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8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

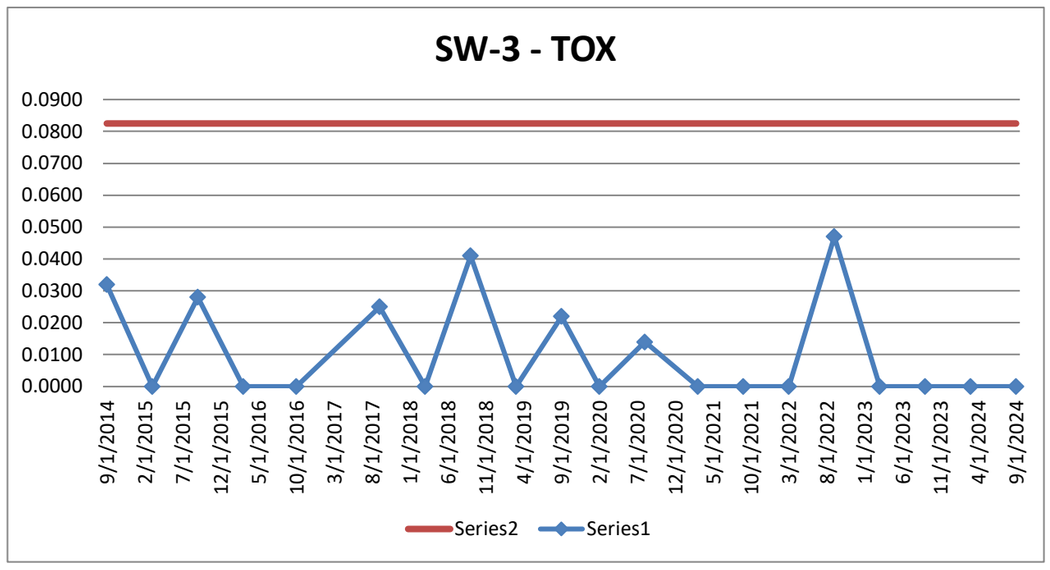
MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
	mg/L											
04/23/1991	Total Organic Halogens	--	0.082		0.017	0.06	NT		0.011	0.016	NT	NT
10/15/1991	Total Organic Halogens	--	0.082		<0.01	<0.01	NT		<0.01	<0.01	NT	NT
01/23/1992	Total Organic Halogens	--	0.082		<0.01	0.03	NT		<0.01	NT	NT	NT
03/23/1992	Total Organic Halogens	--	0.082		<0.01	0.04	NT		<0.01	<0.01	NT	NT
09/30/1992	Total Organic Halogens	--	0.082		<0.01	NT	NT		<0.01	<0.01	NT	NT
03/05/1993	Total Organic Halogens	--	0.082		NT	NT	NT		NT	NT	NT	NT
09/21/1993	Total Organic Halogens	--	0.082		<0.01	0.05	NT		0.01	0.01	NT	NT
03/23/1994	Total Organic Halogens	--	0.082		NT	NT	NT		NT	NT	NT	NT
09/16/1994	Total Organic Halogens	--	0.082		<0.01	<0.05	0.02		0.011	<0.01	<0.01	0.04
03/16/1995	Total Organic Halogens	--	0.082		NT	0.06	0.03		NT	NT	<0.01	<0.01
09/13/1995	Total Organic Halogens	--	0.082		<0.01	NT	NT		<0.01	<0.01	NT	NT
03/28/1996	Total Organic Halogens	--	0.082	NT	plugged	0.06	NT	NT	plugged	<0.01	NT	NT
06/20/1996	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/1996	Total Organic Halogens	--	0.082	0.01		0.04	0.02	0.01		0.01	<0.01	0.01
12/16/1996	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/19/1997	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
06/18/1997	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
08/30/1997	Total Organic Halogens	--	0.082	<0.01		0.02	0.02	<0.01		<0.01	<0.01	<0.01
03/10/1998	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/21/1998	Total Organic Halogens	--	0.082	<0.01		0.03	0.02	<0.01		<0.01	<0.01	<0.01
03/18/1999	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/21/1999	Total Organic Halogens	--	0.082	<0.01		0.03	0.13	<0.01		<0.01	0.03	<0.01
03/21/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
06/28/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/28/2000	Total Organic Halogens	--	0.082	<0.01		0.03	0.09	<0.01		0.02	0.02	0.02
12/27/2000	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/28/2001	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/02/2001	Total Organic Halogens	--	0.082	<0.01		0.022	0.085	<0.01		<0.01	<0.01	<0.01
03/19/2002	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/19/2002	Total Organic Halogens	--	0.082	<0.01		0.033	0.099	<0.01		<0.01	<0.01	0.124
03/14/2003	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.082	<0.010		<0.010	0.057	<0.010		<0.010	<0.010	<0.010
03/08/2004	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/27/2004	Total Organic Halogens	--	0.082	<0.010		0.03	0.074	<0.010		0.014	0.013	<0.010
03/17/2005	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2005	Total Organic Halogens	--	0.082	0.015		0.014	0.05	0.025		<0.010	<0.010	<0.010
03/17/2006	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2006	Total Organic Halogens	--	0.082	0.014		0.016	0.026	0.02		0.035	0.03	0.036
03/14/2007	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2007	Total Organic Halogens	--	0.082	0.017		0.012	0.04	<0.010		<0.010	<0.010	<0.010
03/03/2008	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2008	Total Organic Halogens	--	0.082	<0.010		0.039	0.088	<0.010		0.025	0.042	0.017
03/09/2009	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/23/2009	Total Organic Halogens	--	0.082	<0.010		0.04	0.111	<0.010		0.01	<0.010	0.011
03/16/2010	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/10/2010	Total Organic Halogens	--	0.082	<0.010		0.052	0.08	<0.010		<0.010	<0.010	<0.010
03/01/2011	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/22/2011	Total Organic Halogens	--	0.082	<0.010		0.052	0.068	<0.010		0.012	<0.010	<0.010
03/02/2012	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2012	Total Organic Halogens	--	0.082	<0.010		0.029	0.05	<0.010		<0.010	<0.010	0.013
03/08/2013	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2013	Total Organic Halogens	--	0.082	0.014		0.035	0.313	<0.010		0.015	0.023	<0.010
03/06/2014	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/09/2014	Total Organic Halogens	--	0.082	0.012		0.034	0.059	<0.010		<0.010	0.014	<0.010
03/11/2015	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/09/2015	Total Organic Halogens	--	0.082	0.039		0.04	0.064	<0.010		0.043	0.024	<0.010
03/11/2016	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
10/27/2016	Total Organic Halogens	--	0.082	<0.010		0.039	0.051	0.014		<0.010	0.015	<0.010
09/07/2017	Total Organic Halogens	--	0.082	<0.010		0.027	0.048	<0.010		<0.010	<0.010	<0.010
03/01/2018	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/19/2018	Total Organic Halogens	--	0.082	0.014		0.033	0.06	<0.010		<0.010	<0.010	<0.010
03/27/2019	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/05/2019	Total Organic Halogens	--	0.082	<0.010		0.034	0.05	<0.010		<0.010	0.031	0.012
02/28/2020	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
08/31/2020	Total Organic Halogens	--	0.082	<0.010		0.023	0.033	<0.010		<0.010	<0.010	0.011
03/05/2021	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2021	Total Organic Halogens	--	0.082	0.014		0.045	0.099	<0.010		<0.010	0.026	<0.010
03/02/2022	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/12/2022	Total Organic Halogens	--	0.082	0.013		0.044	0.092	<0.010		0.02	0.035	0.014
03/24/2023	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/13/2023	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
03/05/2024	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
09/03/2024	Total Organic Halogens	--	0.082	NT		NT	NT	NT		NT	NT	NT
	Mean			0.016	0.017	0.036	0.070	0.017	0.011	0.019	0.025	0.028
	Standard Deviation (STD)			0.008	0.000	0.013	0.054	0.006	0.000	0.010	0.009	0.032
	Mean + 2 STD			0.032	0.017	0.061	0.179	0.029	0.012	0.039	0.042	0.092

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
04/23/1991	Total Organic Halogens	--	0.082	0.031			0.033	---	0.05	
10/15/1991	Total Organic Halogens	--	0.082	<0.01			<0.01	---	<0.01	
01/23/1992	Total Organic Halogens	--	0.082	<0.01			<0.01	<0.01	<0.01	
03/23/1992	Total Organic Halogens	--	0.082	0.04			0.92	0.99	0.01	
09/30/1992	Total Organic Halogens	--	0.082	DRY			0.02	<0.01	0.01	
03/05/1993	Total Organic Halogens	--	0.082	NT			NT	NT	NT	
09/21/1993	Total Organic Halogens	--	0.082	0.02			0.02	0.05	0.02	
03/23/1994	Total Organic Halogens	--	0.082	NT			NT	NT	NT	
09/16/1994	Total Organic Halogens	--	0.082	NT			0.024	0.024	<0.01	
03/16/1995	Total Organic Halogens	--	0.082	NT			0.02	0.04	0.02	
09/13/1995	Total Organic Halogens	--	0.082	NT			NT	NT	NT	
03/28/1996	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
06/20/1996	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
09/13/1996	Total Organic Halogens	--	0.082	DRY			0.02	0.01	0.01	0.03
12/16/1996	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
03/19/1997	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
06/18/1997	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
08/30/1997	Total Organic Halogens	--	0.082	DRY			<0.01	<0.01	<0.01	<0.01
03/10/1998	Total Organic Halogens	--	0.082	NT			NT	NT	NT	NT
09/21/1998	Total Organic Halogens	--	0.082	DRY			0.02	0.02	<0.01	0.03
03/18/1999	Total Organic Halogens	--	0.082	DRY			NT	NT	NT	NT
09/21/1999	Total Organic Halogens	--	0.082	DRY			0.02	0.02	0.01	0.02
03/21/2000	Total Organic Halogens	--	0.082	DRY			NT	NT	NT	NT
06/28/2000	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/28/2000	Total Organic Halogens	--	0.082	DRY	0.02	<0.01	0.02	0.02	0.02	DRY
12/27/2000	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
03/28/2001	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/02/2001	Total Organic Halogens	--	0.082	DRY	0.017	<0.01	0.065	0.021	0.03	0.028
03/19/2002	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/19/2002	Total Organic Halogens	--	0.082	DRY	<0.01	0.015	0.019	0.02	0.021	0.034
03/14/2003	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/29/2003	Total Organic Halogens	--	0.082	DRY	NT	<0.010	<0.010	<0.010	0.012	<0.010
03/08/2004	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/27/2004	Total Organic Halogens	--	0.082	DRY	<0.010	0.01	0.034	0.034	0.012	0.029
03/17/2005	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/22/2005	Total Organic Halogens	--	0.082	DRY	<0.010	0.079	0.035	0.115	0.053	0.029
03/17/2006	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	0.019	NT	NT
09/22/2006	Total Organic Halogens	--	0.082	DRY	0.063	<0.010	0.036	0.032	0.056	0.016
03/14/2007	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/22/2007	Total Organic Halogens	--	0.082	DRY	0.012	<0.010	0.045	0.019	0.026	0.02
03/03/2008	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/05/2008	Total Organic Halogens	--	0.082	DRY	<0.010	<0.010	0.039	0.021	0.023	0.015
03/09/2009	Total Organic Halogens	--	0.082	DRY	NT	NT	NT	NT	NT	NT
09/23/2009	Total Organic Halogens	--	0.082	DRY	<0.010	<0.010	0.049	0.021	0.032	0.015
03/16/2010	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/10/2010	Total Organic Halogens	--	0.082	0.022	0.023	<0.010	0.033	0.016	0.020	0.046
03/01/2011	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/22/2011	Total Organic Halogens	--	0.082	0.032	0.015	<0.010	0.041	<0.010	0.013	0.034
03/02/2012	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/05/2012	Total Organic Halogens	--	0.082	0.028	<0.010	0.011	0.028	0.015	<0.010	0.022
03/08/2013	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/13/2013	Total Organic Halogens	--	0.082	DRY	0.013	0.012	0.037	0.028	0.020	0.039
03/06/2014	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/09/2014	Total Organic Halogens	--	0.082	0.032	0.023	0.02	0.023	0.023	0.024	0.039
03/11/2015	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/09/2015	Total Organic Halogens	--	0.082	0.028	0.026	0.014	0.026	0.024	0.023	0.042
03/11/2016	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
10/27/2016	Total Organic Halogens	--	0.082	DRY	0.017	0.025	0.055	0.020	0.025	0.033
09/07/2017	Total Organic Halogens	--	0.082	0.025	<0.010	0.016	0.029	0.020	0.010	0.016
03/01/2018	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/19/2018	Total Organic Halogens	--	0.082	0.041	0.016	0.033	<0.010	0.024	<0.010	0.015
03/27/2019	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/05/2019	Total Organic Halogens	--	0.082	0.022	0.011	0.012	0.024	0.01	0.015	0.016
02/28/2020	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
08/31/2020	Total Organic Halogens	--	0.082	0.014	<0.010	0.011	0.01	<0.010	<0.010	0.023
03/05/2021	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/13/2021	Total Organic Halogens	--	0.082	DRY	0.02	<0.010	0.026	0.012	0.025	0.024
03/02/2022	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/12/2022	Total Organic Halogens	--	0.082	0.047	0.011	0.013	0.025	0.027	0.015	<.010
03/24/2023	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/13/2023	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
03/05/2024	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
09/03/2024	Total Organic Halogens	--	0.082	NT	NT	NT	NT	NT	NT	NT
	Mean			0.029	0.021	0.021	0.060	0.061	0.022	0.027
	Standard Deviation (STD)			0.009	0.013	0.018	0.160	0.180	0.013	0.009
	Mean + 2 STD			0.047	0.046	0.057	0.380	0.420	0.047	0.045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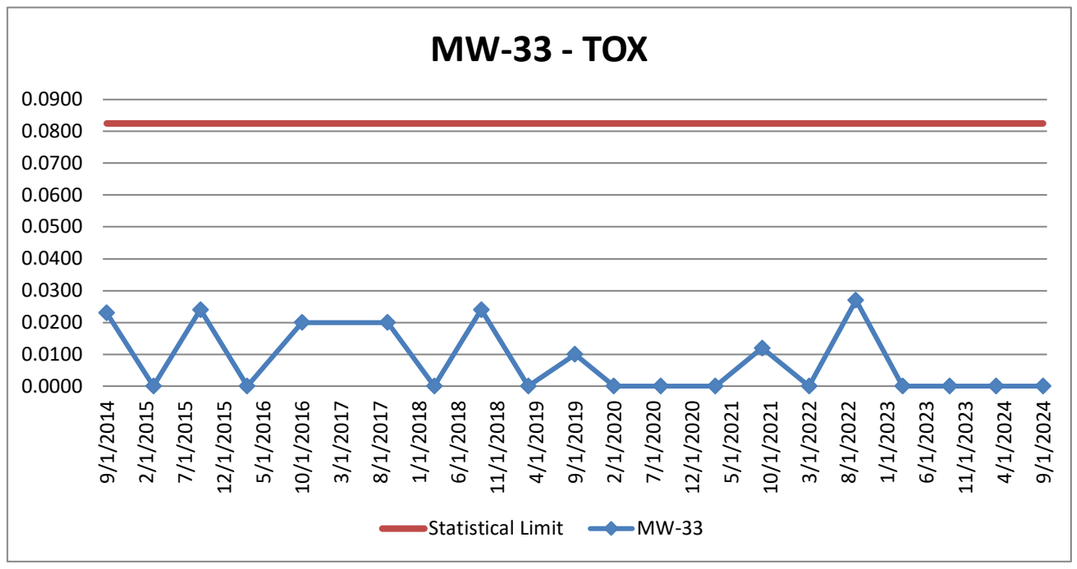
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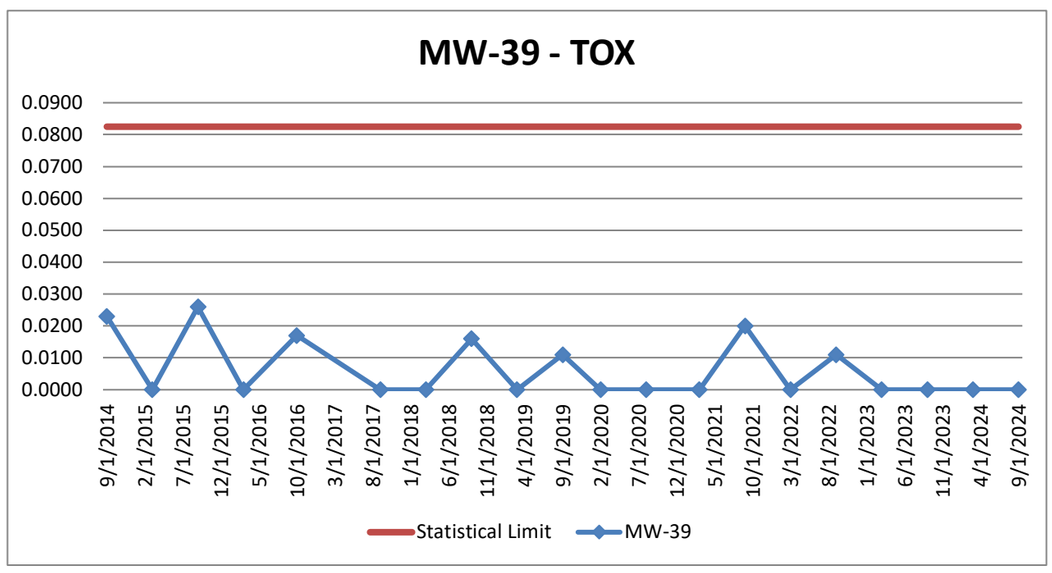
Statistical Limit
MW-33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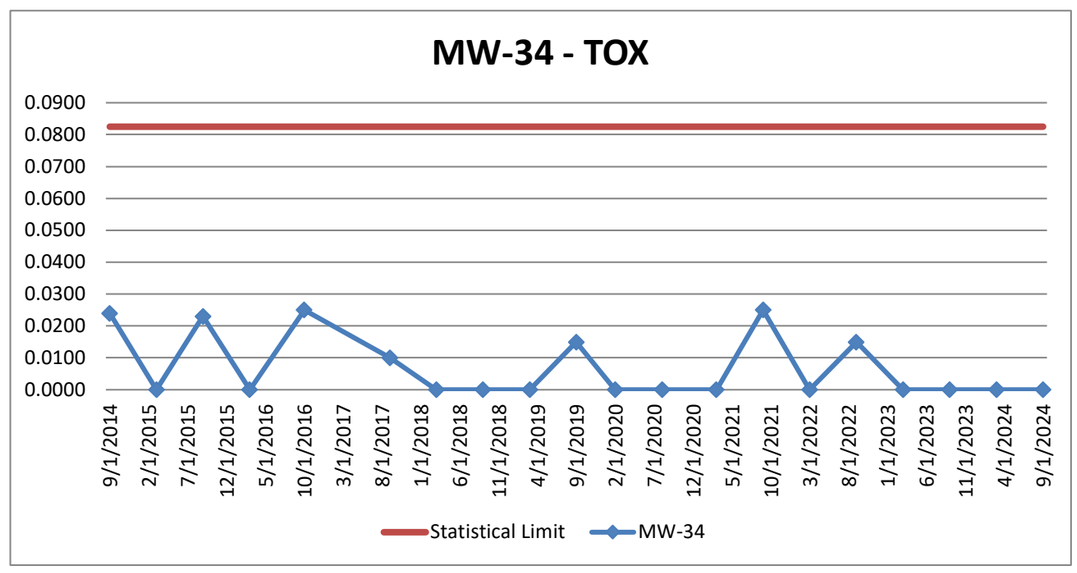
Statistical Limit
MW-39


MW-34 - TOX
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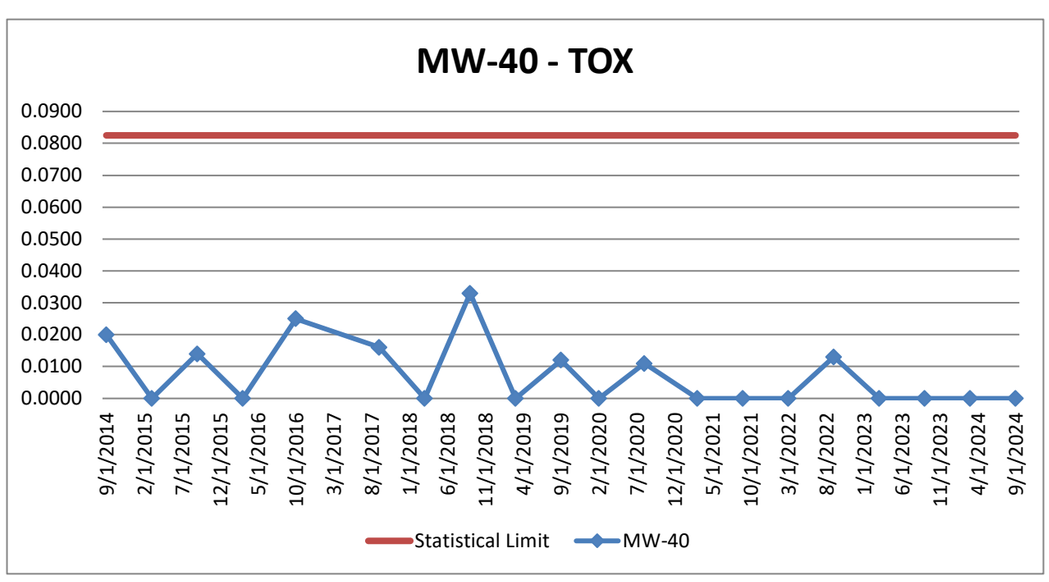
0.0800
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-34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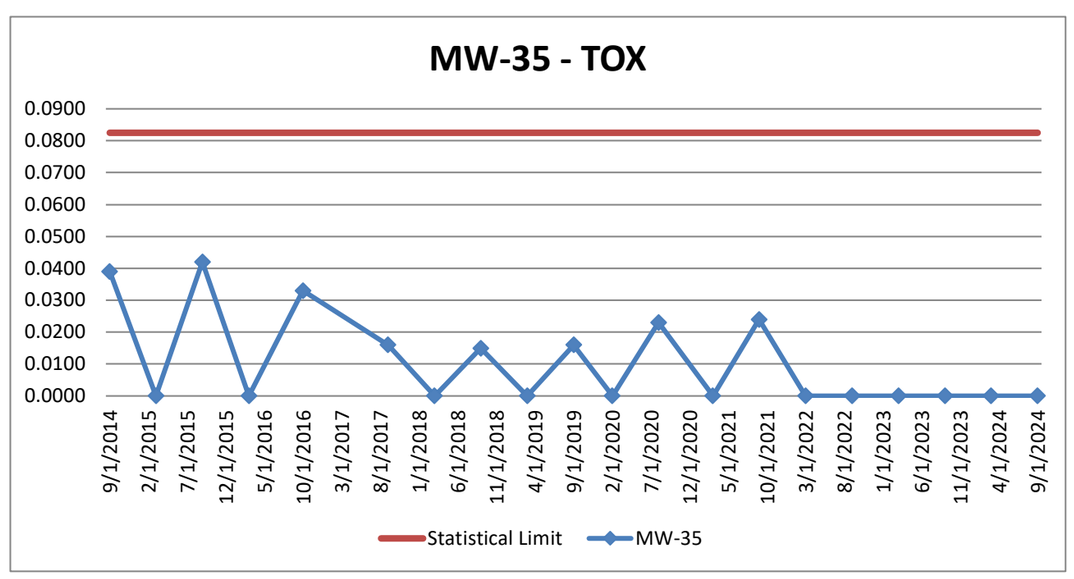
0.0200
0.0100
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-40


MW-35 - TOX
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0.0600
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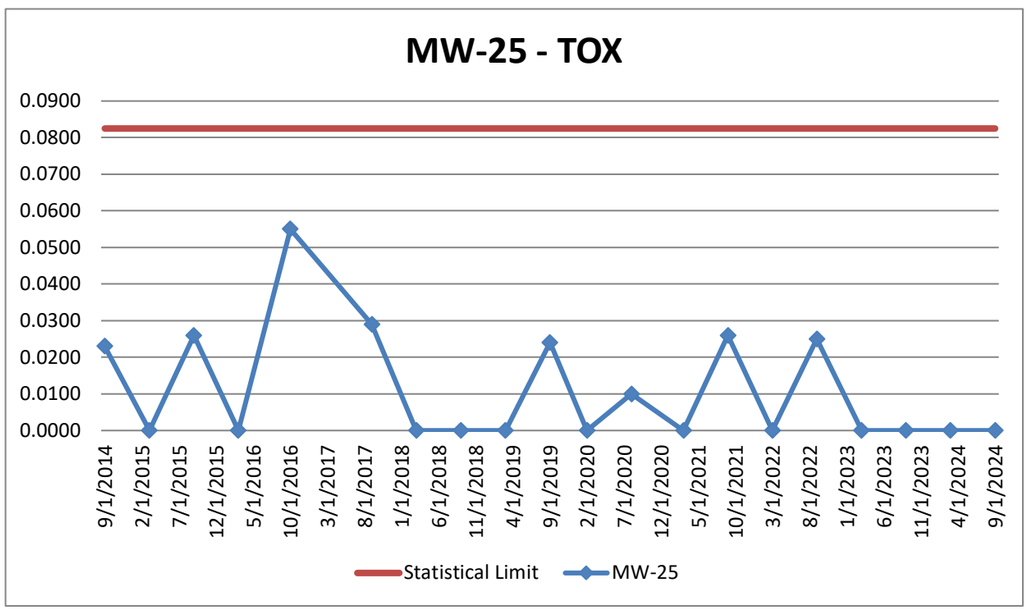
0.0400
0.0300
0.0200
0.0100
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-35


MW-25 - TOX
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0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
9/1/2014
2/1/2015
7/1/2015
12/1/2015
5/1/2016
10/1/2016
3/1/2017
8/1/2017
1/1/2018
6/1/2018
11/1/2018
4/1/2019
9/1/2019
2/1/2020
7/1/2020
12/1/2020
5/1/2021
10/1/2021
3/1/2022
8/1/2022
1/1/2023
6/1/2023
11/1/2023
4/1/2024
9/1/2024
Statistical Limit
MW-25

AMES-STORY ENVIRONMENTAL LANDFILL

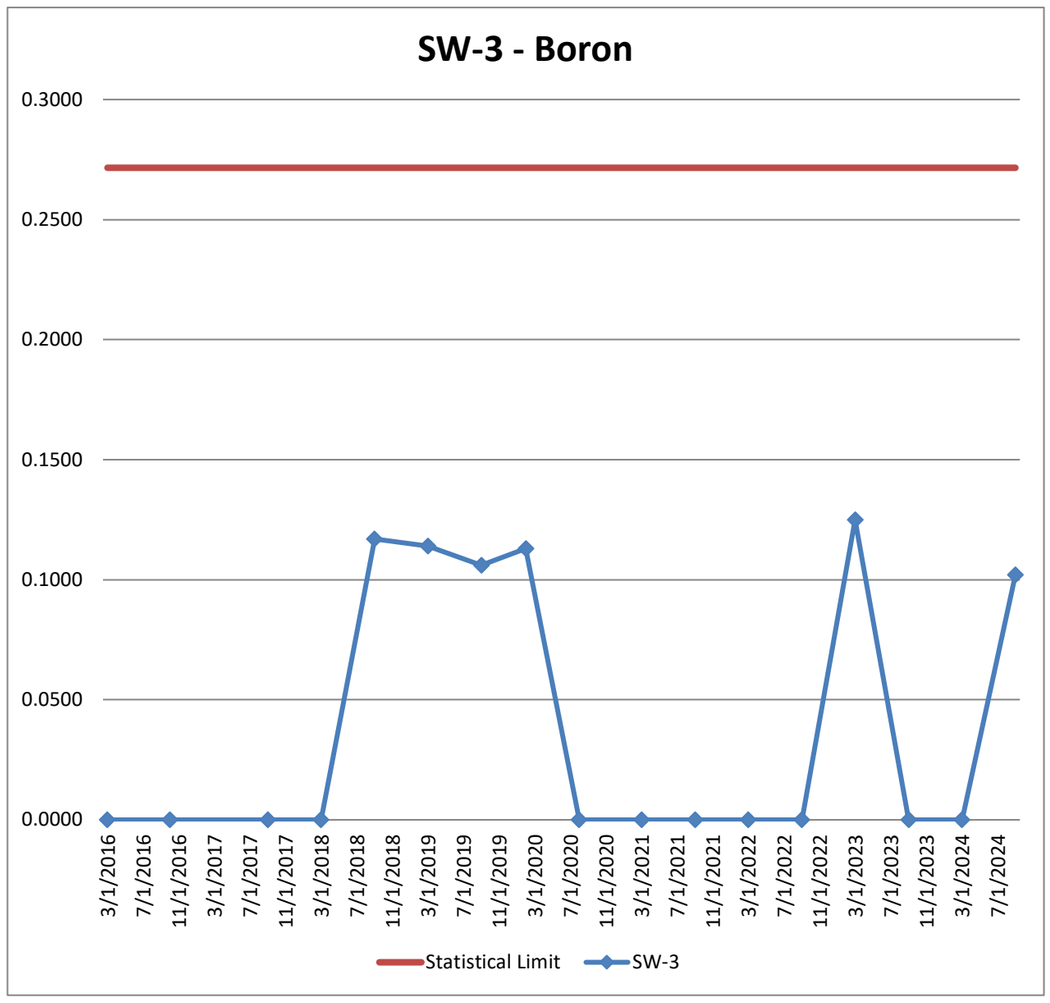
MONITORING WELL SAMPLING RESULTS

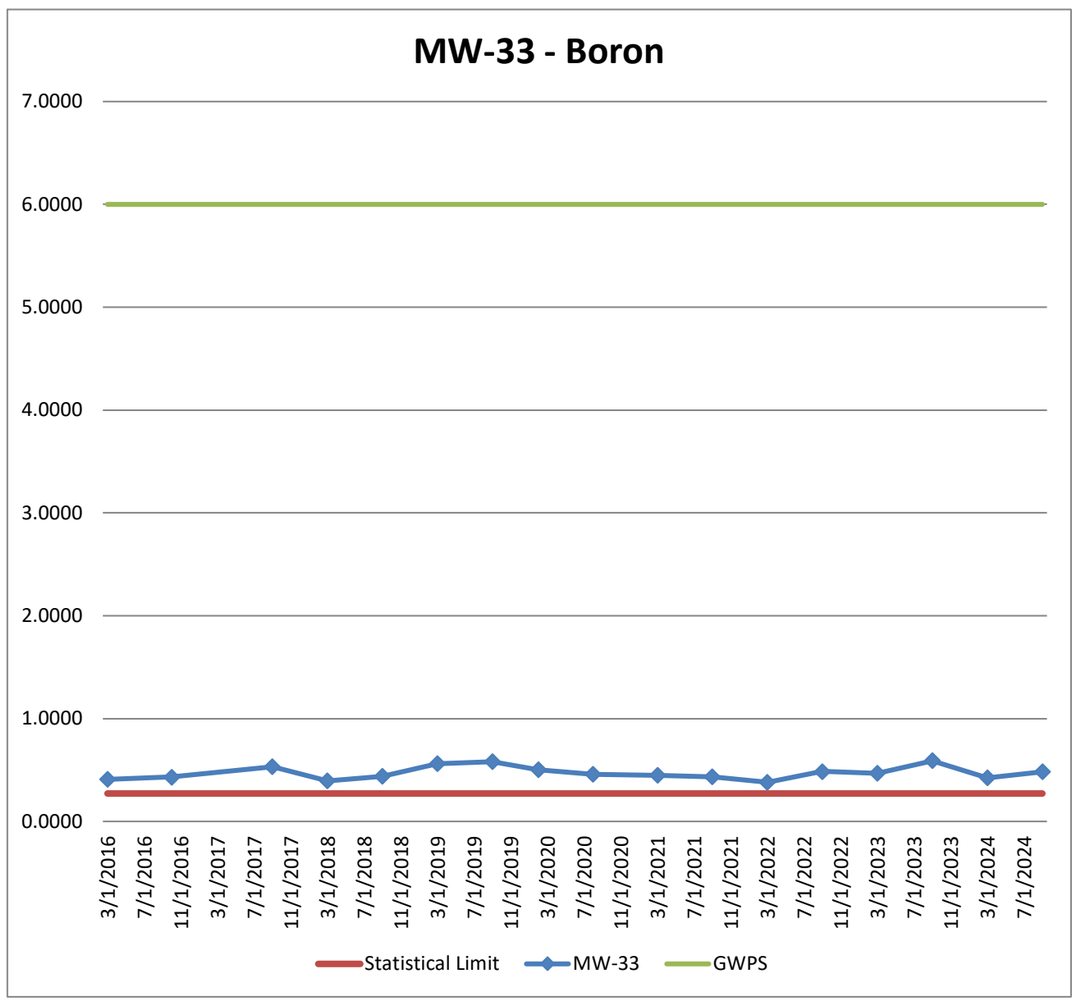
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
03/11/2016	Boron, Total	6	0.272	<0.1		0.176	<0.1	0.151		<0.1	<0.1	<0.1
10/27/2016	Boron, Total	6	0.272	<0.1		0.277	0.106	0.14		<0.1	<0.1	<0.1
09/07/2017	Boron, Total	6	0.272	<0.1		0.262	<0.1	0.143		<0.1	<0.1	<0.1
03/01/2018	Boron, Total	6	0.272	<0.1		0.168	<0.1	0.117		<0.1	<0.1	<0.1
09/19/2018	Boron, Total	6	0.272	<0.1		0.256	<0.1	0.180		<0.1	<0.1	<0.1
03/27/2019	Boron, Total	6	0.272	<0.1		0.0175	<0.1	0.149		<0.1	<0.1	<0.1
09/05/2019	Boron, Total	6	0.272	<0.1		0.343	<0.1	0.138		<0.1	<0.1	<0.1
02/28/2020	Boron, Total	6	0.272	<0.1		0.218	<0.1	0.143		<0.1	<0.1	<0.1
08/31/2020	Boron, Total	6	0.272	<0.1		0.31	<0.1	0.141		<0.1	<0.1	<0.1
03/05/2021	Boron, Total	6	0.272	<0.1		0.317	<0.1	0.125		<0.1	<0.1	<0.1
09/13/2021	Boron, Total	6	0.272	<0.1		0.389	<0.1	0.124		<0.1	<0.1	<0.1
03/02/2022	Boron, Total	6	0.272	<0.1		0.256	<0.1	0.110		<0.1	<0.1	<0.1
09/12/2022	Boron, Total	6	0.272	<0.1		0.467	<0.1	0.130		<0.1	<0.1	<0.1
03/24/2023	Boron, Total	6	0.272	NT		NT	<0.1	NT		NT	<0.1	NT
09/13/2023	Boron, Total	6	0.272	NT		0.338	NT	NT		NT	NT	0.114
03/05/2024	Boron, Total	6	0.272	0.05		NT	NT	NT		0.05	NT	NT
09/03/2024	Boron, Total	6	0.272	NT		NT	0.109	0.133		NT	NT	NT

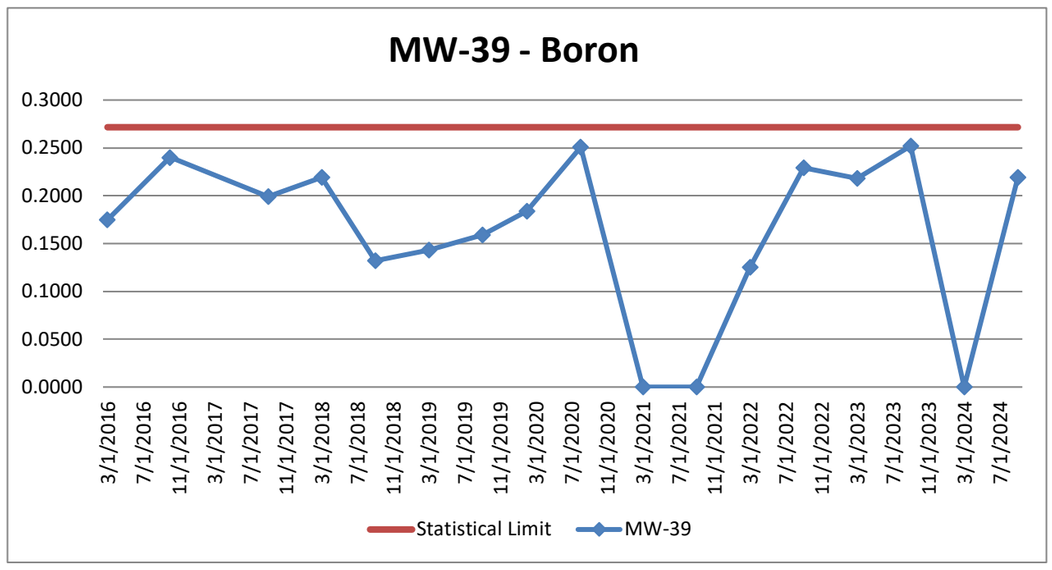
AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
03/11/2016	Boron, Total	6	0.272	<0.1	0.175	<0.1	0.567	0.407	0.167	<0.1
10/27/2016	Boron, Total	6	0.272	Dry	0.240	0.139	0.630	0.431	0.258	<0.1
09/07/2017	Boron, Total	6	0.272	<0.1	0.199	0.14	1.090	0.532	0.236	<0.1
03/01/2018	Boron, Total	6	0.272	<0.1	0.219	<0.1	0.689	0.396	<0.1	<0.1
09/19/2018	Boron, Total	6	0.272	0.117	0.132	0.108	0.682	0.440	0.320	<0.1
03/27/2019	Boron, Total	6	0.272	0.114	0.143	<0.1	0.587	0.559	0.162	<0.1
09/05/2019	Boron, Total	6	0.272	0.106	0.159	<0.1	0.921	0.581	0.247	<0.1
02/28/2020	Boron, Total	6	0.272	0.113	0.184	<0.1	0.743	0.503		<0.1
08/31/2020	Boron, Total	6	0.272	<0.1	0.251	<0.1	0.817	0.457	0.236	<0.1
03/05/2021	Boron, Total	6	0.272	<0.1	<0.1	<0.1	1.340	0.448	0.220	<0.1
09/13/2021	Boron, Total	6	0.272	Dry	<0.1	<0.1	0.579	0.433	0.209	<0.1
03/02/2022	Boron, Total	6	0.272	<0.1	0.125	<0.1	0.948	0.381	0.270	<0.1
09/12/2022	Boron, Total	6	0.272	<0.1	0.229	<0.1	0.750	0.485	0.219	<0.1
03/24/2023	Boron, Total	6	0.272	0.125	0.218	<0.1	0.921	0.470	0.285	<0.1
09/13/2023	Boron, Total	6	0.272	<0.1	0.252	<0.1	0.859	0.589	0.213	<0.1
03/05/2024	Boron, Total	6	0.272	Dry	<0.1	<0.1	0.828	0.425	0.211	<0.1
09/03/2024	Boron, Total	6	0.272	0.102	0.219	<0.1	0.786	0.481	0.208	<0.1


SW-3 - Boron
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
SW-3


MW-33 - Boron
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-33
GWPS


MW-39 - Boron
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
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3/1/2020
7/1/2020
11/1/2020
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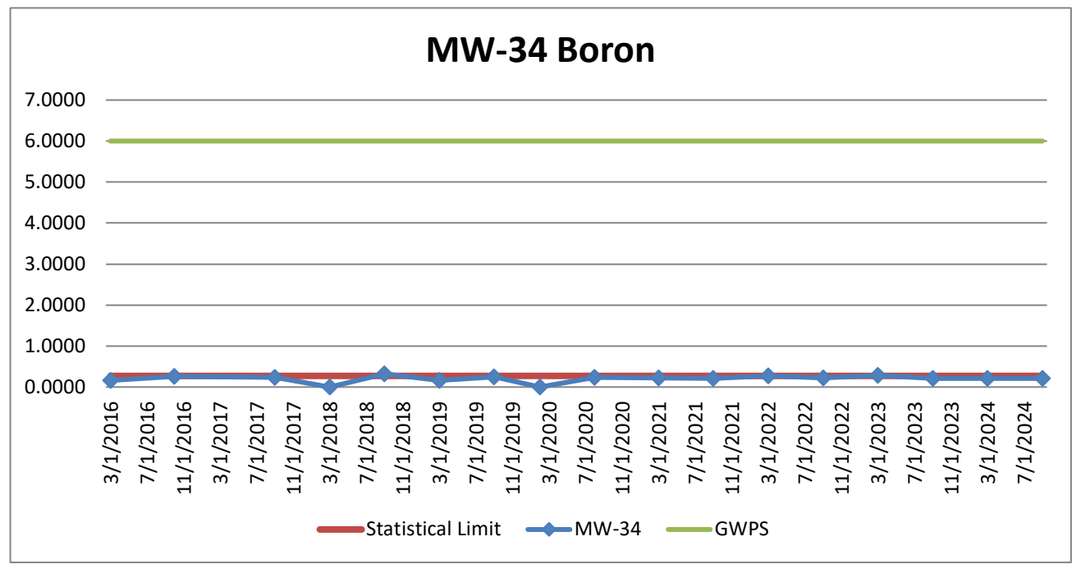
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-39


MW-34 Boron
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
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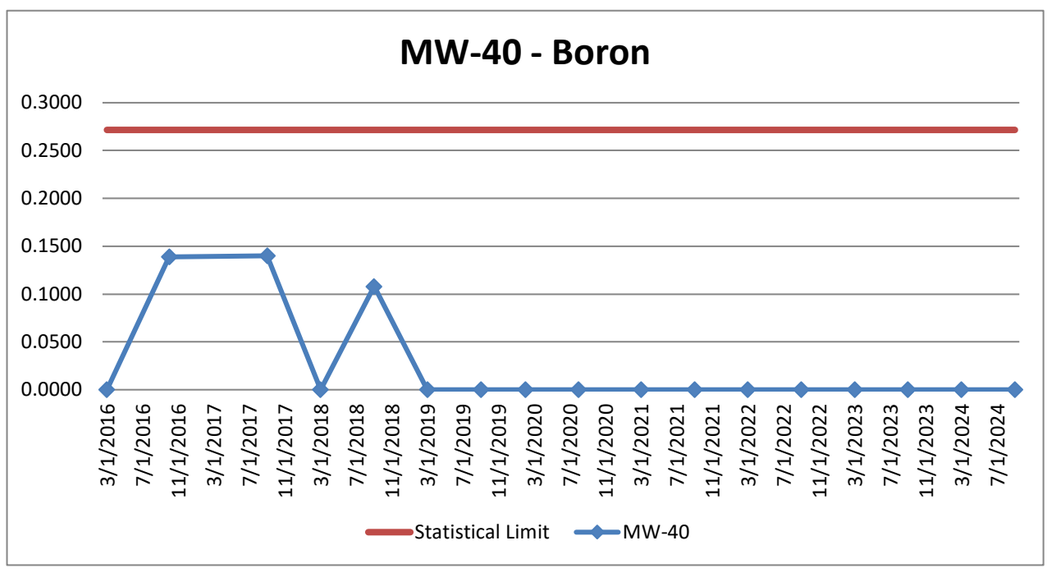
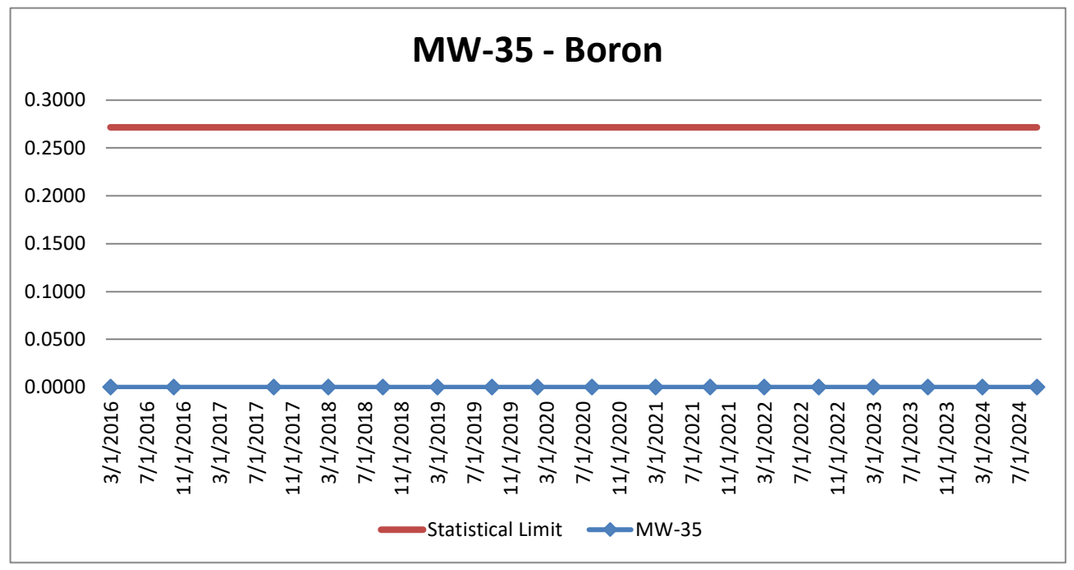
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-34
GWPS


MW-40 - Boron
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-40


MW-35 - Boron
0.3000
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0.1000
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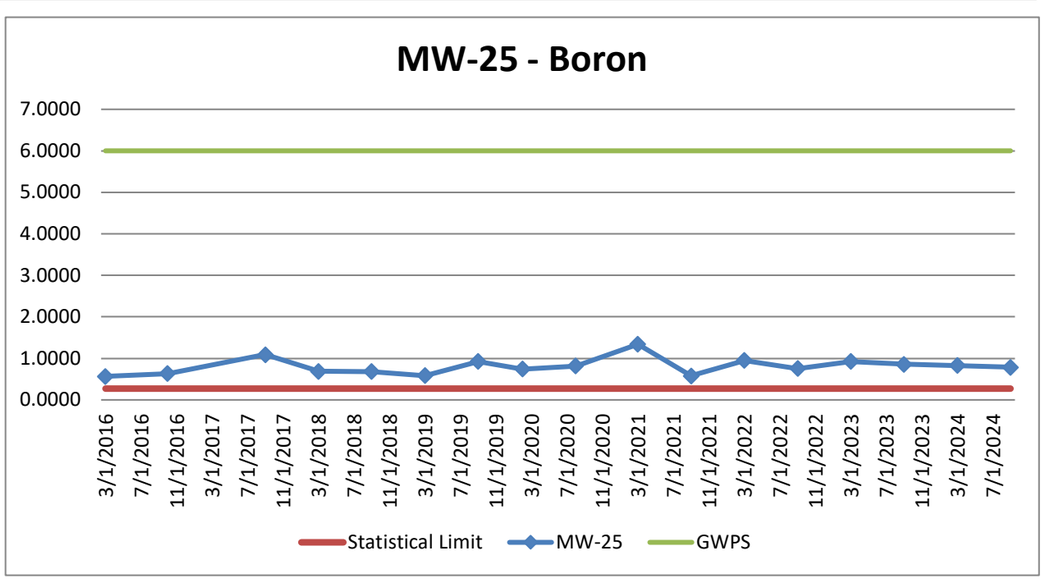
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-35


MW-25 - Boron
7.0000
6.0000
5.0000
4.0000
3.0000
2.0000
1.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
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11/1/2021
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7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-25
GWPS

AMES-STORY ENVIRONMENTAL LANDFILL

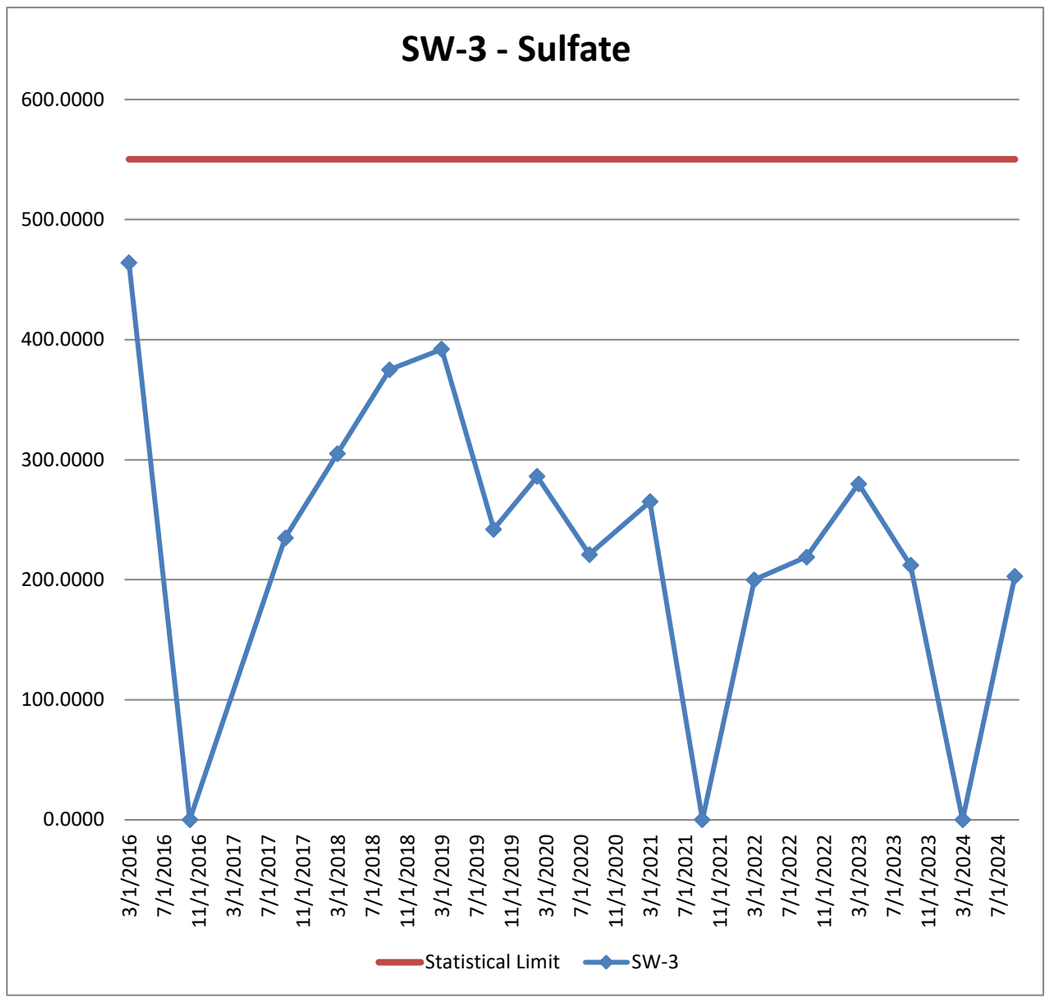
MONITORING WELL SAMPLING RESULTS

				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
03/11/2016	Sulfate	--	550.25	597		529	133	16.9		71.4	71.6	26.1
10/27/2016	Sulfate	--	550.25	514		524	102	11		74.5	79.1	42
09/07/2017	Sulfate	--	550.25	470		407	76.6	9.2		67	70	42.8
03/01/2018	Sulfate	--	550.25	600		539	76.9	10.5		68.1	69.1	40.9
09/19/2018	Sulfate	--	550.25	468		512	53.3	9		70.9	73.2	45
03/27/2019	Sulfate	--	550.25	550		532	44.2	10.9		64.2	71.2	44.9
09/05/2019	Sulfate	--	550.25	442		315	33.3	13.7		56.4	75.1	44.8
02/28/2020	Sulfate	--	550.25	518		440	40.7	8.7		64.8	70	42.5
08/31/2020	Sulfate	--	550.25	436		357	29.9	13.6		67.4	69.6	41.4
03/05/2021	Sulfate	--	550.25	546		361	49.5	9.5		65.1	69.6	41.7
09/13/2021	Sulfate	--	550.25	371		377	54.4	11		70.7	70.2	43.3
03/02/2022	Sulfate	--	550.25	378		477	88.6	10		70.8	71.3	41.6
09/12/2022	Sulfate	--	550.25	363		323	147	12.6		71.4	70.5	33
03/24/2023	Sulfate	--	550.25	NT		NT	315	NT		NT	74.6	NT
09/13/2023	Sulfate	--	550.25	NT		418	NT	NT		NT	NT	46.4
03/05/2024	Sulfate	--	550.25	422		NT	NT	NT		62.4	NT	NT
09/03/2024	Sulfate	--	550.25	NT		NT	327	11.6		NT	NT	NT

AMES-STORY ENVIRONMENTAL LANDFILL

MONITORING WELL SAMPLING RESULTS

DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
03/11/2016	Sulfate	--	550.25	464	486	175	337	201	380	103
10/27/2016	Sulfate	--	550.25	Dry	545	209	346	160	222	70.6
09/07/2017	Sulfate	--	550.25	235	601	240	391	154	151	62.2
03/01/2018	Sulfate	--	550.25	305	671	184	326	124	133	68.8
09/19/2018	Sulfate	--	550.25	375	348	211	206	208	277	47.4
03/27/2019	Sulfate	--	550.25	392	509	154	95.9	173	221	64.3
09/05/2019	Sulfate	--	550.25	242	625	343	248	209	166	32.1
02/28/2020	Sulfate	--	550.25	286	416	187	265	162		62.2
08/31/2020	Sulfate	--	550.25	221	732	349	292	158	156	49.9
03/05/2021	Sulfate	--	550.25	265	840	305	157	151	534	80.4
09/13/2021	Sulfate	--	550.25	Dry	754	282	158	150	154	53.4
03/02/2022	Sulfate	--	550.25	200	891	270	154	141	475	72.7
09/12/2022	Sulfate	--	550.25	219	675	338	248	197	172	62.8
03/24/2023	Sulfate	--	550.25	280	607	126	200	168	552	85.2
09/13/2023	Sulfate	--	550.25	212	544	315	199	182	167	72.8
03/05/2024	Sulfate	--	550.25	Dry	707	226	190	152	137	77.2
09/03/2024	Sulfate	--	550.25	203	480	323	206	169	166	51


SW-3 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
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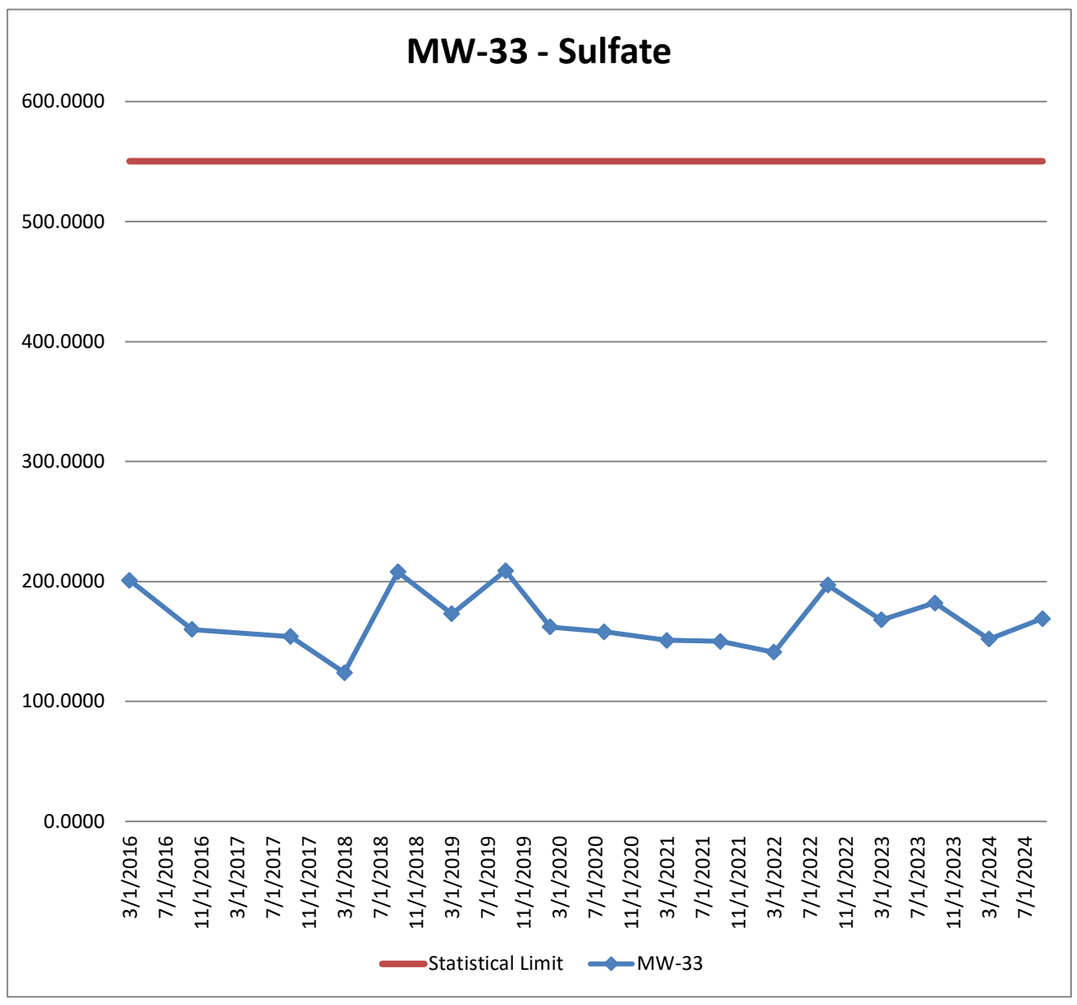
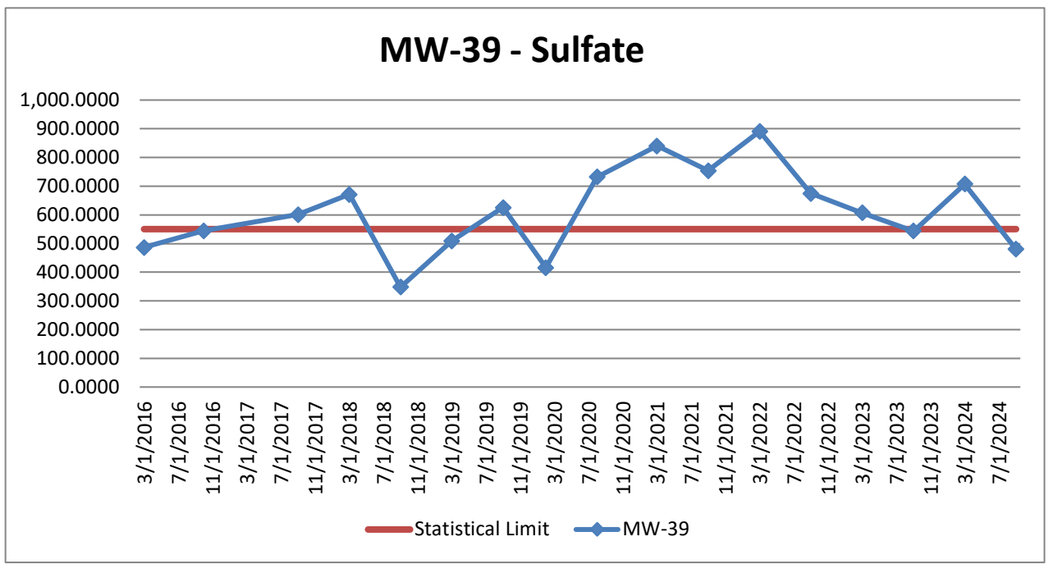
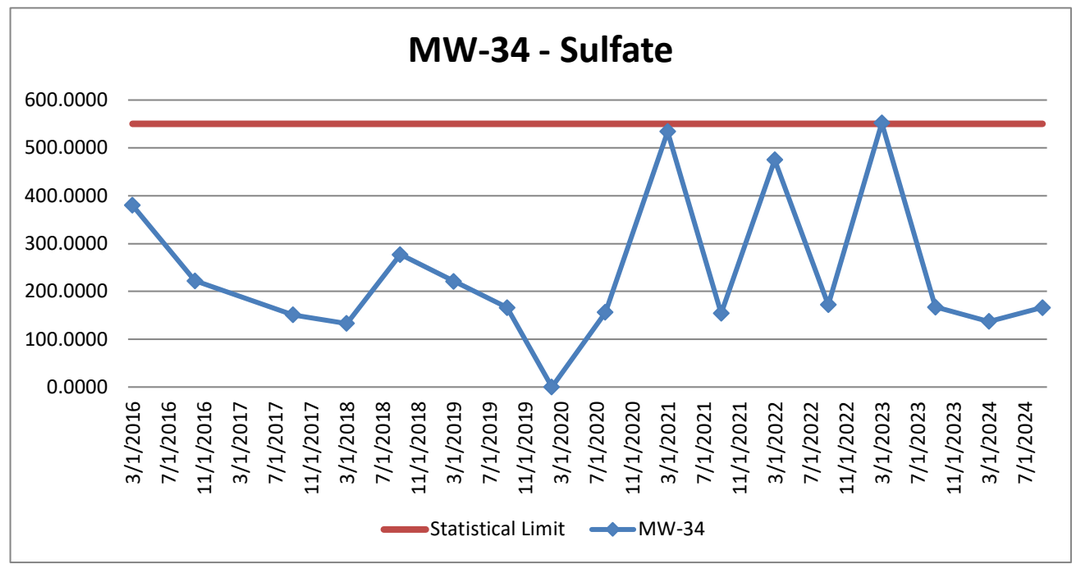
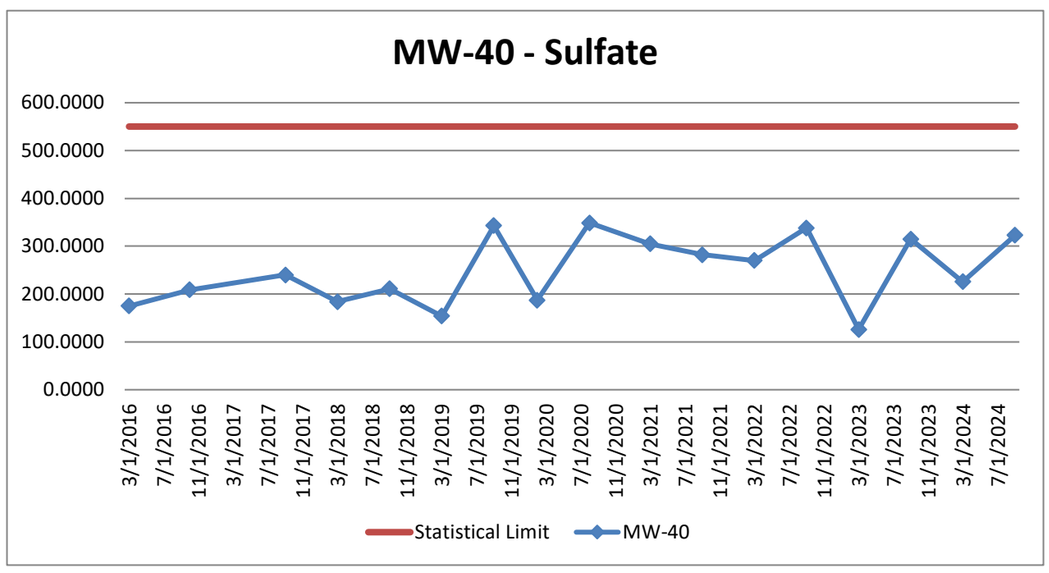
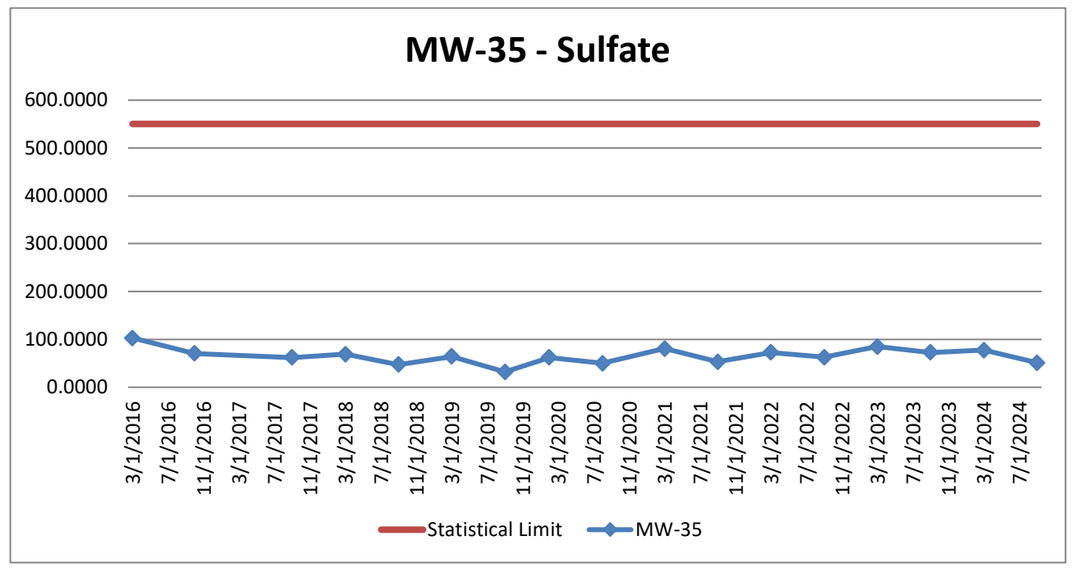
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
SW-3

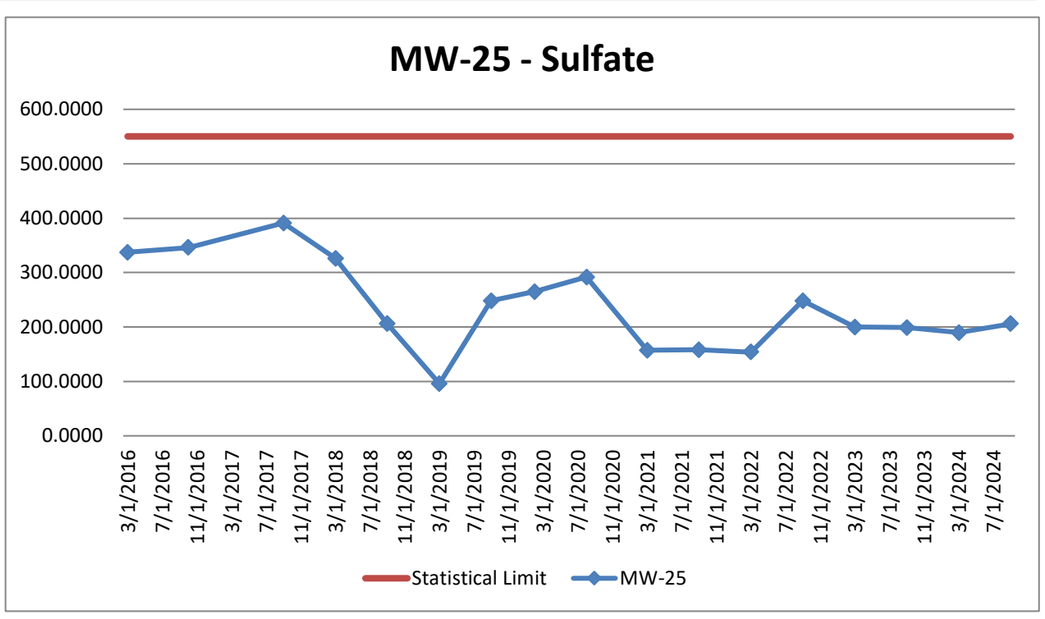

MW-33 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-33


MW-39 - Sulfate
1,000.0000
900.0000
800.0000
700.0000
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-39


MW-34 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-34


MW-40 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-40

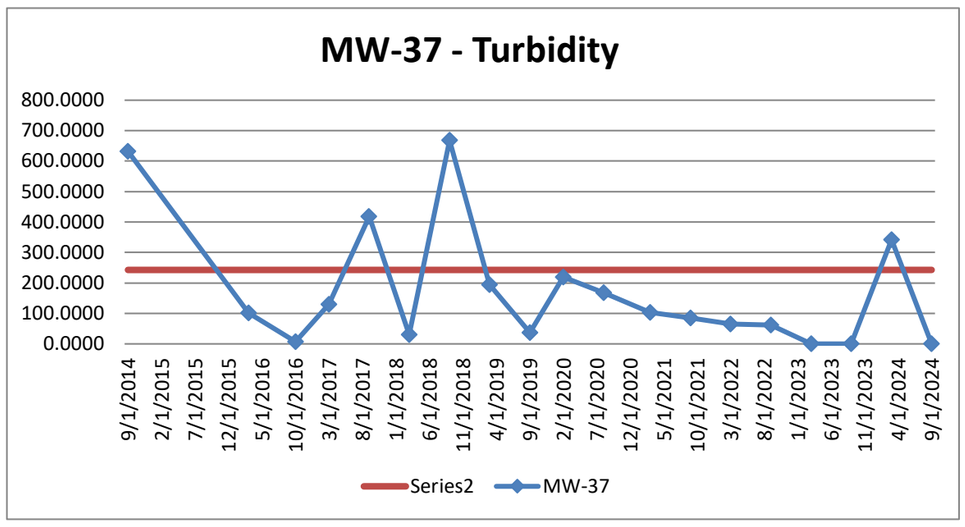

MW-35 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-35

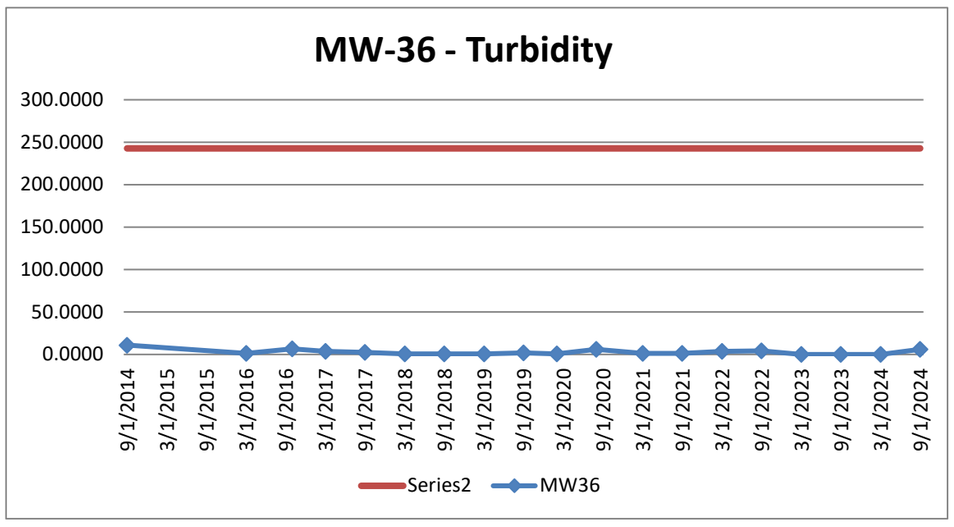

MW-25 - Sulfate
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW-25

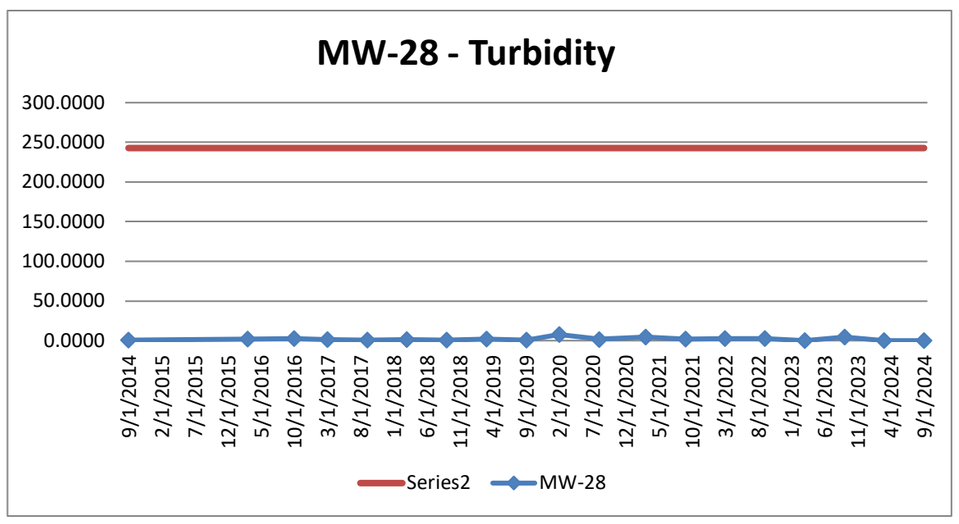
AMES-STORY ENVIRONMENTAL LANDFILL

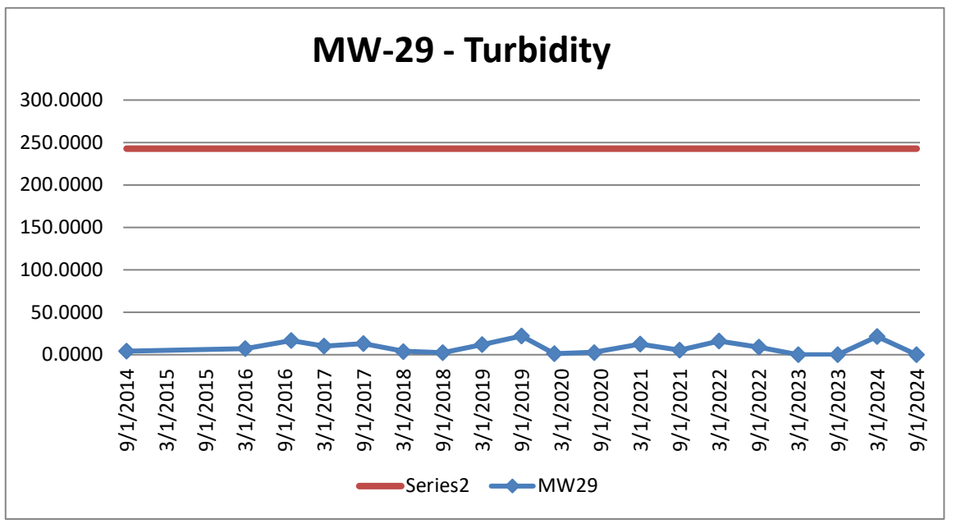
MONITORING WELL SAMPLING RESULTS

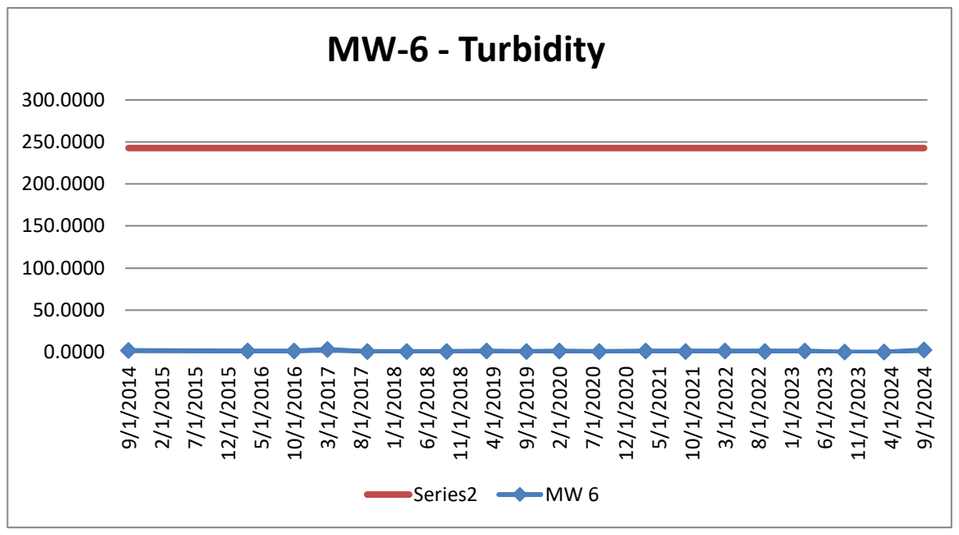
				WATER TABLE SYSTEM				UPPER AQUIFER SAND LAYER SYSTEM				
				Upgradient Results				Upgradient Results				
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD WT	U.G.W MW-37	U.G.W MW-22	U.G.W MW-28	U.G.W MW 6	U.A.W MW36	U.A.W MW27	U.A.W MW29	U.A.W MW 7	U.A.W MW 8
		mg/L										
09/09/2014	Turbidity, NTU	--	242.76	632.4		0.44	2.03	11.02		4.43	39.1	40.9
03/11/2016	Turbidity, NTU	--	242.76	101		2.26	1.13	0.97		7.08	3.95	2.14
10/27/2016	Turbidity, NTU	--	242.76	6.65		2.69	1.34	6.36		16.9	1.68	3.12
03/27/2017	Turbidity, NTU	--	242.76	129		1.25	3.15	3.79		10.1	NT	23
09/07/2017	Turbidity, NTU	--	242.76	418.2		0.72	0.59	2.72		13.34	45.19	8.35
03/01/2018	Turbidity, NTU	--	242.76	30.1		1.23	0.7	0.91		3.91	5.64	7.51
09/19/2018	Turbidity, NTU	--	242.76	668		0.42	0.63	0.71		2.61	1.43	5.81
03/27/2019	Turbidity, NTU	--	242.76	195.1		2.11	1.28	0.83		11.76	3.02	36.95
09/05/2019	Turbidity, NTU	--	242.76	36.19		0.95	0.56	1.84		22.06	30.36	18.85
02/28/2020	Turbidity, NTU	--	242.76	218.7		7.68	1.21	0.93		1.14	4.15	25.68
08/31/2020	Turbidity, NTU	--	242.76	168		1.68	0.83	6		2.74	114	34.58
03/05/2021	Turbidity, NTU	--	242.76	103.4		4.28	1.28	1.4		12.29	12.26	21.07
09/13/2021	Turbidity, NTU	--	242.76	84.39		1.79	0.94	1.23		5.66	4.53	5.87
03/02/2022	Turbidity, NTU	--	242.76	64.75		2.73	1.49	3.7		15.86	10.21	14.62
09/12/2022	Turbidity, NTU	--	242.76	61.68		2.66	0.94	4.15		9.12	9.36	4.7
03/24/2023	Turbidity, NTU	--	242.76	NT		NT	1.33	NT		NT	36.31	NT
09/13/2023	Turbidity, NTU	--	242.76	NT		4.61	NT	NT		NT	NT	51.95
03/05/2024	Turbidity, NTU	--	242.76	342		NT	NT	NT		21.29	NT	NT
09/03/2024	Turbidity, NTU	--	242.76	NT		NT	2.62	5.93		NT	NT	NT

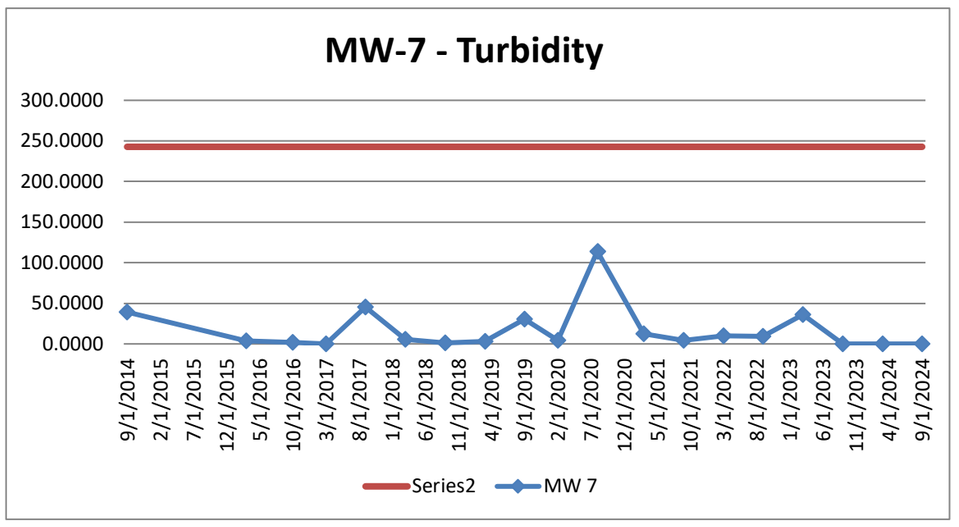


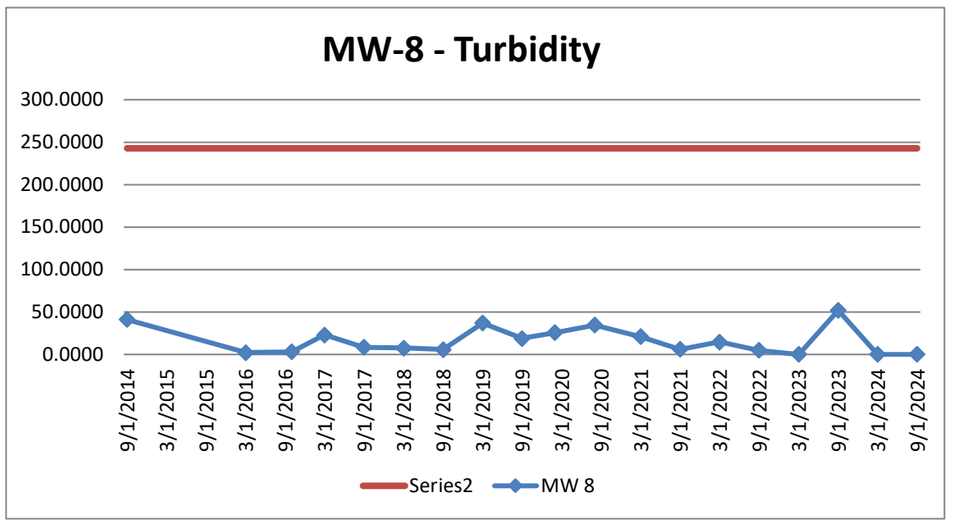








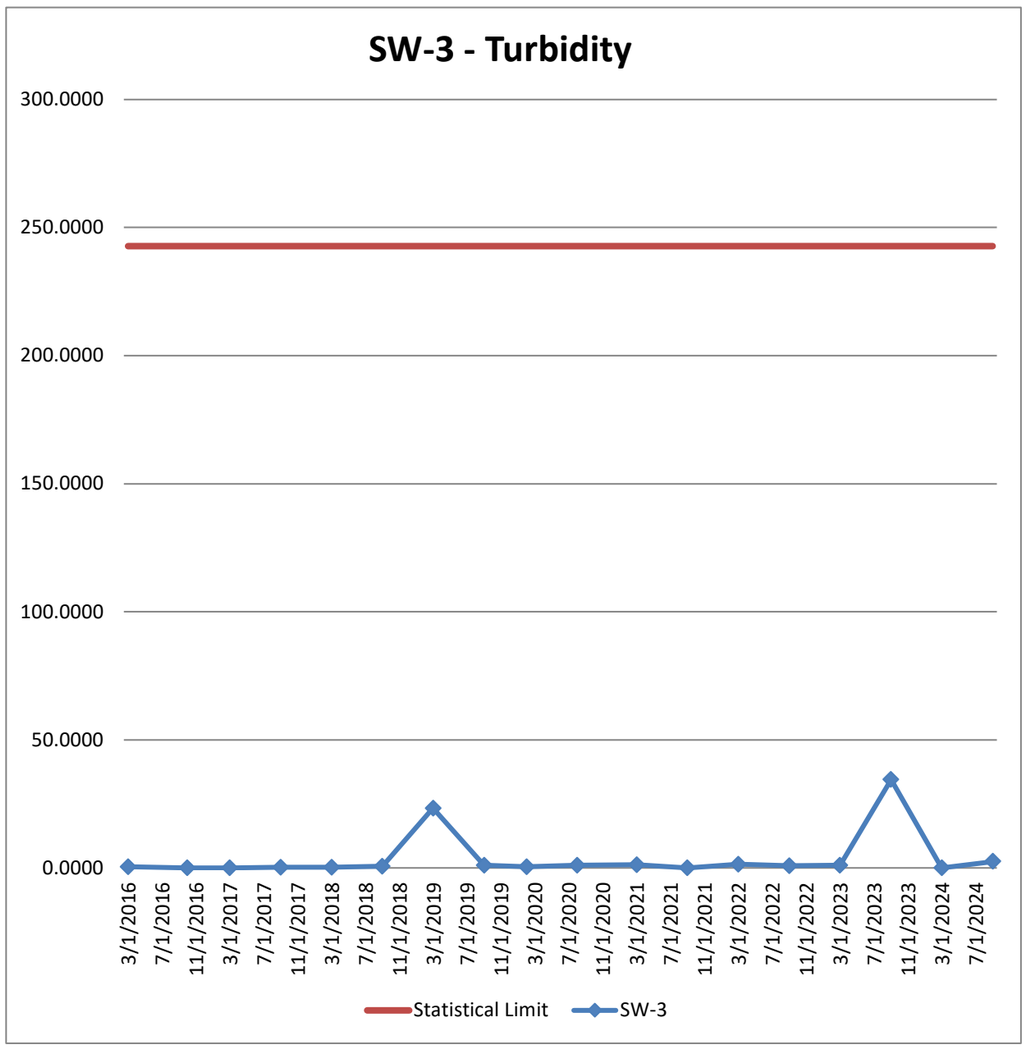


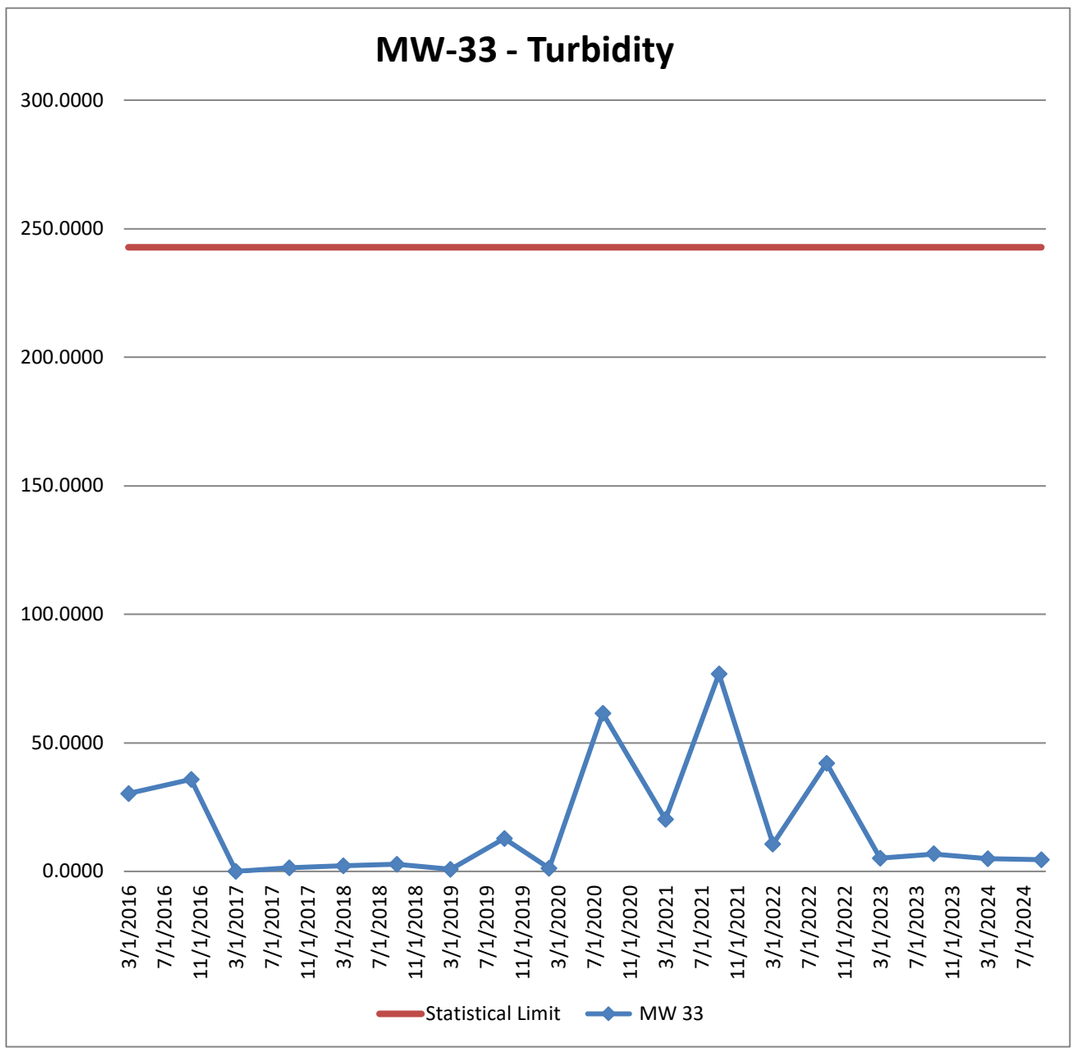


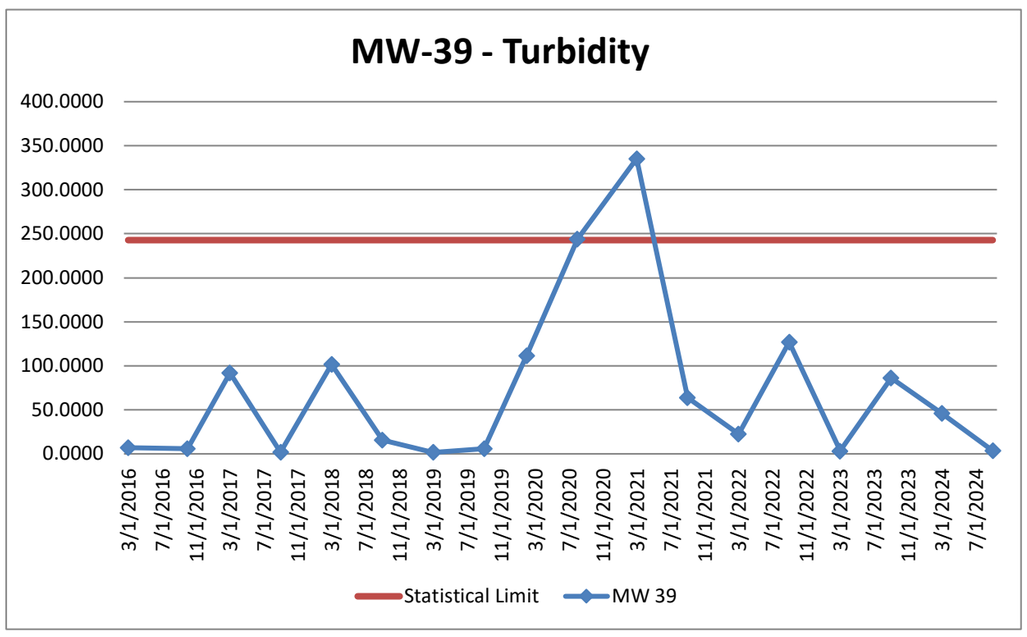
AMES-STORY ENVIRONMENTAL LANDFILL

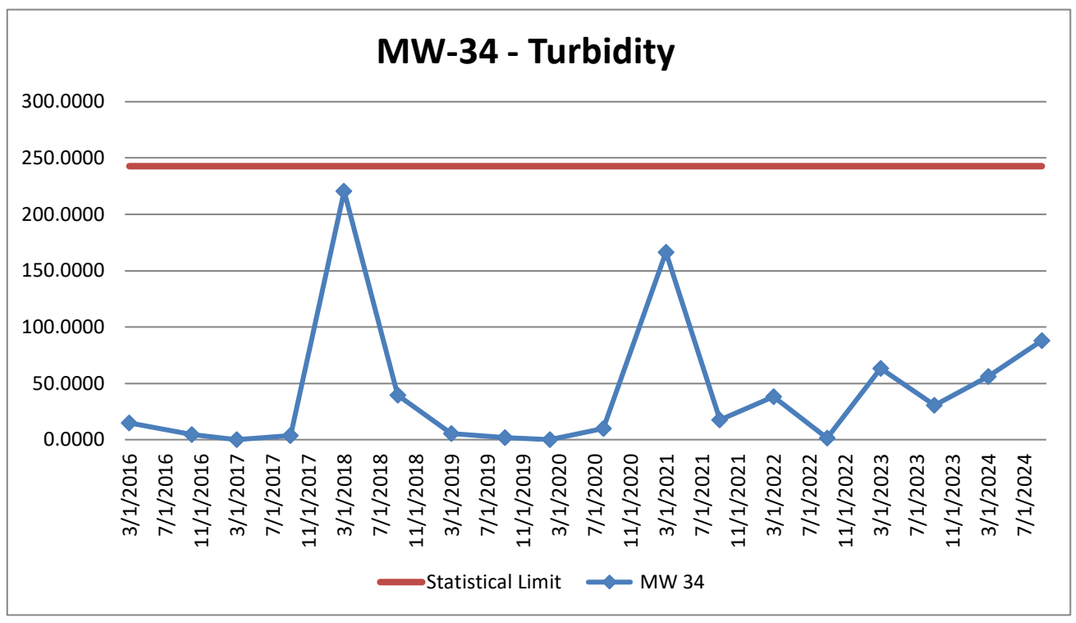
MONITORING WELL SAMPLING RESULTS

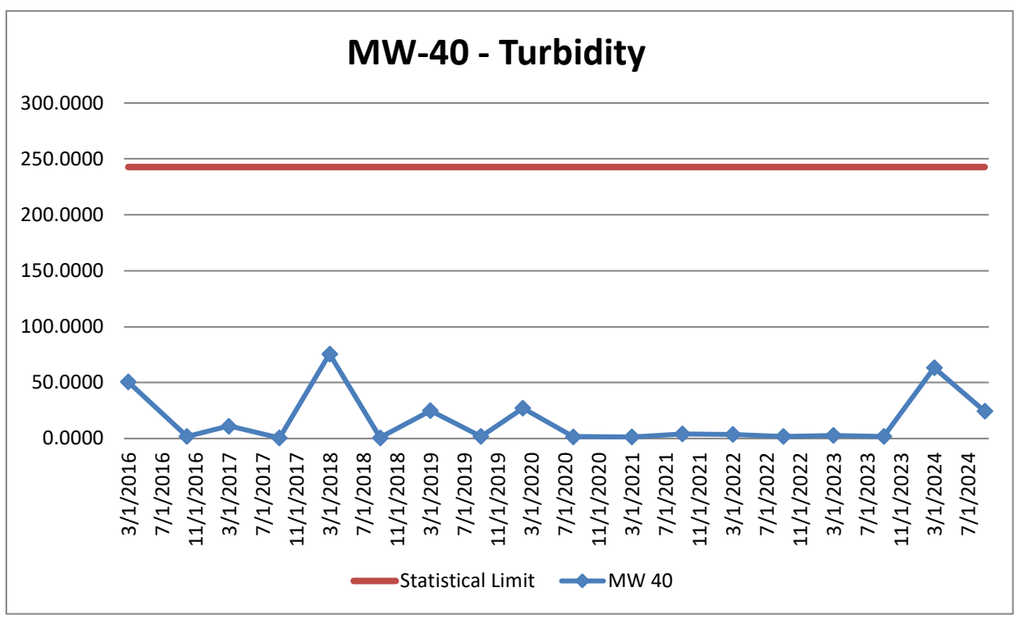
DATE	PARAMETER	ACTION LEVEL	MEAN + 2 STD AW	D.G.W SW 3	D.G.W MW 39	D.G.W MW 40	BOTH MW 25	BOTH MW 33	BOTH MW 34	BOTH MW35
	mg/L									
09/09/2014	Turbidity, NTU	--	242.76	20.6	0.43	0.33	7.05	12.99	2.9	3.51
03/11/2016	Turbidity, NTU	--	242.76	0.48	7.06	50.5	3.61	30.25	14.73	218.4
10/27/2016	Turbidity, NTU	--	242.76	Dry	5.94	1.86	4.83	35.7	4.33	69
03/27/2017	Turbidity, NTU	--	242.76	Dry	91.9	11.1	NT	NT	NT	10.2
09/07/2017	Turbidity, NTU	--	242.76	0.33	1.64	0.51	9.04	1.35	3.61	21.34
03/01/2018	Turbidity, NTU	--	242.76	0.3	101.4	75.68	2.3	2.15	220.6	7.68
09/19/2018	Turbidity, NTU	--	242.76	0.59	15.44	0.69	3.4	2.75	39.59	43.9
03/27/2019	Turbidity, NTU	--	242.76	23.27	1.57	24.96	6.55	0.81	5.45	83.93
09/05/2019	Turbidity, NTU	--	242.76	1.01	5.87	1.9	4.6	12.8	1.99	5.09
02/28/2020	Turbidity, NTU	--	242.76	0.51	111.5	27.05	1.38	1.15		1.55
08/31/2020	Turbidity, NTU	--	242.76	0.97	244	1.58	233	61.6	9.89	2.16
03/05/2021	Turbidity, NTU	--	242.76	1.17	335.3	1.57	7.65	20.26	166.2	49.23
09/13/2021	Turbidity, NTU	--	242.76	Dry	63.82	4.18	1.39	76.83	17.37	1.54
03/02/2022	Turbidity, NTU	--	242.76	1.44	22.76	3.79	7.48	10.57	38.19	91.77
09/12/2022	Turbidity, NTU	--	242.76	0.8	127	1.9	7.84	42.05	1.52	1.45
03/24/2023	Turbidity, NTU	--	242.76	1.01	3.26	2.87	1.39	5.14	63.48	146.9
09/13/2023	Turbidity, NTU	--	242.76	34.47	86.03	1.92	2.7	6.81	30.75	2.14
03/05/2024	Turbidity, NTU	--	242.76	Dry	45.96	63.3	1.28	4.97	56.12	485.2
09/03/2024	Turbidity, NTU	--	242.76	2.53	3.49	24.36	1.98	4.51	88.06	7.49

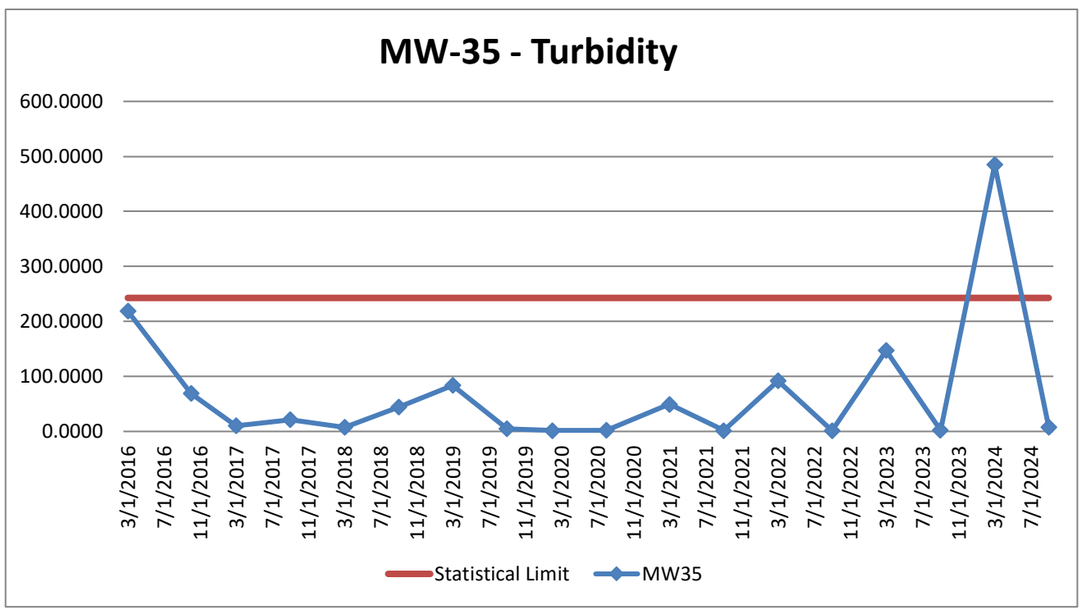

SW-3 - Turbidity
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
SW-3

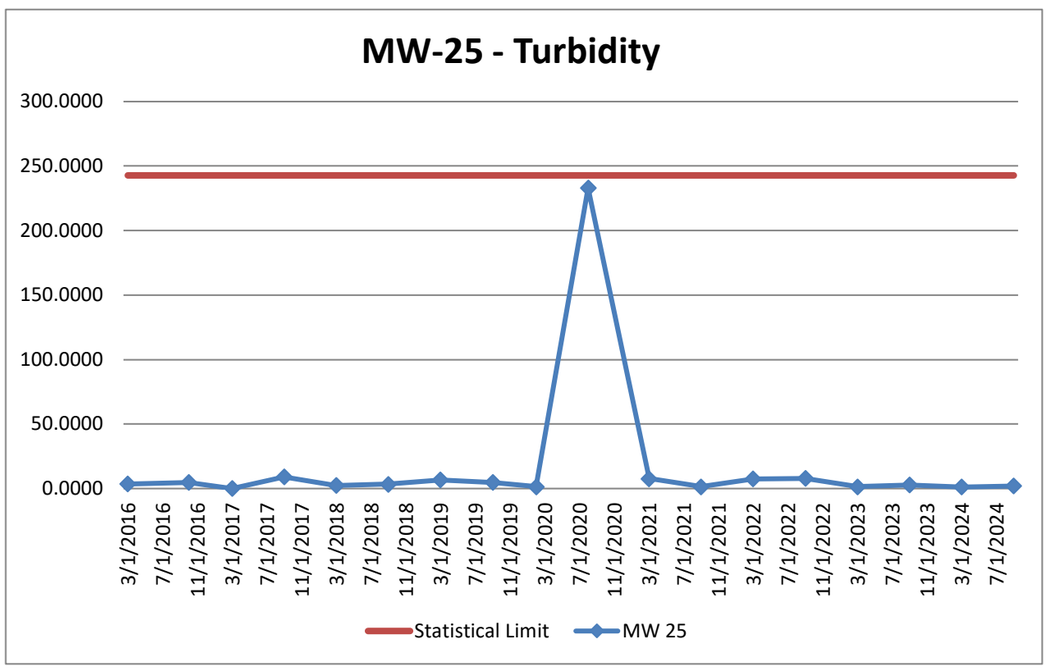

MW-33 - Turbidity
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW 33


MW-39 - Turbidity
400.0000
350.0000
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW 39


MW-34 - Turbidity
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW 34


MW-40 - Turbidity
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW 40


MW-35 - Turbidity
600.0000
500.0000
400.0000
300.0000
200.0000
100.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
3/1/2019
7/1/2019
11/1/2019
3/1/2020
7/1/2020
11/1/2020
3/1/2021
7/1/2021
11/1/2021
3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW35


MW-25 - Turbidity
300.0000
250.0000
200.0000
150.0000
100.0000
50.0000
0.0000
3/1/2016
7/1/2016
11/1/2016
3/1/2017
7/1/2017
11/1/2017
3/1/2018
7/1/2018
11/1/2018
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3/1/2022
7/1/2022
11/1/2022
3/1/2023
7/1/2023
11/1/2023
3/1/2024
7/1/2024
Statistical Limit
MW 25

Table 11 – Corrective Action Trend Analysis
NOT APPLICABLE

Table 11
Corrective Action Trend Analyses
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

NOT APPLICABLE

Table 12 – Leachate Elevation & Thickness Summary

Table 12
Leachate Elevations
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

Leachate Surface Elevation

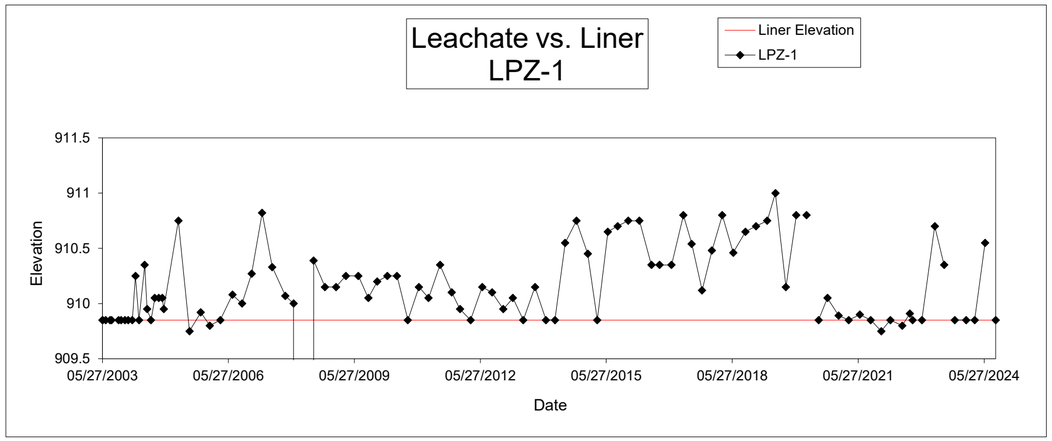
Long Name	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1	LPZ-T5-1	LPZ-T6-1
Short Name	LPZ-1	LPZ-2	LPZ-3	LPZ-4R	LPZ-5R	LPZ-6R
PVC ELEV, FT.	925.85	932.62	922.72	922.31	965.52	966.50
PVC 10/2008	925.85	932.62	922.72	922.31	966.97	968.05
PVC 11/2011	925.85	932.62	922.72	922.31	970.85	970.92
PVC 11/2015	925.85	932.62	922.72	924.25	970.85	970.92
PVC 6/13/2023	925.85	932.62	922.72	924.25	970.85	970.47
DATE						
05/27/2003	909.85	911.62	913.22	914.91		
05/28/2003	909.85	911.62	912.32	913.91		
06/23/2003	909.85	911.62	912.33	914.41		
07/31/2003	909.85	911.62	912.32	913.91		
08/13/2003	909.85	911.62	912.32	913.51		
10/13/2003	909.85	911.62	912.22	913.11		
11/05/2003	909.85	911.62	912.02	913.61		
12/08/2003	909.85	911.62	912.22	913.21		
01/05/2004	909.85	911.62	911.72	911.31		
02/10/2004	909.85	911.62	912.12	913.21		
03/08/2004	910.25	911.62	912.12	913.77		
04/08/2004	909.85	911.62	912.22	914.01		
05/28/2004	910.35	911.62	912.32	913.91		
06/18/2004	909.95	911.62	912.52	913.81		
07/22/2004	909.85	911.62	912.12	913.21		
08/24/2004	910.05	911.62	912.32	913.11		
09/28/2004	910.05	911.62	912.02	912.31		
10/28/2004	910.05	911.62	912.02	912.91		
11/10/2004	909.95	911.62	912.22	913.01		
03/17/2005	910.75	911.62	912.02	913.76		
06/22/2005	909.75	911.62	912.12	913.51		
09/27/2005	909.92	911.62	912.18	914.34		
12/16/2005	909.8	911.62	NT	913.47		
03/17/2006	909.85	911.62	911.72	913.31		
06/30/2006	910.08	911.62	912.18	914.05		906.5
09/22/2006	910.00	911.62	912.17	915.05		
12/14/2006	910.27	911.62	912.51	914.98		
03/15/2007	910.82	911.62	912.73	914.95		
06/11/2007	910.33	911.62	912.89	915.09		
10/04/2007	910.07	911.62	912.64	914.33		
12/14/2007	910.00	911.62	912.58	914.15	904.4	910.24
03/03/2008	NT	911.62	912.34	914.26	904.85	909.99
06/06/2008	910.39	911.62	912.76	915.55	905.57	911.9
09/12/2008	910.15	911.62	912.72	914.81	905.22	910.95
12/17/2008	910.15	911.62	912.62	914.41	904.57	909.8
03/13/2009	910.25	911.62	912.52	914.81	905.57	909.9
06/30/2009	910.25	911.62	912.72	914.76	909.17	913.5
09/24/2009	910.05	911.62	912.52	914.11	905.77	913.5
12/11/2009	910.20	911.62	912.52	914.61	906.42	
03/09/2010	910.25	911.62	912.62	915.01	907.97	
06/01/2010	910.25	911.62	912.72	914.71	908.57	
09/03/2010	909.85	911.62	912.62	914.61	906.97	
12/09/2010	910.15	911.62	912.47	914.26	906.27	
03/02/2011	910.05	911.62	912.32	914.41	obstructed	
06/10/2011	910.35	911.62	912.62	915.01	906.05	
09/21/2011	910.10	911.62	912.42	913.81	906.35	
12/01/2011	909.95	911.62	912.32	913.91	905.65	
03/02/2012	909.85	911.62	912.32	914.51	904.60	
06/11/2012	910.15	911.62	912.52	914.21	904.65	
09/05/2012	910.10	911.62	912.22	913.31	904.65	
12/12/2012	909.95	911.62	912.32	912.81	obstructed	
03/05/2013	910.05	911.62	912.22	912.86	obstructed	
06/03/2013	909.85	911.62	912.17	914.71	obstructed	
09/13/2013	910.15	911.62	912.12	912.81	obstructed	
12/18/2013	909.85	911.62	912.02	912.71	obstructed	
03/06/2014	909.85	911.62	911.92	912.71	obstructed	
06/03/2014	910.55	911.62	912.02	914.11	obstructed	
09/09/2014	910.75	911.62	912.12	914.41	obstructed	
12/17/2014	910.45	911.62	912.17	912.96	904.53	
03/09/2015	909.85	911.62	911.92	913.81	903.33	
06/09/2015	910.65	911.62	912.32	914.11	904.93	
09/02/2015	910.70	911.62	912.56	914.73	905.33	
12/03/2015	910.75	911.62	912.22	912.95	904.83	
03/10/2016	910.75	911.62	912.47	914.00	905.03	
06/22/2016	910.35	911.62	912.52	913.15	905.06	
09/02/2016	910.35	911.62	912.5	913.15	904.93	
12/14/2016	910.35	911.62	912.32	913.15	904.98	
03/27/2017	910.80	911.62	912.27	913.90	905.08	
06/08/2017	910.54	911.62	912.32	913.20	905.38	
09/06/2017	910.12	911.62	912.42	913.15	904.93	
12/01/2017	910.48	911.62	912.32	913.15	905.33	
03/01/2018	910.80	911.62	912.12	914.14	904.83	
06/04/2018	910.46	911.62	912.39	914.65	905.38	
09/19/2018	910.65	911.62	912.65	913.15	905.18	
12/19/2018	910.70	911.62	912.65	913.15	905.38	
03/27/2019	910.75	911.62	912.52	913.15	905.33	
06/06/2019	911.00	911.62	912.32	913.35	905.83	
09/05/2019	910.15	911.62	912.53	913.15	905.43	
12/04/2019	910.80	911.62	912.57	914.20	905.53	
01/23/2020					905.50	
02/04/2020					905.50	
02/28/2020					905.50	
03/03/2020	910.80	911.62	912.57	913.81	905.50	
04/15/2020					905.70	
05/11/2020					905.60	
06/16/2020	909.85	911.62	911.87	913.15	905.55	
09/01/2020	910.05	911.62	912.47	913.15	905.49	
12/08/2020	909.89	911.62	912.07	913.15	905.18	
03/05/2021	909.85	911.62	911.92	913.15	904.93	
06/09/2021	909.90	911.62	911.9	913.15	905.28	
09/13/2021	909.85	911.62	911.87	913.15	905.17	
12/13/2021	909.75	911.62	911.92	913.15	905.23	
03/02/2022	909.85	911.62	911.92	913.15	905.08	
06/13/2022	909.80	911.62	912.45	914.85	905.91	
08/19/2022	909.91	911.62	912.52	913.05	905.72	
09/12/2022	909.85	911.62	912.47	913.05	905.57	
11/10/2022					905.38	
12/02/2022	909.85	911.62	912.17	913.05	905.35	
03/24/2023	910.70	911.62	912.14	915.05	905.73	
06/13/2023	910.35	911.62	912.42	913.05	905.78	907.17
06/23/2023					905.73	909.17
09/13/2023	909.85	911.62	912.27	913.05	905.68	912.43
12/21/2023	909.85	911.62	912	913.05	905.26	912.01
03/05/2024	909.85	911.62	911.92	913.05	905.22	907.77
06/03/2024	910.55	911.62	912.12	914.95	905.95	914.12
07/16/2024				913.05		
09/03/2024	909.85	911.62	912.12	913.05	905.59	912.49

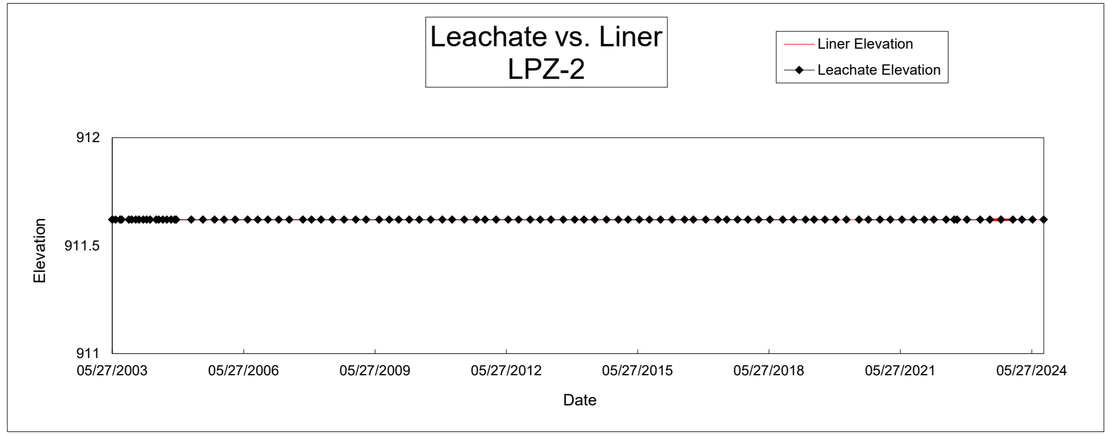
Top of Liner Elevation Data

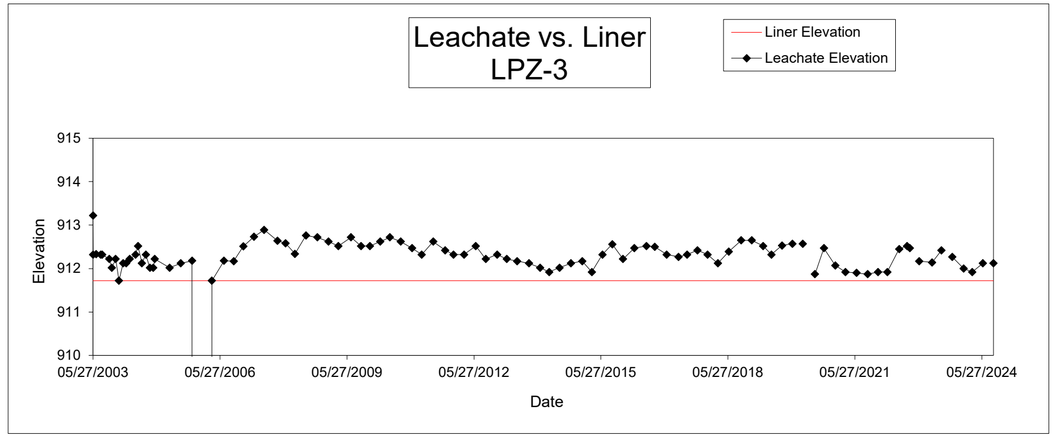
Long Name	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1	LPZ-T5-1	LPZ-T6-1
Short Name	LPZ-1	LPZ-2	LPZ-3	LPZ-4R	LPZ-5R	LPZ-6R
PVC ELEV, FT.	925.85	932.62	922.72	922.31	965.52	966.50
Liner Depth	16	21	11	11	62	60
Liner Elev	909.85	911.62	911.72	911.31	903.52	906.5
Liner Elev	909.85	911.62	911.72	913.15	903.52	906.5
Liner Elev	909.85	911.62	911.72	913.15	903.52	906.52
05/27/2003	909.85	911.62	911.72	911.31	903.52	906.5
05/28/2003	909.85	911.62	911.72	911.31	903.52	906.5
06/23/2003	909.85	911.62	911.72	911.31	903.52	906.5
07/31/2003	909.85	911.62	911.72	911.31	903.52	906.5
08/13/2003	909.85	911.62	911.72	911.31	903.52	906.5
10/13/2003	909.85	911.62	911.72	911.31	903.52	906.5
11/05/2003	909.85	911.62	911.72	911.31	903.52	906.5
12/08/2003	909.85	911.62	911.72	911.31	903.52	906.5
01/05/2004	909.85	911.62	911.72	911.31	903.52	906.5
02/10/2004	909.85	911.62	911.72	911.31	903.52	906.5
03/08/2004	909.85	911.62	911.72	911.31	903.52	906.5
04/08/2004	909.85	911.62	911.72	911.31	903.52	906.5
05/28/2004	909.85	911.62	911.72	911.31	903.52	906.5
06/18/2004	909.85	911.62	911.72	911.31	903.52	906.5
07/22/2004	909.85	911.62	911.72	911.31	903.52	906.5
08/24/2004	909.85	911.62	911.72	911.31	903.52	906.5
09/28/2004	909.85	911.62	911.72	911.31	903.52	906.5
10/28/2004	909.85	911.62	911.72	911.31	903.52	906.5
11/10/2004	909.85	911.62	911.72	911.31	903.52	906.5
03/17/2005	909.85	911.62	911.72	911.31	903.52	906.5
06/22/2005	909.85	911.62	911.72	911.31	903.52	906.5
09/27/2005	909.85	911.62	911.72	911.31	903.52	906.5
12/16/2005	909.85	911.62	911.72	911.31	903.52	906.5
03/17/2006	909.85	911.62	911.72	911.31	903.52	906.5
06/30/2006	909.85	911.62	911.72	911.31	903.52	906.5
09/22/2006	909.85	911.62	911.72	911.31	903.52	906.5
12/14/2006	909.85	911.62	911.72	911.31	903.52	906.5
03/15/2007	909.85	911.62	911.72	911.31	903.52	906.5
06/11/2007	909.85	911.62	911.72	911.31	903.52	906.5
10/04/2007	909.85	911.62	911.72	911.31	903.52	906.5
12/14/2007	909.85	911.62	911.72	911.31	903.52	906.5
03/03/2008	909.85	911.62	911.72	911.31	903.52	906.5
06/06/2008	909.85	911.62	911.72	911.31	903.52	906.5
09/12/2008	909.85	911.62	911.72	911.31	903.52	906.5
12/17/2008	909.85	911.62	911.72	911.31	903.52	906.5
03/13/2009	909.85	911.62	911.72	911.31	903.52	906.5
06/30/2009	909.85	911.62	911.72	911.31	903.52	906.5
09/24/2009	909.85	911.62	911.72	911.31	903.52	906.5
12/11/2009	909.85	911.62	911.72	911.31	903.52	906.5
03/09/2010	909.85	911.62	911.72	911.31	903.52	906.5
06/01/2010	909.85	911.62	911.72	911.31	903.52	906.5
09/03/2010	909.85	911.62	911.72	911.31	903.52	906.5
12/09/2010	909.85	911.62	911.72	911.31	903.52	906.5
03/02/2011	909.85	911.62	911.72	911.31	903.52	906.5
06/10/2011	909.85	911.62	911.72	911.31	903.52	906.5
09/21/2011	909.85	911.62	911.72	911.31	903.52	906.5
12/01/2011	909.85	911.62	911.72	911.31	903.52	906.5
03/02/2012	909.85	911.62	911.72	911.31	903.52	906.5
06/11/2012	909.85	911.62	911.72	911.31	903.52	906.5
09/05/2012	909.85	911.62	911.72	911.31	903.52	906.5
12/12/2012	909.85	911.62	911.72	911.31	903.52	906.5
03/05/2013	909.85	911.62	911.72	911.31	903.52	906.5
06/03/2013	909.85	911.62	911.72	911.31	903.52	906.5
09/13/2013	909.85	911.62	911.72	911.31	903.52	906.5
12/18/2013	909.85	911.62	911.72	911.31	903.52	906.5
03/06/2014	909.85	911.62	911.72	911.31	903.52	906.5
06/03/2014	909.85	911.62	911.72	911.31	903.52	906.5
09/09/2014	909.85	911.62	911.72	911.31	903.52	906.5
12/17/2014	909.85	911.62	911.72	911.31	903.52	906.5
03/09/2015	909.85	911.62	911.72	911.31	903.52	906.5
06/09/2015	909.85	911.62	911.72	911.31	903.52	906.5
09/02/2015	909.85	911.62	911.72	911.31	903.52	906.5
12/03/2015	909.85	911.62	911.72	913.15	903.52	906.5
03/10/2016	909.85	911.62	911.72	913.15	903.52	906.5
06/22/2016	909.85	911.62	911.72	913.15	903.52	906.5
09/02/2016	909.85	911.62	911.72	913.15	903.52	906.5
12/14/2016	909.85	911.62	911.72	913.15	903.52	906.5
03/27/2017	909.85	911.62	911.72	913.15	903.52	906.5
06/08/2017	909.85	911.62	911.72	913.15	903.52	906.5
09/06/2017	909.85	911.62	911.72	913.15	903.52	906.5
12/01/2017	909.85	911.62	911.72	913.15	903.52	906.5
03/01/2018	909.85	911.62	911.72	913.15	903.52	906.5
06/04/2018	909.85	911.62	911.72	913.15	903.52	906.5
09/19/2018	909.85	911.62	911.72	913.15	903.52	906.5
12/19/2018	909.85	911.62	911.72	913.15	903.52	906.5
03/27/2019	909.85	911.62	911.72	913.15	903.52	906.5
06/06/2019	909.85	911.62	911.72	913.15	903.52	906.5
09/05/2019	909.85	911.62	911.72	913.15	903.52	906.5
12/04/2019	909.85	911.62	911.72	913.15	903.52	906.5
01/23/2020	909.85	911.62	911.72	913.15	903.52	906.5
02/04/2020	909.85	911.62	911.72	913.15	903.52	906.5
02/28/2020	909.85	911.62	911.72	913.15	903.52	906.5
03/03/2020	909.85	911.62	911.72	913.15	903.52	906.5
04/15/2020	909.85	911.62	911.72	913.15	903.52	906.5
05/11/2020	909.85	911.62	911.72	913.15	903.52	906.5
06/16/2020	909.85	911.62	911.72	913.15	903.52	906.5
09/01/2020	909.85	911.62	911.72	913.15	903.52	906.5
12/08/2020	909.85	911.62	911.72	913.15	903.52	906.5
03/05/2021	909.85	911.62	911.72	913.15	903.52	906.5
06/09/2021	909.85	911.62	911.72	913.15	903.52	906.5
09/13/2021	909.85	911.62	911.72	913.15	903.52	906.5
12/13/2021	909.85	911.62	911.72	913.15	903.52	906.5
03/02/2022	909.85	911.62	911.72	913.15	903.52	906.5
06/13/2022	909.85	911.62	911.72	913.15	903.52	906.5
08/19/2022	909.85	911.62	911.72	913.15	903.52	906.5
09/12/2022	909.85	911.62	911.72	913.15	903.52	906.5
11/10/2022	909.85	911.62	911.72	913.15	903.52	906.5
12/02/2022	909.85	911.62	911.72	913.15	903.52	906.5
03/24/2023	909.85	911.62	911.72	913.15	903.52	906.5
06/13/2023	909.85	911.62	911.72	913.15	903.52	906.52
06/23/2023	909.85	911.62	911.72	913.15	903.52	906.52
09/13/2023	909.85	911.62	911.72	913.15	903.52	906.52
12/21/2023	909.85	911.62	911.72	913.15	903.52	906.52
03/05/2024	909.85	911.62	911.72	913.15	903.52	906.52
06/03/2024	909.85	911.62	911.72	913.15	903.52	906.52
07/16/2024	909.85	911.62	911.72	913.15	903.52	906.52
09/03/2024	909.85	911.62	911.72	913.15	903.52	906.52

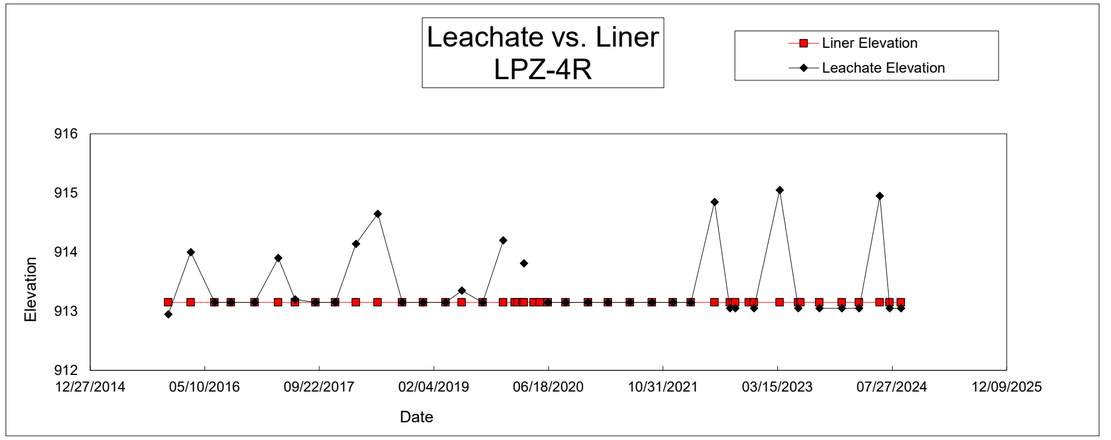
Leachate Thickness (feet)

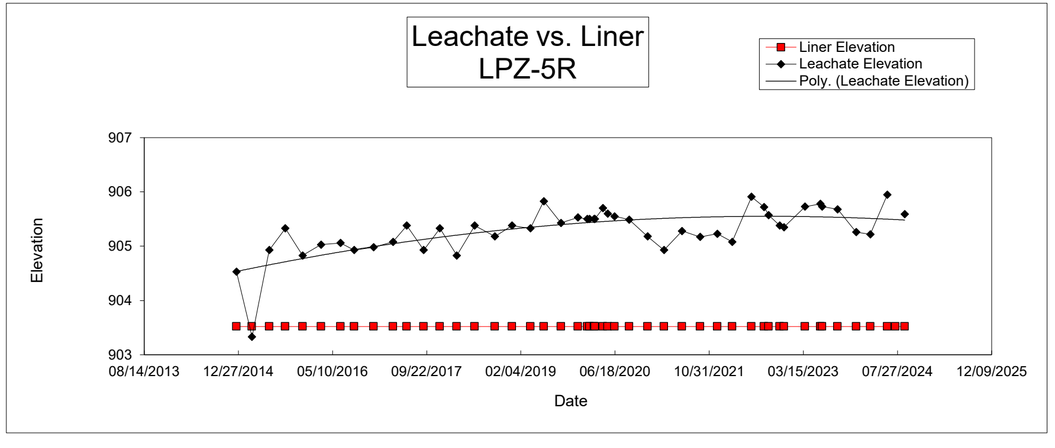
Long Name	LPZ-T1-1	LPZ-T2-1	LPZ-T3-1	LPZ-T4-1	LPZ-T5-1	LPZ-T6-1
Short Name	LPZ-1	LPZ-2	LPZ-3	LPZ-4R	LPZ-5R	LPZ-6R
05/27/2003	0	0	1.5	3.6		
05/28/2003	0	0	0.6	2.6		
06/23/2003	0	0	0.61	3.1		
07/31/2003	0	0	0.6	2.6		
08/13/2003	0	0	0.6	2.2		
10/13/2003	0	0	0.5	1.8		
11/05/2003	0	0	0.3	2.3		
12/08/2003	0	0	0.5	1.9		
01/05/2004	0	0	0	0		
02/10/2004	0	0	0.4	1.9		
03/08/2004	0.4	0	0.4	2.46		
04/08/2004	0	0	0.5	2.7		
05/28/2004	0.5	0	0.6	2.6		
06/18/2004	0.1	0	0.8	2.5		
07/22/2004	0	0	0.4	1.9		
08/24/2004	0.2	0	0.6	1.8		
09/28/2004	0.2	0	0.3	1		
10/28/2004	0.2	0	0.3	1.6		
11/10/2004	0.1	0	0.5	1.7		
03/17/2005	0.9	0	0.3	2.45		
06/22/2005	-0.1	0	0.4	2.2		
09/27/2005	0.07	0	0.46	3.03		
12/16/2005	-0.05	0	NT	NT		
03/17/2006	0	0	0	2		
06/30/2006	0.23	0	0.46	2.74		
09/22/2006	0.15	0	0.45	3.74		
12/14/2006	0.42	0	0.79	3.67		
03/15/2007	0.97	0	1.01	3.64		
06/11/2007	0.48	0	1.17	3.78		
10/04/2007	0.22	0	0.92	3.02		
12/14/2007	0.15	DRY	0.86	2.84	0.88	3.74
03/03/2008	DRY	DRY	0.62	2.95	1.33	3.49
06/06/2008	0.54	0	1.04	4.24	2.05	5.4
09/12/2008	0.3	DRY	1	3.5	1.7	4.45
12/17/2008	0.3	DRY	0.9	3.1	1.05	3.3
03/13/2009	0.4	DRY	0.8	3.5	2.05	3.4
06/30/2009	0.4	DRY	1	3.45	5.65	7
09/24/2009	0.2	DRY	0.8	2.8	2.25	7
12/11/2009	0.35	DRY	0.8	3.3	2.9	Broken
03/09/2010	0.4	DRY	0.9	3.7	4.45	Broken
06/01/2010	0.4	DRY	1	3.4	5.05	Broken
09/03/2010	DRY	DRY	0.9	3.3	3.45	Broken
12/09/2010	0.3	DRY	0.75	2.95	2.75	Broken
03/02/2011	0.2	DRY	0.6	3.1	obstructed	Broken
06/10/2011	0.5	DRY	0.9	3.7	2.53	Broken
09/21/2011	0.25	DRY	0.7	2.5	2.83	Broken
12/01/2011	0.1	DRY	0.6	2.6	2.13	Broken
03/02/2012	0	DRY	0.6	3.2	1.08	Broken
06/11/2012	0.3	DRY	0.8	2.9	1.13	Broken
09/05/2012	0.25	DRY	0.5	2	1.13	Broken
12/12/2012	0.1	DRY	0.6	1.5	obstructed	Broken
03/05/2013	0.2	DRY	0.5	1.55	obstructed	Broken
06/03/2013	0	DRY	0.45	3.4	obstructed	Broken
09/13/2013	0.3	DRY	0.4	1.5	obstructed	Broken
12/18/2013	0	DRY	0.3	1.4	obstructed	Broken
03/06/2014	0	DRY	0.2	1.4	obstructed	Broken
06/03/2014	0.7	DRY	0.3	2.8	obstructed	Broken
09/09/2014	0.9	DRY	0.4	3.1	obstructed	Broken
12/17/2014	0.6	DRY	0.45	1.65	1.01	Broken
03/09/2015	0	DRY	0.2	2.5	-0.19	Broken
06/09/2015	0.8	DRY	0.6	2.8	1.41	Broken
09/02/2015	0.85	DRY	0.84	3.42	1.81	Broken
12/03/2015	0.9	DRY	0.5	-0.2	1.31	Broken
03/10/2016	0.9	DRY	0.75	0.85	1.51	Broken
06/22/2016	0.5	DRY	0.8	0	1.54	Broken
09/02/2016	0.5	DRY	0.78	0	1.41	Broken
12/14/2016	0.5	DRY	0.6	0	1.46	Broken
03/27/2017	0.95	DRY	0.55	0.75	1.56	Broken
06/08/2017	0.69	DRY	0.6	0.05	1.86	Broken
09/06/2017	0.27	DRY	0.7	0	1.41	Broken
12/01/2017	0.63	DRY	0.6	0	1.81	Broken
03/01/2018	0.95	DRY	0.4	0.99	1.31	Broken
06/04/2018	0.61	DRY	0.67	1.5	1.86	Broken
09/19/2018	0.8	DRY	0.93	0	1.66	Broken
12/19/2018	0.85	DRY	0.93	0	1.86	Broken
03/27/2019	0.9	DRY	0.8	0	1.81	Broken
06/06/2019	1.15	DRY	0.6	0.2	2.31	Broken
09/05/2019	0.3	DRY	0.81	0	1.91	Broken
12/04/2019	0.95	DRY	0.85	1.05	2.01	Broken
01/23/2020					1.98	Broken
02/04/2020					1.98	Broken
02/28/2020					1.98	Broken
03/03/2020	0.95	DRY	0.85	0.66	1.98	Broken
04/15/2020					2.18	Broken
05/11/2020					2.08	Broken
06/16/2020	0	0	0.15	0	2.03	Broken
09/01/2020	0.2	0	0.75	0	1.97	Broken
12/08/2020	0.04	0	0.35	0	1.66	Broken
03/05/2021	0	0	0.2	0	1.41	Broken
06/09/2021	0.05	0	0.18	0	1.76	Broken
09/13/2021	0	0	0.15	0	1.65	Broken
12/13/2021	DRY	0	0.2	0	1.71	Broken
03/02/2022	0	0	0.2	0	1.56	Broken
06/13/2022	DRY	0	0.73	1.7	2.39	Broken
08/19/2022	0.06	0	0.8	0	2.2	Broken
09/12/2022	0	0	0.75	0	2.05	Broken
11/10/2022					1.86	Broken
12/02/2022	0	0	0.45	0	1.83	Broken
03/24/2023	0.85	0	0.42	1.9	2.21	Broken
06/13/2023	0.5	0	0.7	0	2.26	0.65
06/23/2023					2.21	2.65
09/13/2023	0	0	0.55	0	2.16	5.91
12/21/2023	0	0	0.28	0	1.74	5.49
03/05/2024	0	0	0.2	0	1.7	1.25
06/03/2024	0.7	0	0.4	1.8	2.43	7.6
07/16/2024				0		
09/03/2024	0	0	0.4	0	2.07	5.97


Leachate vs. Liner
LPZ-1
Liner Elevation
LPZ-1
Elevation
911.5
911
910.5
910
909.5
05/27/2003
05/27/2006
05/27/2009
05/27/2012
05/27/2015
05/27/2018
05/27/2021
05/27/2024
Date


Leachate vs. Liner
LPZ-2
Liner Elevation
Leachate Elevation
Elevation
912
911.5
911
05/27/2003
05/27/2006
05/27/2009
05/27/2012
05/27/2015
05/27/2018
05/27/2021
05/27/2024
Date


Leachate vs. Liner
LPZ-3
Liner Elevation
Leachate Elevation
Elevation
915
914
913
912
911
910
05/27/2003
05/27/2006
05/27/2009
05/27/2012
05/27/2015
05/27/2018
05/27/2021
05/27/2024
Date


Leachate vs. Liner
LPZ-4R
Liner Elevation
Leachate Elevation
Elevation
916
915
914
913
912
12/27/2014
05/10/2016
09/22/2017
02/04/2019
06/18/2020
10/31/2021
03/15/2023
07/27/2024
12/09/2025
Date


Leachate vs. Liner
LPZ-5R
Liner Elevation
Leachate Elevation
Poly. (Leachate Elevation)
Elevation
907
906
905
904
903
08/14/2013
12/27/2014
05/10/2016
09/22/2017
02/04/2019
06/18/2020
10/31/2021
03/15/2023
07/27/2024
12/09/2025
Date

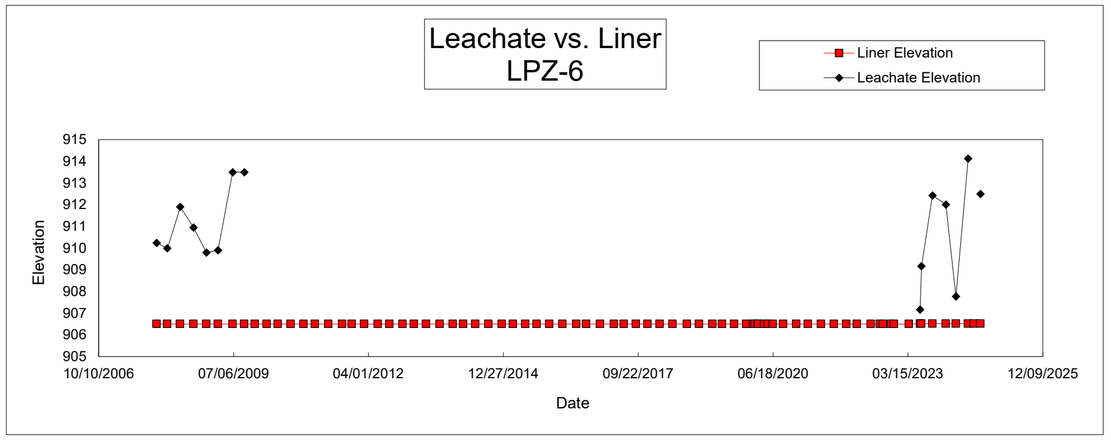

Leachate vs. Liner
LPZ-6
Liner Elevation
Leachate Elevation
Elevation
915
914
913
912
911
910
909
908
907
906
905
10/10/2006
07/06/2009
04/01/2012
12/27/2014
09/22/2017
06/18/2020
03/15/2023
12/09/2025
Date

Table 13 – Gas Monitoring Summary

Table 13
Explosive Gas Monitoring Report
Annual Water Quality Report
Ames-Story Environmental Landfill
Permit No. 85-SDP-13-91C

SAMPLING DATE:	12/21/2023		03/05/2024		06/03/2024		09/03/2024	
Reference* Location	Combustible %LEL	Oxygen %	Combustible %LEL	Oxygen %	Combustible %LEL	Oxygen %	Combustible %LEL	Oxygen %
MW28/MW29	0	20.9	0	20.9	0	20.9	0	20.9
MW36/MW37	0	20.9	0	20.9	0	20.9	0	20.9
MW35	0	20.9	0	20.9	0	20.9	0	20.9
MW33/MW25	0	20.9	0	20.9	0	20.9	0	20.9
MW32/MW24	0	20.9	0	20.9	0	20.9	0	20.9
MW30/MW23	0	20.9	0	20.9	0	20.9	0	20.9
MW34	0	20.9	0	20.9	0	20.9	0	20.9
MW31	0	20.9	0	20.9	0	20.9	0	20.9
MW6/MW7/MW8	0	20.9	0	20.9	0	20.9	0	20.9
MW38/39	0	20.9	0	20.9	0	20.9	0	20.9
MW40/MW41	0	20.9	0	20.9	0	20.9	0	20.9
MW42/MW43	0	20.9	0	20.9	0	20.9	0	20.9

APPENDIX A

Field Sampling Forms

AMES-STORY ENVIRONMENTAL LANDFILL
PERMIT # 85-SDP-13-91P

3/5/2024 Sampled by: T. Whipple Calm, Sunny 26-49 degrees

IDNR Form 542-1322

Monitoring Well: **MW-6 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	942.88
Well Depth	21.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	942.88
Well Depth	21.70
Top Screen	931.05
Bottom Screen	921.18
Bottom Well	921.18
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	942.88
Bottom sample	938.88
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/5/2024		8.78	934.1	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	0			
Supplemental	Sulfate	125			0
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	942.88	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.70	Before purging	3/5/2024	0:00	8.78	934.10	0	0.0	
Capped	YES	After purging				942.88			
Standing Water	NO	Top of Screen 10/13/1988				931.05			
Litter	NO					11.83	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				921.18			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		21.20	921.68			
						0.50	feet sedimentation		
		Recovery				942.88			
		Recovery				942.88			
		Recovery				942.88			
		Recovery				942.88	pH	Conductivity	Temp.(C)
		Before Sampling				942.88			

IDNR Form 542-1322

Monitoring Well: **MW-7 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	943.21
Well Depth	53.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	943.21
Well Depth	53.00
Top Screen	899.55
Bottom Screen	890.21
Bottom Well	890.41
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	943.21
Bottom sample	939.21
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/5/2024		21.21	922	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	0			
Supplemental	Sulfate	125			0
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	943.21	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.00	Before purging	3/5/2024	0:00	21.21	922.00	0	0.0	
Capped	YES	After purging				943.21			
Standing Water	NO	Top of Screen 10/13/1988				899.55			
Litter	NO					43.66	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				890.21			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		52.80	890.41			
						0.20	feet sedimentation		
		Recovery				943.21			
		Recovery				943.21			
		Recovery				943.21			
		Recovery				943.21	pH	Conductivity	Temp.(C)
		Before Sampling				943.21			

IDNR Form 542-1322

Monitoring Well: **MW-8 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	942.76
Well Depth	71.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	942.76
Well Depth	71.70
Top Screen	881.05
Bottom Screen	871.06
Bottom Well	871.76
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	942.76
Bottom sample	938.76
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/5/2024		34.61	908.15	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125	125		0
Supplemental					
Supplemental					
Total			125	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	942.76	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	71.70	Before purging	3/5/2024	0:00	34.61	908.15		0.0	yes
Capped	YES	After purging				942.76			
Standing Water	NO	Top of Screen 10/13/1988				881.05			
Litter	NO					61.71	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				871.06			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		71.00	871.76			
						0.70	feet sedimentation		
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00	pH	Conductivity	Temp.(C)
		Before Sampling				942.76			

IDNR Form 542-1322

Monitoring Well: **MW-28 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	946.02
Well Depth	22.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	946.02
Well Depth	22.30
Top Screen	933.55
Bottom Screen	923.55
Bottom Well	923.32
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	946.02
Bottom sample	942.02
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/5/2024		7.96	938.06	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		0
Appendix I	Metals	250	250		0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125	125		0
Supplemental					
Supplemental					
Total			385	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	946.02	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.30	Before purging	3/5/2024	0:00	7.96	938.06		0.0	no
Capped	YES	After purging				946.02			
Standing Water	NO	Top of Screen 10/13/1988				933.55			
Litter	NO					12.47	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				923.32			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		22.45	923.57			
						0.25	feet sedimentation		
		Recovery				946.02			
		Recovery				946.02			
		Recovery				946.02			
		Recovery				946.02	pH	Conductivity	Temp.(C)
		Before Sampling				946.02	6.7	NT	NT

IDNR Form 542-1322

Monitoring Well: **MW-29 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	945.61
Well Depth	53.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	945.61
Well Depth	53.50
Top Screen	902.55
Bottom Screen	892.11
Bottom Well	892.01
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	47
Top sample	898.61
Bottom sample	894.61
Turbidity(NTU)	21.29

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	7:35	12.13	933.48	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			21.29
Appendix I	Metals	250			21.29
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125			21.29
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	945.61	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.50	Before purging	3/5/2024	7:35	12.13	933.48	5	0.7	
Capped	YES	After purging				945.61			
Standing Water	NO	Top of Screen 10/13/1988				902.55			
Litter	NO					43.06	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				892.11			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		53.60	892.01			
						-0.10	feet sedimentation		
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00	pH	Conductivity	Temp.(C)
		Before Sampling				945.61	8.8	776	7.6

IDNR Form 542-1322

Monitoring Well: **MW-36 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	948.97
Well Depth	53.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	948.97
Well Depth	53.20
Top Screen	906.9
Bottom Screen	895.47
Bottom Well	895.47
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	948.97
Bottom sample	944.97
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
3/5/2024		16.81	932.16	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0.00
Appendix I	Metals	250			0.00
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125			0.00
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	948.97	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.50	Before purging	3/5/2024	0:00	16.81	932.16	0	0.0	
Capped	YES	After purging				948.97			
Standing Water	NO	Top of Screen 4/15/1996				906.90			
Litter	NO					42.07	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				895.47			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		53.20	895.77			
						0.30	feet sedimentation		
		Recovery				948.97			
		Recovery				948.97			
		Recovery				948.97			
		Recovery				948.97	pH	Conductivity	Temp.(C)
		Before Sampling				948.97			

IDNR Form 542-1322

Monitoring Well: **MW-37 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	949.49
Well Depth	30.60
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	949.49
Well Depth	30.60
Top Screen	929.03
Bottom Screen	919.79
Bottom Well	919.79
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	24
Top sample	925.49
Bottom sample	921.49
Turbidity(NTU)	342

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	8:30	9.54	939.95	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			342
Appendix I	Metals	250			342
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125			342
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	949.49	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.60	Before purging	3/5/2024	8:30	9.54	939.95	2	0.6	
Capped	YES	After purging				949.49			
Standing Water	NO	Top of Screen 4/15/1996				929.03			
Litter	NO					20.46	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				918.89			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		29.70	919.79			
						0.90	feet sedimentation		
		Recovery				949.49			
		Recovery				949.49			
		Recovery				949.49			
		Recovery				949.49	pH	Conductivity	Temp.(C)
		Before Sampling				949.49	7	1846	9

IDNR Form 542-1322

Monitoring Well: **MW-25 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	906.34
Well Depth	19.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	906.34
Well Depth	19.40
Top Screen	896.84
Bottom Screen	886.84
Bottom Well	886.84
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14
Top sample	892.34
Bottom sample	888.34
Turbidity(NTU)	1.28

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	9:52	9.75	896.59	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	1.28
Appendix I	Metals	250	250	0	1.28
Paragraph e		750	0	750	1.28
Paragraph f	TOX	0	0	0	
Supplemental	Sulfate	125	125	0	1.28
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	906.34	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.50	Before purging	3/5/2024	9:52	9.75	896.59	2	1.3	no
Capped	YES	After purging				906.34			
Standing Water	NO	Top of Screen 8/13/1990				896.84			
Litter	NO					9.50	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 8/13/1990				886.84			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		19.40	886.94			
						0.10	feet sedimentation		
		Recovery				906.34			
		Recovery				906.34			
		Recovery				906.34			
		Recovery				906.34	pH	Conductivity	Temp.(C)
		Before Sampling				906.34	6.7	NT	NT

IDNR Form 542-1322

Monitoring Well: **MW-33 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	906.32
Well Depth	28.20
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	906.32
Well Depth	28.50
Top Screen	880.66
Bottom Screen	878.12
Bottom Well	878.12
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	23
Top sample	883.32
Bottom sample	879.32
Turbidity(NTU)	4.97

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	9:37	9.91	896.41	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	4.97
Appendix I	Metals	250	250	0	4.97
Paragraph e		750	0	750	4.97
Paragraph f	TOX	0	0	0	
Supplemental	Sulfate	125	125	0	4.97
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	906.32	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	28.20	Before purging	3/5/2024	9:37	9.91	896.41	2	0.7	no
Capped	YES	After purging				906.32			
Standing Water	NO	Top of Screen 8/13/1990				880.66			
Litter	NO					25.66	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 8/13/1990				878.12			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		28.50	877.82			
						-0.30	feet sedimentation		
		Recovery				906.32			
		Recovery				906.32			
		Recovery				906.32			
		Recovery				906.32	pH	Conductivity	Temp.(C)
		Before Sampling				906.32	7	1815	7.7

IDNR Form 542-1322

Monitoring Well: **MW-34 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	909.50
Well Depth	17.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	909.50
Well Depth	15.55
Top Screen	902.50
Bottom Screen	892.50
Bottom Well	892.20
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	10
Top sample	899.5
Bottom sample	895.5
Turbidity(NTU)	56.12

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	9:21	8.98	900.52	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	56.12
Appendix I	Metals	250	250	0	56.12
Paragraph e		750	0	750	56.12
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	56.12
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	909.5	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	17.30	Before purging	3/5/2024	9:21	8.98	900.52	2	1.5	yes
Capped	YES	After purging				909.50			
Standing Water	NO	Top of Screen 4/15/1991				902.50			
Litter	NO					7.00	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1991				892.20			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		16.10	893.40			
						1.20	feet sedimentation		
		Recovery				909.50			
		Recovery				909.50			
		Recovery				909.50			
		Recovery				909.50	pH	Conductivity	Temp.(C)
		Before Sampling				909.50	7	1400	8.6

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Monitoring Well: **MW-35 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	916.19
Well Depth	20.60
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	916.19
Well Depth	19.80
Top Screen	906.19
Bottom Screen	896.19
Bottom Well	895.59
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14.5
Top sample	901.69
Bottom sample	897.69
Turbidity(NTU)	485.20

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	8:52	13.55	902.64	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	485.20
Appendix I	Metals	250	250	0	485.20
Paragraph e		750	0	750	485.20
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	485.20
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	916.19	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.60	Before purging	3/5/2024	8:52	13.55	902.68	2	1.7	
Capped	YES	After purging				916.19			
Standing Water	NO	Top of Screen 4/15/1996				906.19			
Litter	NO					10.00	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				895.59			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		19.80	896.39			
						0.80	feet sedimentation		
		Recovery				916.19			
		Recovery				916.19			
		Recovery				916.19			
		Recovery				916.19	pH	Conductivity	Temp.(C)
		Before Sampling				916.19	8.5	3818	4.6

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Monitoring Well: **MW-39 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	935.93
Well Depth	30.20
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	935.93
Well Depth	29.75
Top Screen	916.16
Bottom Screen	906.16
Bottom Well	905.73
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	24
Top sample	911.93
Bottom sample	907.93
Turbidity(NTU)	45.96

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	10:45	21.28	914.65	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	45.96
Appendix I	Metals	250	250	0	45.96
Paragraph e		750	0	750	45.96
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	45.96
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	935.93	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.20	Before purging	3/5/2024	10:45	21.28	914.65	2	1.4	no
Capped	YES	After purging				935.93			
Standing Water	NO	Top of Screen 2/15/1995				916.16			
Litter	NO					19.77	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 2/15/1995				905.73			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		29.75	906.18			
						0.45	feet sedimentation		
		Recovery				935.93			
		Recovery				935.93			
		Recovery				935.93			
		Recovery				935.93	pH	Conductivity	Temp.(C)
		Before Sampling				935.93	7.6	2250	12.2

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Monitoring Well: **MW-40 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	933.07
Well Depth	20.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	933.07
Well Depth	19.70
Top Screen	923.61
Bottom Screen	913.61
Bottom Well	913.07
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14
Top sample	919.07
Bottom sample	915.07
Turbidity(NTU)	63.30

Date	Time	Water Level	Water Elevation	Notes
3/5/2024	11:14	10.35	922.72	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	63.30
Appendix I	Metals	250	250	0	63.30
Paragraph e		750	0	750	63.30
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	63.30
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	933.07	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.00	Before purging	3/5/2024	11:14	10.35	922.72	2	1.3	no
Capped	YES	After purging				933.07			
Standing Water	NO	Top of Screen 2/15/1995				923.61			
Litter	NO					9.46	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 2/15/1995				913.07			
Equipment	Disposable Bailer	Bottom of Well	3/5/2024		19.70	913.37			
						0.30	feet sedimentation		
		Recovery				933.07			
		Recovery				933.07			
		Recovery				933.07			
		Recovery				933.07	pH	Conductivity	Temp.(C)
		Before Sampling				933.07	6.8	1590	12.2

AMES-STORY ENVIRONMENTAL LANDFILL
PERMIT # 85-SDP-13-91P

3/5/2024 Sampled by: T. Whipple Calm, Sunny 26-49 degrees

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	Date	Time	Type	Flowing	Quantity		Discolored	Odor	Litter
SW-3 (dg)	3/5/2024		tile	dry	dry		No	No	No
						NTU	pH	Conductivity	Temp.(C)
								NT	NT

;

MW Number	Top Casing Elevation	Depth to Water (ft)	Water Elevation	
23	945.98	21.81	924.17	
24	939.44	22.7	916.74	dry
30	945.54	38.33	907.21	
31	941.43	23.83	917.6	
32	393.86	36.05	357.81	
38	936.59	27.31	909.28	
41	933.46	17.56	915.9	
42	940.64	20.66	919.98	
43	940.83	18.99	921.84	

AMES-STORY ENVIRONMENTAL LANDFILL
PERMIT # 85-SDP-13-91P

9/3/2024 Sampled by: T. Whipple Calm, Sunny 60-80 degrees

IDNR Form 542-1322

Monitoring Well: **MW-6 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	942.88
Well Depth	21.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	942.88
Well Depth	21.70
Top Screen	931.05
Bottom Screen	921.18
Bottom Well	921.18
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	16
Top sample	926.88
Bottom sample	922.88
Turbidity(NTU)	2.62

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	10:35	8.61	934.27	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		2.62
Appendix I	Metals	250	250		2.62
Paragraph e		750		750	2.62
Paragraph f	TOX	0			
Supplemental	Sulfate	125	125		2.62
Supplemental					
Supplemental					
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	942.88	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	21.70	Before purging	9/3/2024	10:35	8.61	934.27	6	2.8	
Capped	YES	After purging				942.88			
Standing Water	NO	Top of Screen 10/13/1988				931.05			
Litter	NO					11.83	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				921.18			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		21.20	921.68			
						0.50	feet sedimentation		
		Recovery				942.88			
		Recovery				942.88			
		Recovery				942.88			
		Recovery				942.88	pH	Conductivity	Temp.(C)
		Before Sampling				942.88	6.3	3206	20.3

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Monitoring Well: **MW-7 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	943.21
Well Depth	53.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	943.21
Well Depth	53.00
Top Screen	899.55
Bottom Screen	890.21
Bottom Well	890.41
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	943.21
Bottom sample	939.21
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/3/2024		20.8	922.41	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	0			
Supplemental	Sulfate	125			0
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	943.21	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.00	Before purging	9/3/2024	0:00	20.8	922.41	0	0.0	
Capped	YES	After purging				943.21			
Standing Water	NO	Top of Screen 10/13/1988				899.55			
Litter	NO					43.66	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				890.21			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		52.80	890.41			
						0.20	feet sedimentation		
		Recovery				943.21			
		Recovery				943.21			
		Recovery				943.21			
		Recovery				943.21	pH	Conductivity	Temp.(C)
		Before Sampling				943.21			

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Monitoring Well: **MW-8 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	942.76
Well Depth	71.70
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	942.76
Well Depth	71.70
Top Screen	881.05
Bottom Screen	871.06
Bottom Well	871.76
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	942.76
Bottom sample	938.76
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/3/2024		34.15	908.61	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125	125		0
Supplemental					
Supplemental					
Total			125	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	942.76	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	71.70	Before purging	9/3/2024	0:00	34.15	908.61		0.0	yes
Capped	YES	After purging				942.76			
Standing Water	NO	Top of Screen 10/13/1988				881.05			
Litter	NO					61.71	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				871.06			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		71.00	871.76			
						0.70	feet sedimentation		
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00	pH	Conductivity	Temp.(C)
		Before Sampling				942.76			

IDNR Form 542-1322

Monitoring Well: **MW-28 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	946.02
Well Depth	22.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	946.02
Well Depth	22.30
Top Screen	933.55
Bottom Screen	923.55
Bottom Well	923.32
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	946.02
Bottom sample	942.02
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/3/2024		7.08	938.94	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		0
Appendix I	Metals	250	250		0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125	125		0
Supplemental					
Supplemental					
Total			385	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	946.02	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	22.30	Before purging	9/3/2024	0:00	7.08	938.94		0.0	no
Capped	YES	After purging				946.02			
Standing Water	NO	Top of Screen 10/13/1988				933.55			
Litter	NO					12.47	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				923.32			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		22.45	923.57			
						0.25	feet sedimentation		
		Recovery				946.02			
		Recovery				946.02			
		Recovery				946.02			
		Recovery				946.02	pH	Conductivity	Temp.(C)
		Before Sampling				946.02			

IDNR Form 542-1322

Monitoring Well: **MW-29 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	945.61
Well Depth	53.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	945.61
Well Depth	53.50
Top Screen	902.55
Bottom Screen	892.11
Bottom Well	892.01
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	945.61
Bottom sample	941.61
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/3/2024		11.35	934.26	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125			0
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	945.61	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.50	Before purging	9/3/2024	0:00	11.35	934.26		0.0	
Capped	YES	After purging				945.61			
Standing Water	NO	Top of Screen 10/13/1988				902.55			
Litter	NO					43.06	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 10/13/1988				892.11			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		53.60	892.01			
						-0.10	feet sedimentation		
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00			
		Recovery				0.00	pH	Conductivity	Temp.(C)
		Before Sampling				945.61			

IDNR Form 542-1322

Monitoring Well: **MW-36 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	948.97
Well Depth	53.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	948.97
Well Depth	53.20
Top Screen	906.9
Bottom Screen	895.47
Bottom Well	895.47
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	47
Top sample	901.97
Bottom sample	897.97
Turbidity(NTU)	5.93

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	11:12	15.83	933.14	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10		5.93
Appendix I	Metals	250	250		5.93
Paragraph e		750		750	5.93
Paragraph f	TOX	480			
Supplemental	Sulfate	125	125		5.93
Supplemental					
Supplemental					
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	948.97	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	53.50	Before purging	9/3/2024	11:12	15.83	933.14	16	2.6	
Capped	YES	After purging				948.97			
Standing Water	NO	Top of Screen 4/15/1996				906.90			
Litter	NO					42.07	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				895.47			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		53.20	895.77			
						0.30	feet sedimentation		
		Recovery				948.97			
		Recovery				948.97			
		Recovery				948.97			
		Recovery				948.97	pH	Conductivity	Temp.(C)
		Before Sampling				948.97	7.2	713	20.3

IDNR Form 542-1322

Monitoring Well: **MW-37 (up)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	949.49
Well Depth	30.60
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	949.49
Well Depth	30.60
Top Screen	929.03
Bottom Screen	919.79
Bottom Well	919.79
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	
Top sample	949.49
Bottom sample	945.49
Turbidity(NTU)	

Date	Time	Water Level	Water Elevation	Notes
9/3/2024		7.81	941.68	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10			0
Appendix I	Metals	250			0
Paragraph e		750			
Paragraph f	TOX	480			
Supplemental	Sulfate	125			0
Supplemental					
Supplemental					
Total			0	0	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	949.49	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.60	Before purging	9/3/2024	0:00	7.81	941.68		0.0	
Capped	YES	After purging				949.49			
Standing Water	NO	Top of Screen 4/15/1996				929.03			
Litter	NO					20.46	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				918.89			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		29.70	919.79			
						0.90	feet sedimentation		
		Recovery				949.49			
		Recovery				949.49			
		Recovery				949.49			
		Recovery				949.49	pH	Conductivity	Temp.(C)
		Before Sampling				949.49			

IDNR Form 542-1322

Monitoring Well: **MW-25 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	906.34
Well Depth	19.50
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	906.34
Well Depth	19.40
Top Screen	896.84
Bottom Screen	886.84
Bottom Well	886.84
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14
Top sample	892.34
Bottom sample	888.34
Turbidity(NTU)	1.98

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	13:09	9.88	896.46	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	1.98
Appendix I	Metals	250	250	0	1.98
Paragraph e		750	0	750	1.98
Paragraph f	TOX	0	0	0	
Supplemental	Sulfate	125	125	0	1.98
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	906.34	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	19.50	Before purging	9/3/2024	13:09	9.88	896.46	5	3.2	no
Capped	YES	After purging				906.34			
Standing Water	NO	Top of Screen 8/13/1990				896.84			
Litter	NO					9.50	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 8/13/1990				886.84			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		19.40	886.94			
						0.10	feet sedimentation		
		Recovery				906.34			
		Recovery				906.34			
		Recovery				906.34			
		Recovery				906.34	pH	Conductivity	Temp.(C)
		Before Sampling				906.34	6.9	1558	18.4

IDNR Form 542-1322

Monitoring Well: **MW-33 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	906.32
Well Depth	28.20
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	906.32
Well Depth	28.50
Top Screen	880.66
Bottom Screen	878.12
Bottom Well	878.12
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	23
Top sample	883.32
Bottom sample	879.32
Turbidity(NTU)	4.51

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	13:29	10.09	896.23	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	4.51
Appendix I	Metals	250	250	0	4.51
Paragraph e		750	0	750	4.51
Paragraph f	TOX	0	0	0	
Supplemental	Sulfate	125	125	0	4.51
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	906.32	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	28.20	Before purging	9/3/2024	13:29	10.09	896.23	9	3.0	no
Capped	YES	After purging				906.32			
Standing Water	NO	Top of Screen 8/13/1990				880.66			
Litter	NO					25.66	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 8/13/1990				878.12			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		28.50	877.82			
						-0.30	feet sedimentation		
		Recovery				906.32			
		Recovery				906.32			
		Recovery				906.32			
		Recovery				906.32	pH	Conductivity	Temp.(C)
		Before Sampling				906.32	6.9	1576	19.6

IDNR Form 542-1322

Monitoring Well: **MW-34 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	909.50
Well Depth	17.30
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	909.50
Well Depth	15.55
Top Screen	902.50
Bottom Screen	892.50
Bottom Well	892.20
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	10.5
Top sample	899
Bottom sample	895
Turbidity(NTU)	88.06

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	12:36	10.31	899.19	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	88.06
Appendix I	Metals	250	250	0	88.06
Paragraph e		750	0	750	88.06
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	88.06
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	909.5	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	17.30	Before purging	9/3/2024	12:36	10.31	899.19	2	1.8	yes
Capped	YES	After purging				909.50			
Standing Water	NO	Top of Screen 4/15/1991				902.50			
Litter	NO					7.00	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1991				892.20			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		16.10	893.40			
						1.20	feet sedimentation		
		Recovery				909.50			
		Recovery				909.50			
		Recovery				909.50			
		Recovery				909.50	pH	Conductivity	Temp.(C)
		Before Sampling				909.50	7	1597	20.9

IDNR Form 542-1322

Monitoring Well: **MW-35 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	916.19
Well Depth	20.60
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	916.19
Well Depth	19.80
Top Screen	906.19
Bottom Screen	896.19
Bottom Well	895.59
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14.5
Top sample	901.69
Bottom sample	897.69
Turbidity(NTU)	7.49

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	11:44	13.51	902.68	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	7.49
Appendix I	Metals	250	250	0	7.49
Paragraph e		750	0	750	7.49
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	7.49
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	916.19	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.60	Before purging	9/3/2024	11:44	13.51	902.68	3	2.6	
Capped	YES	After purging				916.19			
Standing Water	NO	Top of Screen 4/15/1996				906.19			
Litter	NO					10.00	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 4/15/1996				895.59			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		19.80	896.39			
						0.80	feet sedimentation		
		Recovery				916.19			
		Recovery				916.19			
		Recovery				916.19			
		Recovery				916.19	pH	Conductivity	Temp.(C)
		Before Sampling				916.19	7.5	923	20.7

IDNR Form 542-1322

Monitoring Well: **MW-39 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	935.93
Well Depth	30.20
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	935.93
Well Depth	29.75
Top Screen	916.16
Bottom Screen	906.16
Bottom Well	905.73
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	24
Top sample	911.93
Bottom sample	907.93
Turbidity(NTU)	3.49

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	14:42	19.51	916.42	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	3.49
Appendix I	Metals	250	250	0	3.49
Paragraph e		750	0	750	3.49
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	3.49
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	935.93	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	30.20	Before purging	9/3/2024	14:42	19.51	916.42	5	2.9	no
Capped	YES	After purging				935.93			
Standing Water	NO	Top of Screen 2/15/1995				916.16			
Litter	NO					19.77	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 2/15/1995				905.73			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		29.75	906.18			
						0.45	feet sedimentation		
		Recovery				935.93			
		Recovery				935.93			
		Recovery				935.93			
		Recovery				935.93	pH	Conductivity	Temp.(C)
		Before Sampling				935.93	6.8	2550	20.4

IDNR Form 542-1322

Monitoring Well: **MW-40 (dg)**

Primary Sampling Method: No-Purge for Arsenic and Sulfate
Secondary Sampling Method: Purge & Sample for all analytes in IAC 567, Chapter 114

GENERAL INFORMATION

TOC	933.07
Well Depth	20.00
Capped	YES
Standing Water	NO
Litter	NO
Level Tape	Solinst 101
NTU Meter	Hach 2100P
No-Purge Equipr	Solinst 429
Purge Equipmen	Waterra

NO PURGE METHOD

TOC	933.07
Well Depth	19.70
Top Screen	923.61
Bottom Screen	913.61
Bottom Well	913.07
Sampler Length (ft)	4
Sampler Volume (mL)	440
Feet cordage	14
Top sample	919.07
Bottom sample	915.07
Turbidity(NTU)	24.36

Date	Time	Water Level	Water Elevation	Notes
9/3/2024	15:06	11.45	921.62	

ANALYTES, CONTAINERS, AND VOLUMES

Analyte		Required Volume (mL)	Volume Collected No-Purge (mL)	Volume Collected Purge & Sample (mL)	Turbidity this Container (NTU)
All	Field NTU	10	10	0	24.36
Appendix I	Metals	250	250	0	24.36
Paragraph e		750	0	750	24.36
Paragraph f	TOX	480	0	0	
Supplemental	Sulfate	125	125	0	24.36
Supplemental			0	0	
Supplemental			0	0	
Total			385	750	

PURGE & SAMPLE METHOD - Purge by Waterra Inertial Lift Pump, then well rest, then sample collection

TOC	933.07	2" dia.	Date	Time	Depth	Elevation	Gallons	# of Vol.	Purged Dry?
Well Depth	20.00	Before purging	9/3/2024	15:06	11.45	921.62	4	2.9	no
Capped	YES	After purging				933.07			
Standing Water	NO	Top of Screen 2/15/1995				923.61			
Litter	NO					9.46	feet above (+) or below (-) top screen		
Level Tape	Solinst	Bottom of Well 2/15/1995				913.07			
Equipment	Disposable Bailer	Bottom of Well	9/3/2024		19.70	913.37			
						0.30	feet sedimentation		
		Recovery				933.07			
		Recovery				933.07			
		Recovery				933.07			
		Recovery				933.07	pH	Conductivity	Temp.(C)
		Before Sampling				933.07	6.9	1584	22.2

AMES-STORY ENVIRONMENTAL LANDFILL
PERMIT # 85-SDP-13-91P

9/3/2024 Sampled by: T. Whipple Calm, Sunny 60-80 degrees

IDNR Form 542-1324

	Date	Time	Type	Flowing	Quantity	Discolored	Odor	Litter
SW-3 (dg)	9/3/2024		tile	yes	190 mL/min	No	No	No

NTU	pH	Conductivity	Temp.(C)
2.53	7.7	1509	21.4

;

MW Number	Top Casing Elevation	Depth to Water (ft)	Water Elevation	
23	945.98	17.26	928.72	
24	939.44	22.72	916.72	dry
30	945.54	36.71	908.83	
31	941.43	21.92	919.51	
32	393.86	35.9	357.96	
38	936.59	25.34	911.25	
41	933.46	17.71	915.75	
42	940.64	19.6	921.04	
43	940.83	18.05	922.78	

APPENDIX B

Laboratory Analytical Data

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0590

Project Description

6004

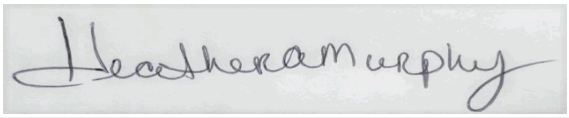
For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Monday, March 25, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0590

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6004

Project / PO Number: N/A
Received: 03/06/2024
Reported: 03/25/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-29 (b)	1HC0590-01	Water	GRAB		03/05/24 07:36	03/06/24 10:04
MW-37 (b)	1HC0590-02	Water	GRAB		03/05/24 08:30	03/06/24 10:04
MW-25	1HC0590-03	Water	GRAB		03/05/24 09:52	03/06/24 10:04
MW-34	1HC0590-04	Water	GRAB		03/05/24 09:21	03/06/24 10:04
MW-35	1HC0590-05	Water	GRAB		03/05/24 08:52	03/06/24 10:04
MW-39	1HC0590-06	Water	GRAB		03/05/24 10:45	03/06/24 10:04
MW-40	1HC0590-07	Water	GRAB		03/05/24 11:14	03/06/24 10:04
MW-33	1HC0590-08	Water	GRAB		03/05/24 09:37	03/06/24 10:04
Field Duplicate	1HC0590-09	Water	GRAB		03/05/24 00:00	03/06/24 10:04

Analytical Testing Parameters

Client Sample ID: MW-29 (b)
Sample Matrix: Water
Lab Sample ID: 1HC0590-01
Collected By: Whipple, Todd
Collection Date: 03/05/2024 7:36

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**62.4**	1.0	mg/L	1		03/19/24 0000	03/20/24 0211	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0086**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0512	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0234	JAR

Client Sample ID: MW-37 (b)
Sample Matrix: Water
Lab Sample ID: 1HC0590-02
Collected By: Whipple, Todd
Collection Date: 03/05/2024 8:30

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**422**	10.0	mg/L	10			03/21/24 2320	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0258**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0549	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0240	JAR

Client Sample ID: MW-25
Sample Matrix: Water
Lab Sample ID: 1HC0590-03
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:52

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**190**	10.0	mg/L	10			03/21/24 2338	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		03/11/24 0851	03/12/24 0555	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.828**	0.100	mg/L	1		03/08/24 1544	03/12/24 0246	JAR

Client Sample ID: MW-34
Sample Matrix: Water
Lab Sample ID: 1HC0590-04
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:21

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**137**	10.0	mg/L	10			03/21/24 2356	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0168**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0602	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.211**	0.100	mg/L	1		03/08/24 1544	03/12/24 0252	JAR

Client Sample ID: MW-35
Sample Matrix: Water
Lab Sample ID: 1HC0590-05
Collected By: Whipple, Todd
Collection Date: 03/05/2024 8:52

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**77.2**	10.0	mg/L	10			03/21/24 0014	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.194**	0.0040	mg/L	4		03/11/24 0851	03/12/24 1211	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0258	JAR

Client Sample ID: MW-39
Sample Matrix: Water
Lab Sample ID: 1HC0590-06
Collected By: Whipple, Todd
Collection Date: 03/05/2024 10:45

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**707**	10.0	mg/L	10			03/21/24 0032	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0105**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0614	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0303	JAR

Client Sample ID: MW-40
Sample Matrix: Water
Lab Sample ID: 1HC0590-07
Collected By: Whipple, Todd
Collection Date: 03/05/2024 11:14

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**226**	10.0	mg/L	10			03/21/24 0051	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0081**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0620	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0309	JAR

Client Sample ID: MW-33
Sample Matrix: Water
Lab Sample ID: 1HC0590-08
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:37

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**152**	10.0	mg/L	10			03/21/24 0109	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		03/11/24 0851	03/12/24 0626	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.425**	0.100	mg/L	1		03/08/24 1544	03/12/24 0317	JAR

Client Sample ID: Field Duplicate
Sample Matrix: Water
Lab Sample ID: 1HC0590-09
Collected By: Whipple, Todd
Collection Date: 03/05/2024

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**707**	10.0	mg/L	10			03/21/24 0127	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0090**	0.0040	mg/L	4		03/11/24 0851	03/12/24 0632	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		03/08/24 1544	03/12/24 0323	JAR

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 6010B	1HC0495	1HC0495-BLK1	
		1HC0495-BS1	
		1HC0495-MS1	1HC0221-01
		1HC0495-MSD1	1HC0221-01
		1HC0495-PS1	1HC0221-01
		1HC0590-01	MW-29 (b)
		1HC0590-02	MW-37 (b)
		1HC0590-03	MW-25
		1HC0590-04	MW-34
		1HC0590-05	MW-35
		1HC0590-06	MW-39
		1HC0590-07	MW-40
		1HC0590-08	MW-33
		1HC0590-09	Field Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC0520	1HC0520-BLK1	
		1HC0520-BS1	
		1HC0590-01	MW-29 (b)
		1HC0520-MS1	1HC0590-01
		1HC0520-MSD1	1HC0590-01
		1HC0520-PS1	1HC0590-01
		1HC0590-02	MW-37 (b)
		1HC0590-03	MW-25
		1HC0590-04	MW-34
		1HC0590-06	MW-39
		1HC0590-07	MW-40
		1HC0590-08	MW-33
		1HC0590-09	Field Duplicate
		1HC0590-05	MW-35

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HC1097	1HC1097-BLK1	
		1HC1097-MRL1	
		1HC1097-BS1	
		1HC1097-BSD1	
		1HC1097-MS1	1HC0683-03
		1HC1097-MSD1	1HC0683-03
		1HC1097-BLK2	
		1HC0590-01	MW-29 (b)

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HC1208	1HC1208-BLK1	
		1HC1208-MRL1	
		1HC1208-BS1	
		1HC1208-BSD1	
		1HC1208-BLK2	
		1HC1208-BLK3	
		1HC1208-BS2	
		1HC1208-BSD2	
		1HC1208-MS1	1HC0411-01
		1HC0590-05	MW-35
		1HC0590-06	MW-39
		1HC0590-07	MW-40
		1HC0590-08	MW-33
		1HC0590-09	Field Duplicate
		1HC1208-MS2	1HC0353-01
		1HC1208-MSD2	1HC0353-01
		1HC1208-MSD1	1HC0411-01
		1HC0590-02	MW-37 (b)
		1HC0590-03	MW-25
		1HC0590-04	MW-34

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Inorganic Anions	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1097 - General Prep HPLC/IC - EPA 9056										
Blank (1HC1097-BLK1)			Prepared: 03/19/24 00:00 Analyzed: 03/19/24 08:38							
Sulfate	<1.0	1.0	mg/L							
Blank (1HC1097-BLK2)			Prepared: 03/19/24 00:00 Analyzed: 03/19/24 14:04							
Sulfate	<1.0	1.0	mg/L							
LCS (1HC1097-BS1)			Prepared: 03/19/24 00:00 Analyzed: 03/19/24 09:14							
Sulfate	33.10	1.0	mg/L	34.0		97.4	80-120			
LCS Dup (1HC1097-BSD1)			Prepared: 03/19/24 00:00 Analyzed: 03/19/24 09:32							
Sulfate	33.54	1.0	mg/L	34.0		98.7	80-120	1.34	10	
Matrix Spike (1HC1097-MS1)	**Source: 1HC0683-03**		Prepared: 03/19/24 00:00 Analyzed: 03/19/24 11:21							
Sulfate	542.4	10.0	mg/L	340	181.6	106	87-113			
Matrix Spike Dup (1HC1097-MSD1)	**Source: 1HC0683-03**		Prepared: 03/19/24 00:00 Analyzed: 03/19/24 11:39							
Sulfate	543.7	10.0	mg/L	340	181.6	107	87-113	0.254	10	
Batch 1HC1208 - General Prep HPLC/IC - EPA 9056										
Blank (1HC1208-BLK1)			Prepared & Analyzed: 03/20/24 11:14							

Determination of Inorganic Anions	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1208 - General Prep HPLC/IC - EPA 9056										
Blank (1HC1208-BLK1)			Prepared & Analyzed: 03/20/24 11:14							
Sulfate	<1.0	1.0	mg/L							
Blank (1HC1208-BLK2)			Prepared & Analyzed: 03/20/24 15:28							
Sulfate	<1.0	1.0	mg/L							
Blank (1HC1208-BLK3)			Prepared & Analyzed: 03/20/24 20:00							
Sulfate	<1.0	1.0	mg/L							
LCS (1HC1208-BS1)			Prepared & Analyzed: 03/20/24 11:50							
Sulfate	34.64	1.0	mg/L	34.0		102	80-120			
LCS (1HC1208-BS2)			Prepared & Analyzed: 03/20/24 20:54							
Sulfate	34.91	1.0	mg/L	34.0		103	80-120			
LCS Dup (1HC1208-BSD1)			Prepared & Analyzed: 03/20/24 12:08							
Sulfate	35.01	1.0	mg/L	34.0		103	80-120	1.07	10	
LCS Dup (1HC1208-BSD2)			Prepared & Analyzed: 03/20/24 21:13							
Sulfate	34.68	1.0	mg/L	34.0		102	80-120	0.673	10	
Matrix Spike (1HC1208-MS1)		**Source: 1HC0411-01**	Prepared & Analyzed: 03/20/24 22:43							
Sulfate	931.4	10.0	mg/L	340	559.6	109	87-113			
Matrix Spike (1HC1208-MS2)		**Source: 1HC0353-01**	Prepared & Analyzed: 03/21/24 03:16							
Sulfate	445.4	10.0	mg/L	340	78.03	108	87-113			
Matrix Spike Dup (1HC1208-MSD1)		**Source: 1HC0411-01**	Prepared & Analyzed: 03/21/24 23:02							
Sulfate	927.1	10.0	mg/L	340	559.6	108	87-113	0.455	10	
Matrix Spike Dup (1HC1208-MSD2)		**Source: 1HC0353-01**	Prepared & Analyzed: 03/21/24 03:34							
Sulfate	444.9	10.0	mg/L	340	78.03	108	87-113	0.110	10	

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0495 - EPA 3010A Digestion (Water) - EPA 6010B										
Blank (1HC0495-BLK1)			Prepared: 03/08/24 15:44 Analyzed: 03/12/24 01:13							
Boron, total	<0.100	0.100	mg/L							
LCS (1HC0495-BS1)			Prepared: 03/08/24 15:44 Analyzed: 03/12/24 01:19							
Boron, total	0.205	0.100	mg/L	0.200		102	80-120			
Matrix Spike (1HC0495-MS1)		**Source: 1HC0221-01**	Prepared: 03/08/24 15:44 Analyzed: 03/12/24 01:34							
Boron, total	0.305	0.100	mg/L	0.200	0.109	98.1	75-125			
Matrix Spike Dup (1HC0495-MSD1)		**Source: 1HC0221-01**	Prepared: 03/08/24 15:44 Analyzed: 03/12/24 01:43							
Boron, total	0.303	0.100	mg/L	0.200	0.109	97.1	75-125	0.624	20	
Post Spike (1HC0495-PS1)		**Source: 1HC0221-01**	Prepared: 03/08/24 15:44 Analyzed: 03/12/24 01:53							
Boron, total	0.902		mg/L	0.800	0.109	99.1	80-120			
Batch 1HC0520 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0520-BLK1)			Prepared: 03/11/24 08:51 Analyzed: 03/12/24 04:54							

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0520 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HC0520-BLK1)			Prepared: 03/11/24 08:51 Analyzed: 03/12/24 04:54							
Arsenic, total	<0.0040	0.0040	mg/L							
LCS (1HC0520-BS1)			Prepared: 03/11/24 08:51 Analyzed: 03/12/24 05:00							
Arsenic, total	0.0990	0.0040	mg/L	0.100		99.0	80-120			
Matrix Spike (1HC0520-MS1)	**Source: 1HC0590-01**		Prepared: 03/11/24 08:51 Analyzed: 03/12/24 05:19							
Arsenic, total	0.105	0.0040	mg/L	0.100	0.0086	96.8	75-125			
Matrix Spike Dup (1HC0520-MSD1)	**Source: 1HC0590-01**		Prepared: 03/11/24 08:51 Analyzed: 03/12/24 05:37							
Arsenic, total	0.108	0.0040	mg/L	0.100	0.0086	99.3	75-125	2.28	20	
Post Spike (1HC0520-PS1)	**Source: 1HC0590-01**		Prepared: 03/11/24 08:51 Analyzed: 03/12/24 05:43							
Arsenic, total	0.0889		mg/L	0.0800	0.0084	101	80-120			

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

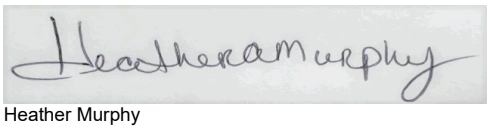
Cooler ID: Default Cooler Temp: 3.9°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	No	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
03/25/24 16:18

CHAIN OF CUSTODY REC

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
~~641-792-9451~~

1HC0590

HLW Engineering
PM: Heather Murphy

SITE INFORMATION

Sampler: Todd Whipple

Project: ~~Ames-Story Landfill-0002~~ 6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC 0590

Temperature 3.9

Turn-Cooler: No

- ☐ Custody Seal
- ☒ Containers Intact
- ☐ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-29 (b)	Water	GRAB	3/5/24	7:36	2	as-t-6020 so4-9056-w	b-t-6010	01
-001	MW-37 (b)	Water	GRAB	3/5/24	8:30	2	as-t-6020 so4-9056-w	b-t-6010	02
-001	MW-25	Water	GRAB	3/5/24	9:52	2	as-t-6020 so4-9056-w	b-t-6010	03
-001	MW-34	Water	GRAB	3/5/24	9:21	2	as-t-6020 so4-9056-w	b-t-6010	04
-001	MW-35	Water	GRAB	3/5/24	8:52	2	as-t-6020 so4-9056-w	b-t-6010	05
-001	MW-39	Water	GRAB	3/5/24	10:45	2	as-t-6020 so4-9056-w	b-t-6010	06
-001	MW-40	Water	GRAB	3/5/24	11:14	2	as-t-6020 so4-9056-w	b-t-6010	07

Todd Whipple 3/6/24
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Mahn 3/6/24 10:04
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
~~641-792-9451~~

1HC0590
HLW Engineering
PM: Heather Murphy

www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: ~~Ames-Story Landfill-0002~~ 6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC0590

Temperature 3.9

Turn-Cooler: No

- [X] Custody Seal
- [X] Containers Intact
- [X] COC/Labels Agree
- [X] Preservation Confirmed
- [X] Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-33	Water	GRAB	3/5/24	9:37	2	as-t-6020 so4-9056-w	b-t-6010	08
-001	SW-3	Water	GRAB	"		2	as-t-6020 so4-9056-w	b-t-6010	
-001	Field Duplicate	Water	GRAB	3/5/24	✓	2	as-t-6020 so4-9056-w	b-t-6010	09

Relinquished By: Todd Whipple 3/6/24 — Date/Time

Received By — Date/Time

Relinquished By — Date/Time

Received for Lab By: Maher 3/6/24 10:04 — Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0706

Project Description

6004

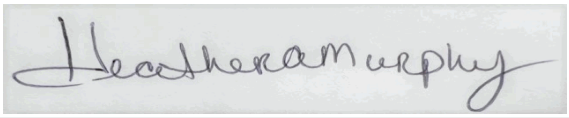
For:

Todd Whipple

HLW Engineering

PO Box 314

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Friday, March 22, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

MICROBAC®

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HC0706

HLW Engineering

Todd Whipple
PO Box 314
Story City, IA 50248

Project Name: 6004

Project / PO Number: 52124
Received: 03/06/2024
Reported: 03/22/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-29 (b)	1HC0706-01	Water	GRAB		03/05/24 07:40	03/06/24 10:04
MW-37 (b)	1HC0706-02	Water	GRAB		03/05/24 08:34	03/06/24 10:04
MW-25	1HC0706-03	Water	GRAB		03/05/24 09:56	03/06/24 10:04
MW-34	1HC0706-04	Water	GRAB		03/05/24 09:26	03/06/24 10:04
MW-35	1HC0706-05	Water	GRAB		03/05/24 08:56	03/06/24 10:04
MW-39	1HC0706-06	Water	GRAB		03/05/24 10:49	03/06/24 10:04
MW-40	1HC0706-07	Water	GRAB		03/05/24 11:18	03/06/24 10:04
MW-33	1HC0706-08	Water	GRAB		03/05/24 09:41	03/06/24 10:04

Analytical Testing Parameters

Client Sample ID: MW-29 (b)
Sample Matrix: Water
Lab Sample ID: 1HC0706-01
Collected By: Whipple, Todd
Collection Date: 03/05/2024 7:40

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1014	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**56.3**	10.0	mg/L	10		03/19/24 0000	03/19/24 2233	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		03/13/24 0830	03/13/24 1557	JAR
EPA 6020A								
Arsenic, dissolved	**0.0097**	0.0020	mg/L	4		03/13/24 0910	03/18/24 2321	RVV

Client Sample ID: MW-37 (b)
Sample Matrix: Water
Lab Sample ID: 1HC0706-02
Collected By: Whipple, Todd
Collection Date: 03/05/2024 8:34

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	**29**	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1016	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**36.7**	10.0	mg/L	10		03/19/24 0000	03/19/24 2251	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**1.65**	0.100	mg/L	1		03/13/24 0830	03/13/24 1615	JAR
EPA 6020A								
Arsenic, dissolved	<0.0020	0.0020	mg/L	4		03/13/24 0910	03/18/24 2339	RVV

Client Sample ID: MW-25
Sample Matrix: Water
Lab Sample ID: 1HC0706-03
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:56

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1017	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**25.3**	10.0	mg/L	10		03/19/24 0000	03/20/24 0004	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**0.313**	0.100	mg/L	1		03/13/24 0830	03/13/24 1621	JAR
EPA 6020A								
Arsenic, dissolved	<0.0020	0.0020	mg/L	4		03/13/24 0910	03/18/24 2345	RVV

Client Sample ID: MW-34
Sample Matrix: Water
Lab Sample ID: 1HC0706-04
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:26

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	**1.28**	1.00	mg/L	1		03/19/24 1419	03/20/24 1018	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**16.5**	10.0	mg/L	10		03/19/24 0000	03/20/24 0022	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**10.3**	0.100	mg/L	1		03/13/24 0830	03/13/24 1628	JAR
EPA 6020A								
Arsenic, dissolved	**0.0075**	0.0020	mg/L	4		03/13/24 0910	03/18/24 2352	RVV

Client Sample ID: MW-35
Sample Matrix: Water
Lab Sample ID: 1HC0706-05
Collected By: Whipple, Todd
Collection Date: 03/05/2024 8:56

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	**48**	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1020	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**590**	10.0	mg/L	10		03/19/24 0000	03/20/24 0040	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		03/13/24 0830	03/13/24 1646	JAR
EPA 6020A								
Arsenic, dissolved	**0.0052**	0.0020	mg/L	4		03/13/24 0910	03/19/24 0010	RVV

Client Sample ID: MW-39
Sample Matrix: Water
Lab Sample ID: 1HC0706-06
Collected By: Whipple, Todd
Collection Date: 03/05/2024 10:49

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1021	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**16.7**	10.0	mg/L	10		03/19/24 0000	03/20/24 0058	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**0.336**	0.100	mg/L	1		03/13/24 0830	03/13/24 1655	JAR
EPA 6020A								
Arsenic, dissolved	<0.0020	0.0020	mg/L	4		03/13/24 0910	03/19/24 0016	RVV

Client Sample ID: MW-40
Sample Matrix: Water
Lab Sample ID: 1HC0706-07
Collected By: Whipple, Todd
Collection Date: 03/05/2024 11:18

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		03/19/24 1419	03/20/24 1023	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**42.2**	10.0	mg/L	10		03/19/24 0000	03/20/24 0116	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		03/13/24 0830	03/13/24 1705	JAR
EPA 6020A								
Arsenic, dissolved	**0.0021**	0.0020	mg/L	4		03/13/24 0910	03/19/24 0022	RVV

Client Sample ID: MW-33
Sample Matrix: Water
Lab Sample ID: 1HC0706-08
Collected By: Whipple, Todd
Collection Date: 03/05/2024 9:41

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		03/15/24 0957	03/18/24 1403	CHP
TIMBERLINE								
Nitrogen, Ammonia	**1.28**	1.00	mg/L	1		03/19/24 1419	03/20/24 1024	LJS

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**44.3**	10.0	mg/L	10		03/19/24 0000	03/20/24 0134	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**5.45**	0.100	mg/L	1		03/13/24 0830	03/13/24 1711	JAR
EPA 6020A								
Arsenic, dissolved	<0.0020	0.0020	mg/L	4		03/13/24 0910	03/19/24 0028	RVV

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 6010B	1HC0693	1HC0693-BLK1	
		1HC0693-BS1	
		1HC0706-01	MW-29 (b)
		1HC0693-MS1	1HC0706-01
		1HC0693-MSD1	1HC0706-01
		1HC0706-02	MW-37 (b)
		1HC0706-03	MW-25
		1HC0706-04	MW-34
		1HC0706-05	MW-35
		1HC0706-06	MW-39
		1HC0706-07	MW-40
		1HC0706-08	MW-33

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HC0700	1HC0700-BLK1	
		1HC0700-BS1	
		1HC0706-01	MW-29 (b)
		1HC0700-MS1	1HC0706-01
		1HC0700-MSD1	1HC0706-01
		1HC0706-02	MW-37 (b)
		1HC0706-03	MW-25
		1HC0706-04	MW-34
		1HC0706-05	MW-35
		1HC0706-06	MW-39
		1HC0706-07	MW-40
		1HC0706-08	MW-33

Method	Batch	Laboratory ID	Client / Source ID
EPA 410.4	1HC0870	1HC0706-07	MW-40
		1HC0706-06	MW-39
		1HC0706-02	MW-37 (b)
		1HC0706-05	MW-35
		1HC0706-04	MW-34
		1HC0706-03	MW-25
		1HC0706-01	MW-29 (b)
		1HC0870-BLK1	
		1HC0870-BS1	
		1HC0870-MS1	1HC0706-01
		1HC0870-MSD1	1HC0706-01
		1HC0706-08	MW-33

Method	Batch	Laboratory ID	Client / Source ID
TIMBERLINE	1HC1027	1HC1027-BLK1	
		1HC1027-MRL1	
		1HC1027-BS1	
		1HC1027-MS1	1HC0706-01
		1HC1027-MSD1	1HC0706-01
		1HC0706-01	MW-29 (b)
		1HC0706-02	MW-37 (b)
		1HC0706-03	MW-25
		1HC0706-04	MW-34
		1HC0706-05	MW-35
		1HC0706-06	MW-39
		1HC0706-07	MW-40
		1HC0706-08	MW-33

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HC1097	1HC1097-BLK1	
		1HC1097-MRL1	
		1HC1097-BS1	
		1HC1097-BSD1	
		1HC1097-MS1	1HC0683-03
		1HC1097-MSD1	1HC0683-03
		1HC1097-BLK2	
		1HC0706-01	MW-29 (b)
		1HC0706-02	MW-37 (b)
		1HC0706-03	MW-25
		1HC0706-04	MW-34
		1HC0706-05	MW-35
		1HC0706-06	MW-39
		1HC0706-07	MW-40
		1HC0706-08	MW-33

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0870 - Wet Chem Preparation - EPA 410.4										
Blank (1HC0870-BLK1)				Prepared: 03/15/24 09:57 Analyzed: 03/18/24 14:03						
COD, total	<20	20	mg/L							
LCS (1HC0870-BS1)				Prepared: 03/15/24 09:57 Analyzed: 03/18/24 14:03						
COD, total	77.6	20	mg/L	75.0		103	90-110			
Matrix Spike (1HC0870-MS1)		**Source: 1HC0706-01**		Prepared: 03/15/24 09:57 Analyzed: 03/18/24 14:03						

Determination of Conventional Chemistry Parameters	Result		RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0870 - Wet Chem Preparation - EPA 410.4											
Matrix Spike (1HC0870-MS1)		**Source: 1HC0706-01**		Prepared: 03/15/24 09:57 Analyzed: 03/18/24 14:03							
COD, total	98.0		40	mg/L	75.0	ND	131	90-110			QM-13
Matrix Spike Dup (1HC0870-MSD1)		**Source: 1HC0706-01**		Prepared: 03/15/24 09:57 Analyzed: 03/18/24 14:03							
COD, total	87.5		40	mg/L	75.0	ND	117	90-110	11.3	10	QM-13
Batch 1HC1027 - General Prep HPLC/IC - TIMBERLINE											
Blank (1HC1027-BLK1)				Prepared: 03/19/24 14:19 Analyzed: 03/20/24 10:07							
Nitrogen, Ammonia	<1.00		1.00	mg/L							
LCS (1HC1027-BS1)				Prepared: 03/19/24 14:19 Analyzed: 03/20/24 10:10							
Nitrogen, Ammonia	5.05		1.00	mg/L	5.00		101	90-114			
Matrix Spike (1HC1027-MS1)		**Source: 1HC0706-01**		Prepared: 03/19/24 14:19 Analyzed: 03/20/24 10:11							
Nitrogen, Ammonia	5.67		1.00	mg/L	5.00	0.298	108	84-115			
Matrix Spike Dup (1HC1027-MSD1)		**Source: 1HC0706-01**		Prepared: 03/19/24 14:19 Analyzed: 03/20/24 10:13							
Nitrogen, Ammonia	5.53		1.00	mg/L	5.00	0.298	105	84-115	2.52	20	

Determination of Inorganic Anions	Result		RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC1097 - General Prep HPLC/IC - EPA 9056											
Blank (1HC1097-BLK1)				Prepared: 03/19/24 00:00 Analyzed: 03/19/24 08:38							
Chloride	<1.0		1.0	mg/L							
Blank (1HC1097-BLK2)				Prepared: 03/19/24 00:00 Analyzed: 03/19/24 14:04							
Chloride	<1.0		1.0	mg/L							
LCS (1HC1097-BS1)				Prepared: 03/19/24 00:00 Analyzed: 03/19/24 09:14							
Chloride	14.01		1.0	mg/L	15.3		91.3	80-120			
LCS Dup (1HC1097-BSD1)				Prepared: 03/19/24 00:00 Analyzed: 03/19/24 09:32							
Chloride	14.03		1.0	mg/L	15.3		91.5	80-120	0.128	10	
Matrix Spike (1HC1097-MS1)		**Source: 1HC0683-03**		Prepared: 03/19/24 00:00 Analyzed: 03/19/24 11:21							
Chloride	522.7		10.0	mg/L	153	382.8	91.2	81-116			
Matrix Spike Dup (1HC1097-MSD1)		**Source: 1HC0683-03**		Prepared: 03/19/24 00:00 Analyzed: 03/19/24 11:39							
Chloride	522.6		10.0	mg/L	153	382.8	91.1	81-116	0.0230	10	

Determination of Dissolved Metals	Result		RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0693 - Dissolved Metal Prep - EPA 6010B											
Blank (1HC0693-BLK1)				Prepared: 03/13/24 08:30 Analyzed: 03/13/24 15:45							
Iron, dissolved	<0.100		0.100	mg/L							
LCS (1HC0693-BS1)				Prepared: 03/13/24 08:30 Analyzed: 03/13/24 15:51							

Determination of Dissolved Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HC0693 - Dissolved Metal Prep - EPA 6010B										
LCS (1HC0693-BS1)				Prepared: 03/13/24 08:30 Analyzed: 03/13/24 15:51						
Iron, dissolved	2.32	0.100	mg/L	2.22		105	80-120			
Matrix Spike (1HC0693-MS1)		Source: 1HC0706-01		Prepared: 03/13/24 08:30 Analyzed: 03/13/24 16:03						
Iron, dissolved	2.27	0.100	mg/L	2.22	0.0318	101	75-125			
Matrix Spike Dup (1HC0693-MSD1)		Source: 1HC0706-01		Prepared: 03/13/24 08:30 Analyzed: 03/13/24 16:09						
Iron, dissolved	2.31	0.100	mg/L	2.22	0.0318	103	75-125	1.63	20	
Batch 1HC0700 - Dissolved Metal Prep - EPA 6020A										
Blank (1HC0700-BLK1)				Prepared: 03/13/24 09:10 Analyzed: 03/18/24 23:09						
Arsenic, dissolved	<0.0005	0.0005	mg/L							
LCS (1HC0700-BS1)				Prepared: 03/13/24 09:10 Analyzed: 03/18/24 23:15						
Arsenic, dissolved	0.0187	0.0005	mg/L	0.0200		93.5	80-120			
Matrix Spike (1HC0700-MS1)		Source: 1HC0706-01		Prepared: 03/13/24 09:10 Analyzed: 03/18/24 23:27						
Arsenic, dissolved	0.0886	0.0020	mg/L	0.0816	0.0097	96.7	75-125			
Matrix Spike Dup (1HC0700-MSD1)		Source: 1HC0706-01		Prepared: 03/13/24 09:10 Analyzed: 03/18/24 23:33						
Arsenic, dissolved	0.0905	0.0020	mg/L	0.0816	0.0097	99.0	75-125	2.11	20	

Definitions

QM-13: The spike recovery was outside acceptance limits for the MS and/or MSD. Batch accepted based on acceptable initial and continuing calibration results.
RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

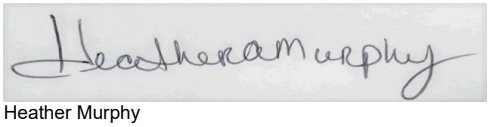
Cooler ID: Default Cooler Temp: 3.9°C

Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
03/22/24 16:51

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
641-792-8451

www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: Ames-Story Landfill-Spring COC1
6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC0706
Temperature 3.9
Turn-Cooler: No

- ☐ Custody Seal
- ☐ Containers Intact
- ☐ COC/Labels Agree
- ☐ Preservation Confirmed
- ☑ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	MW-29 (b)	Water	GRAB	3/5/24	7:40	3	lndfll-para-e + As, Dissolved	01
-001	MW-37 (b)	Water	GRAB	3/5/24	8:34	3	lndfll-para-e + As, dissolved	02
-001	MW-25	Water	GRAB	3/5/24	9:56	3	lndfll-para-e + As dissolved	03
-001	MW-34	Water	GRAB	3/5/24	9:26	3	lndfll-para-e + As, dissolved	04
-001	MW-35	Water	GRAB	3/5/24	8:56	3	lndfll-para-e + As, dissolved	05
-001	MW-39	Water	GRAB	3/5/24	10:49	3	lndfll-para-e + As, dissolved	06
-001	MW-40	Water	GRAB	3/5/24	11:18	3	lndfll-para-e + As, dissolved	07

Todd Whipple 3/6/24
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

Mahn 3/6/24 10:04
Received for Lab By Date/Time

Remarks:

1HC0706
HLW Engineering
PM: Heather Murphy

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

Keystone LABORATORIES
A Microbac Company

600 East 17th Street South
Newton, IA 50208
~~641-792-8451~~

www.keystonelabs.com

SITE INFORMATION

Sampler:

Project: Ames-Story Landfill-Spring COC1
6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time
☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HC0706
Temperature 3.9
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	MW-33	Water	GRAB	3/5/24	9:41	3	lndfll-para-e + As, dissolved	08
-001	SW-3 DRY	Water	GRAB	"	—	—	lndfll-para-e	

Todd Whipple 3/6/24
Relinquished By Date/Time

Relinquished By Date/Time

Received By Date/Time

Mahn 3/6/24 10:04
Received for Lab By Date/Time

Remarks:

1HC0706
HLW Engineering
PM: Heather Murphy

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI0337

Project Description

6004

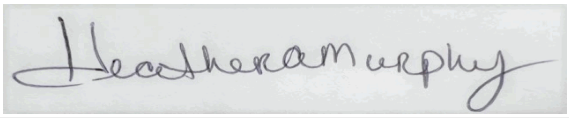
For:

Todd Whipple

HLW Engineering

204 West Broad St

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Thursday, September 19, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI0337

HLW Engineering

Todd Whipple
204 West Broad St
Story City, IA 50248

Project Name: 6004

Project / PO Number: N/A
Received: 09/04/2024
Reported: 09/19/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-6	1HI0337-01	Aqueous	GRAB		09/03/24 10:35	09/04/24 10:14
MW-36	1HI0337-02	Aqueous	GRAB		09/03/24 11:12	09/04/24 10:14
MW-25	1HI0337-03	Aqueous	GRAB		09/03/24 13:09	09/04/24 10:14
MW-34	1HI0337-04	Aqueous	GRAB		09/03/24 12:36	09/04/24 10:14
MW-35	1HI0337-05	Aqueous	GRAB		09/03/24 11:44	09/04/24 10:14
MW-39	1HI0337-06	Aqueous	GRAB		09/03/24 14:42	09/04/24 10:14
MW-40	1HI0337-07	Aqueous	GRAB		09/03/24 15:06	09/04/24 10:14
MW-33	1HI0337-08	Aqueous	GRAB		09/03/24 13:29	09/04/24 10:14
SW-3	1HI0337-09	Aqueous	GRAB		09/03/24 12:19	09/04/24 10:14
Field Duplicate	1HI0337-10	Aqueous	GRAB		09/03/24 00:00	09/04/24 10:14

Analytical Testing Parameters

Client Sample ID: MW-6
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-01
Collected By: Whipple, Todd
Collection Date: 09/03/2024 10:35

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**327**	5.0	mg/L	5		09/17/24 0000	09/17/24 1912	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 1938	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.109**	0.100	mg/L	1		09/06/24 1629	09/10/24 0053	JAR

Client Sample ID: MW-36
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-02
Collected By: Whipple, Todd
Collection Date: 09/03/2024 11:12

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**11.6**	1.0	mg/L	1		09/17/24 0000	09/18/24 1104	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0230**	0.0040	mg/L	4		09/09/24 1602	09/10/24 1944	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.133**	0.100	mg/L	1		09/06/24 1629	09/10/24 0127	JAR

Client Sample ID: MW-25
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-03
Collected By: Whipple, Todd
Collection Date: 09/03/2024 13:09

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**206**	5.0	mg/L	5		09/17/24 0000	09/17/24 1948	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 1950	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.786**	0.100	mg/L	1		09/06/24 1629	09/10/24 0133	JAR

Client Sample ID: MW-34
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-04
Collected By: Whipple, Todd
Collection Date: 09/03/2024 12:36

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**166**	5.0	mg/L	5		09/17/24 0000	09/17/24 2007	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0203**	0.0040	mg/L	4		09/09/24 1602	09/10/24 1957	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.208**	0.100	mg/L	1		09/06/24 1629	09/10/24 0139	JAR

Client Sample ID: MW-35
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-05
Collected By: Whipple, Todd
Collection Date: 09/03/2024 11:44

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**51.0**	5.0	mg/L	5		09/17/24 0000	09/17/24 2025	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0216**	0.0040	mg/L	4		09/09/24 1602	09/10/24 2015	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		09/06/24 1629	09/10/24 0159	JAR

Client Sample ID: MW-39
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-06
Collected By: Whipple, Todd
Collection Date: 09/03/2024 14:42

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**480**	5.0	mg/L	5		09/17/24 0000	09/17/24 2043	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 2021	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.219**	0.100	mg/L	1		09/06/24 1629	09/10/24 0204	JAR

Client Sample ID: MW-40
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-07
Collected By: Whipple, Todd
Collection Date: 09/03/2024 15:06

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**323**	5.0	mg/L	5		09/17/24 0000	09/17/24 2101	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	**0.0067**	0.0040	mg/L	4		09/09/24 1602	09/10/24 2027	RVV
EPA 3010A/EPA 6010B								
Boron, total	<0.100	0.100	mg/L	1		09/06/24 1629	09/10/24 0210	JAR

Client Sample ID: MW-33
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-08
Collected By: Whipple, Todd
Collection Date: 09/03/2024 13:29

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**169**	5.0	mg/L	5		09/17/24 0000	09/17/24 2119	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 2033	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.481**	0.100	mg/L	1		09/06/24 1629	09/10/24 0216	JAR

Client Sample ID: SW-3
Sample Matrix: Aqueous
Lab Sample ID: 1HI0337-09
Collected By: Whipple, Todd
Collection Date: 09/03/2024 12:19

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**203**	5.0	mg/L	5		09/17/24 0000	09/17/24 2137	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 2039	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.102**	0.100	mg/L	1		09/06/24 1629	09/10/24 0222	JAR

Client Sample ID:	Field Duplicate		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI0337-10	**Collection Date:**	09/03/2024

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Sulfate	**170**	5.0	mg/L	5		09/17/24 0000	09/17/24 2156	MID

Determination of Total Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 3005A/EPA 6020A								
Arsenic, total	<0.0040	0.0040	mg/L	4		09/09/24 1602	09/10/24 2046	RVV
EPA 3010A/EPA 6010B								
Boron, total	**0.462**	0.100	mg/L	1		09/06/24 1629	09/10/24 0228	JAR

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 6010B	1HI0345	1HI0345-BLK1	
		1HI0345-BS1	
		1HI0337-01	MW-6
		1HI0345-MS1	1HI0337-01
		1HI0345-MSD1	1HI0337-01
		1HI0345-PS1	1HI0337-01
		1HI0337-02	MW-36
		1HI0337-03	MW-25
		1HI0337-04	MW-34
		1HI0337-05	MW-35
		1HI0337-06	MW-39
		1HI0337-07	MW-40
		1HI0337-08	MW-33
		1HI0337-09	SW-3
		1HI0337-10	Field Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 6020A	1HI0409	1HI0409-BS1	
		1HI0337-01	MW-6
		1HI0337-02	MW-36
		1HI0337-03	MW-25
		1HI0337-04	MW-34
		1HI0337-05	MW-35
		1HI0337-06	MW-39
		1HI0337-07	MW-40
		1HI0337-08	MW-33
		1HI0337-09	SW-3
		1HI0337-10	Field Duplicate
		1HI0409-MS1	1HI0429-01
		1HI0409-MSD1	1HI0429-01
		1HI0409-PS1	1HI0429-01
		1HI0409-BLK1	

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HI0965	1HI0965-BLK1	
		1HI0965-MRL1	
		1HI0965-BS1	
		1HI0965-BSD1	
		1HI0965-MS1	1HI0136-02
		1HI0965-MSD1	1HI0136-02

EPA 9056	1HI0965	1HI0965-BLK2	
		1HI0337-01	MW-6
		1HI0337-03	MW-25
		1HI0337-04	MW-34
		1HI0337-05	MW-35
		1HI0337-06	MW-39
		1HI0337-07	MW-40
		1HI0337-08	MW-33
		1HI0337-09	SW-3
		1HI0337-10	Field Duplicate

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HI0983	1HI0983-BLK1	
		1HI0983-MRL1	
		1HI0983-BS1	
		1HI0983-BSD1	
		1HI0983-BLK2	
		1HI0983-MS1	1HI0721-01
		1HI0983-MSD1	1HI0721-01
		1HI0337-02	MW-36

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Inorganic Anions	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0965 - General Prep HPLC/IC - EPA 9056										
Blank (1HI0965-BLK1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 12:51							
Sulfate	<1.0	1.0	mg/L							
Blank (1HI0965-BLK2)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 18:18							
Sulfate	<1.0	1.0	mg/L							
LCS (1HI0965-BS1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 13:27							
Sulfate	32.67	1.0	mg/L	33.9		96.2	80-120			
LCS Dup (1HI0965-BSD1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 13:45							
Sulfate	32.80	1.0	mg/L	33.9		96.6	80-120	0.394	10	
Matrix Spike (1HI0965-MS1)	**Source: 1HI0136-02**		Prepared: 09/17/24 00:00 Analyzed: 09/17/24 14:22							
Sulfate	738.0	10.0	mg/L	339	385.6	104	87-113			
Matrix Spike Dup (1HI0965-MSD1)	**Source: 1HI0136-02**		Prepared: 09/17/24 00:00 Analyzed: 09/17/24 14:40							
Sulfate	739.5	10.0	mg/L	339	385.6	104	87-113	0.208	10	
Batch 1HI0983 - General Prep HPLC/IC - EPA 9056										
Blank (1HI0983-BLK1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 16:46							
Sulfate	<1.0	1.0	mg/L							
Blank (1HI0983-BLK2)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 22:45							

Determination of Inorganic Anions	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0983 - General Prep HPLC/IC - EPA 9056										
Blank (1HI0983-BLK2)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 22:45							
Sulfate	<1.0	1.0	mg/L							
LCS (1HI0983-BS1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 17:31							
Sulfate	33.88	1.0	mg/L	33.9		99.8	80-120			
LCS Dup (1HI0983-BSD1)			Prepared: 09/17/24 00:00 Analyzed: 09/17/24 17:53							
Sulfate	33.60	1.0	mg/L	33.9		99.0	80-120	0.815	10	
Matrix Spike (1HI0983-MS1)	**Source: 1HI0721-01**		Prepared: 09/17/24 00:00 Analyzed: 09/18/24 00:59							
Sulfate	48.56	1.0	mg/L	33.9	13.55	103	87-113			
Matrix Spike Dup (1HI0983-MSD1)	**Source: 1HI0721-01**		Prepared: 09/17/24 00:00 Analyzed: 09/18/24 01:21							
Sulfate	48.71	1.0	mg/L	33.9	13.55	104	87-113	0.304	10	

Determination of Total Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0345 - EPA 3010A Digestion (Water) - EPA 6010B										
Blank (1HI0345-BLK1)			Prepared: 09/06/24 16:29 Analyzed: 09/10/24 00:30							
Boron, total	<0.100	0.100	mg/L							
LCS (1HI0345-BS1)			Prepared: 09/06/24 16:29 Analyzed: 09/10/24 00:36							
Boron, total	0.205	0.100	mg/L	0.200		102	80-120			
Matrix Spike (1HI0345-MS1)	**Source: 1HI0337-01**		Prepared: 09/06/24 16:29 Analyzed: 09/10/24 01:03							
Boron, total	0.302	0.100	mg/L	0.200	0.109	96.3	75-125			
Matrix Spike Dup (1HI0345-MSD1)	**Source: 1HI0337-01**		Prepared: 09/06/24 16:29 Analyzed: 09/10/24 01:12							
Boron, total	0.296	0.100	mg/L	0.200	0.109	93.4	75-125	1.96	20	
Post Spike (1HI0345-PS1)	**Source: 1HI0337-01**		Prepared: 09/06/24 16:29 Analyzed: 09/10/24 01:21							
Boron, total	0.956		mg/L	0.800	0.109	106	80-120			
Batch 1HI0409 - EPA 3005A Total Recoverable Metals - EPA 6020A										
Blank (1HI0409-BLK1)			Prepared: 09/09/24 16:02 Analyzed: 09/11/24 11:00							
Arsenic, total	<0.0040	0.0040	mg/L							
LCS (1HI0409-BS1)			Prepared: 09/09/24 16:02 Analyzed: 09/10/24 19:32							
Arsenic, total	0.0989	0.0040	mg/L	0.100		98.9	80-120			
Matrix Spike (1HI0409-MS1)	**Source: 1HI0429-01**		Prepared: 09/09/24 16:02 Analyzed: 09/10/24 21:04							
Arsenic, total	0.102	0.0040	mg/L	0.100	0.0093	92.3	75-125			
Matrix Spike Dup (1HI0409-MSD1)	**Source: 1HI0429-01**		Prepared: 09/09/24 16:02 Analyzed: 09/10/24 21:10							
Arsenic, total	0.105	0.0040	mg/L	0.100	0.0093	96.0	75-125	3.54	20	
Post Spike (1HI0409-PS1)	**Source: 1HI0429-01**		Prepared: 09/09/24 16:02 Analyzed: 09/10/24 21:28							
Arsenic, total	0.0846		mg/L	0.0800	0.0091	94.4	80-120			

Definitions

RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.0°C

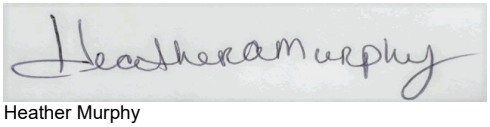
Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/19/24 13:01

CHAIN OF CUSTODY RECORD

MICROBAC®
600 East 17th Street Sou
Newton, IA 50208
~~641-792-9451~~

1 H I 0 3 3 7

HLW Engineering
PM: Heather Murphy

www.keystonelabs.com

SITE INFORMATION

Sampler: TODD WHIPPLE

Project: ~~Ames-Story Landfill-0002~~
6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HI0337

Temperature 1.0

Turn-Cooler: No

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-6	Aqueous	GRAB	9 13 24	10:35	2	as-t-6020 so4-9056-w	b-t-6010	01
-001	MW-36	Aqueous	GRAB	9 13 24	11:12	2	as-t-6020 so4-9056-w	b-t-6010	02
-001	MW-25	Aqueous	GRAB	9 13 24	13:09	2	as-t-6020 so4-9056-w	b-t-6010	03
-001	MW-34	Aqueous	GRAB	9 13 24	12:36	2	as-t-6020 so4-9056-w	b-t-6010	04
-001	MW-35	Aqueous	GRAB	9 13 24	11:44	2	as-t-6020 so4-9056-w	b-t-6010	05
-001	MW-39	Aqueous	GRAB	9 13 24	14:42	2	as-t-6020 so4-9056-w	b-t-6010	06
-001	MW-40	Aqueous	GRAB	9 13 24	15:06	2	as-t-6020 so4-9056-w	b-t-6010	07

Relinquished By: Todd Whipple Date/Time: 9/4/24

Received By Date/Time

Relinquished By Date/Time

Received for Lab By: [signature] Date/Time: 9-4-24 10:14

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

MICROBAC®

600 East 17th Street South
Newton, IA 50208
~~641-792-9451~~

1HI0337

HLW Engineering
PM: Heather Murphy

H: 7/30/2024 10:46:15A

ww.keystonelabs.com

SITE INFORMATION

Sampler: Todd Whipple

Project: ~~Ames Story Landfill-0002~~
6004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Fedeler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HI0337
Temperature 1.0
Turn-Cooler: No

- ☐ Custody Seal
- ☒ Containers Intact
- ☒ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses		Lab Sample Number
-001	MW-33	Aqueous	GRAB	9/3/24	13:29	2	as-t-6020 so4-9056-w	b-t-6010	08
-001	SW-3	Aqueous	GRAB	9/3/24	12:19	2	as-t-6020 so4-9056-w	b-t-6010	09
-001	Field Duplicate	Aqueous	GRAB	9/3/24	✓	2	as-t-6020 so4-9056-w	b-t-6010	10

Todd Whipple 9/4/24
Relinquished By Date/Time

Received By Date/Time

Relinquished By Date/Time

DaVonte 9-4-24 10:14
Received for Lab By Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy

Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI0332

Project Description

6004

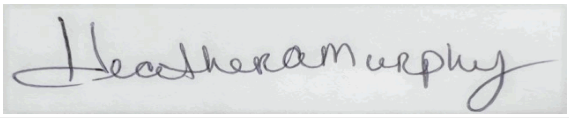
For:

Todd Whipple

HLW Engineering

204 West Broad St

Story City, IA 50248



Heather Murphy

Customer Relationship Specialist

Wednesday, September 18, 2024

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac Laboratories, Inc., Newton. If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed above.

I certify that all test results meet all of the requirements of the accrediting authority listed within this report. Analytical results are reported on a 'as received' basis unless specified otherwise. Analytical results for solids with units ending in (dry) are reported on a dry weight basis. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories. The reported results are related only to the samples analyzed as received.

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Microbac Laboratories, Inc., Newton

CERTIFICATE OF ANALYSIS

1HI0332

HLW Engineering

Todd Whipple
204 West Broad St
Story City, IA 50248

Project Name: 6004

Project / PO Number: 52124
Received: 09/04/2024
Reported: 09/18/2024

Sample Summary Report

Sample Name	Laboratory ID	Client Matrix	Sample Type	Sample Begin	Sample Taken	Lab Received
MW-6 (b)	1HI0332-01	Aqueous	GRAB		09/03/24 10:46	09/04/24 10:14
MW-36 (b)	1HI0332-02	Aqueous	GRAB		09/03/24 11:28	09/04/24 10:14
MW-25	1HI0332-03	Aqueous	GRAB		09/03/24 13:23	09/04/24 10:14
MW-34	1HI0332-04	Aqueous	GRAB		09/03/24 12:50	09/04/24 10:14
MW-35	1HI0332-05	Aqueous	GRAB		09/03/24 11:54	09/04/24 10:14
MW-39	1HI0332-06	Aqueous	GRAB		09/03/24 14:54	09/04/24 10:14
MW-40	1HI0332-07	Aqueous	GRAB		09/03/24 15:18	09/04/24 10:14
MW-33	1HI0332-08	Aqueous	GRAB		09/03/24 13:45	09/04/24 10:14
SW-3	1HI0332-09	Aqueous	GRAB		09/03/24 12:29	09/04/24 10:14

Analytical Testing Parameters

Client Sample ID: MW-6 (b)
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-01
Collected By: Whipple, Todd
Collection Date: 09/03/2024 10:46

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1	**M1**	09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1813	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**316**	50.0	mg/L	50		09/16/24 0000	09/17/24 0957	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		09/12/24 1200	09/13/24 0057	JAR

Client Sample ID: MW-36 (b)
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-02
Collected By: Whipple, Todd
Collection Date: 09/03/2024 11:28

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1815	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**1.2**	1.0	mg/L	1		09/16/24 0000	09/17/24 0318	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**0.189**	0.100	mg/L	1		09/12/24 1200	09/13/24 0125	JAR

Client Sample ID: MW-25
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-03
Collected By: Whipple, Todd
Collection Date: 09/03/2024 13:23

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1818	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**22.1**	1.0	mg/L	1		09/16/24 0000	09/17/24 0336	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**1.00**	0.100	mg/L	1		09/12/24 1200	09/13/24 0131	JAR

Client Sample ID: MW-34
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-04
Collected By: Whipple, Todd
Collection Date: 09/03/2024 12:50

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	**1.93**	1.00	mg/L	1		09/12/24 1322	09/14/24 1821	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**17.6**	10.0	mg/L	10		09/16/24 0000	09/17/24 0507	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**12.2**	0.100	mg/L	1		09/12/24 1200	09/13/24 0137	JAR

Client Sample ID: MW-35
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-05
Collected By: Whipple, Todd
Collection Date: 09/03/2024 11:54

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	**35**	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1823	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**101**	5.0	mg/L	5		09/16/24 0000	09/17/24 1015	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		09/12/24 1200	09/13/24 0143	JAR

Client Sample ID: MW-39
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-06
Collected By: Whipple, Todd
Collection Date: 09/03/2024 14:54

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1832	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**10.3**	1.0	mg/L	1		09/16/24 0000	09/17/24 0412	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**2.06**	0.100	mg/L	1		09/12/24 1200	09/13/24 0149	JAR

Client Sample ID: MW-40
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-07
Collected By: Whipple, Todd
Collection Date: 09/03/2024 15:18

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	**27**	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1834	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**24.4**	1.0	mg/L	1		09/16/24 0000	09/17/24 0430	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**0.131**	0.100	mg/L	1		09/12/24 1200	09/13/24 0211	JAR

Client Sample ID: MW-33
Sample Matrix: Aqueous
Lab Sample ID: 1HI0332-08
Collected By:
Collection Date: 09/03/2024 13:45

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	**2.43**	1.00	mg/L	1		09/12/24 1322	09/14/24 1837	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**33.2**	10.0	mg/L	10		09/16/24 0000	09/17/24 0619	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	**9.79**	0.100	mg/L	1		09/12/24 1200	09/13/24 0217	JAR

Client Sample ID:	SW-3		
Sample Matrix:	Aqueous	**Collected By:**	Whipple, Todd
Lab Sample ID:	1HI0332-09	**Collection Date:**	09/03/2024 12:29

Determination of Conventional Chemistry Parameters	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 410.4								
COD, total	<20	20	mg/L	1		09/10/24 0821	09/10/24 1446	AKK
TIMBERLINE								
Nitrogen, Ammonia	<1.00	1.00	mg/L	1		09/12/24 1322	09/14/24 1840	JAC

Determination of Inorganic Anions	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 9056								
Chloride	**62.5**	5.0	mg/L	5		09/16/24 0000	09/17/24 1033	MID

Determination of Dissolved Metals	Result	RL	Units	DF	Note	Prepared	Analyzed	Analyst
EPA 6010B								
Iron, dissolved	<0.100	0.100	mg/L	1		09/12/24 1200	09/13/24 0223	JAR

Batch Log Summary

Method	Batch	Laboratory ID	Client / Source ID
EPA 410.4	1HI0433	1HI0433-BS1	
		1HI0332-08	MW-33
		1HI0332-04	MW-34
		1HI0332-05	MW-35
		1HI0332-02	MW-36 (b)
		1HI0332-06	MW-39
		1HI0332-07	MW-40
		1HI0332-01	MW-6 (b)
		1HI0332-09	SW-3
		1HI0332-03	MW-25
		1HI0433-MS1	1HI0332-01
		1HI0433-BLK1	
		1HI0433-MSD1	1HI0332-01

Method	Batch	Laboratory ID	Client / Source ID
EPA 6010B	1HI0636	1HI0636-BLK1	
		1HI0636-BS1	
		1HI0332-01	MW-6 (b)
		1HI0636-MS1	1HI0332-01
		1HI0636-MSD1	1HI0332-01
		1HI0332-02	MW-36 (b)
		1HI0332-03	MW-25
		1HI0332-04	MW-34
		1HI0332-05	MW-35
		1HI0332-06	MW-39
		1HI0332-07	MW-40
		1HI0332-08	MW-33
		1HI0332-09	SW-3

Method	Batch	Laboratory ID	Client / Source ID
TIMBERLINE	1HI0652	1HI0652-BLK1	
		1HI0652-BS1	
		1HI0652-MS1	2HI0074-02
		1HI0652-MSD1	2HI0074-02
		1HI0332-01	MW-6 (b)
		1HI0332-02	MW-36 (b)
		1HI0332-03	MW-25
		1HI0332-04	MW-34
		1HI0332-05	MW-35
		1HI0332-06	MW-39

TIMBERLINE	1HI0652	1HI0332-07	MW-40
		1HI0332-08	MW-33
		1HI0332-09	SW-3

Method	Batch	Laboratory ID	Client / Source ID
EPA 9056	1HI0836	1HI0836-BLK1	
		1HI0836-MRL1	
		1HI0836-BS1	
		1HI0836-BSD1	
		1HI0836-MS1	1HI0006-01
		1HI0836-MSD1	1HI0006-01
		1HI0836-BLK3	
		1HI0836-BS2	
		1HI0836-BSD2	
		1HI0836-MS2	1HI0217-01
		1HI0836-MSD2	1HI0217-01
		1HI0836-BLK4	
		1HI0332-02	MW-36 (b)
		1HI0332-03	MW-25
		1HI0332-06	MW-39
		1HI0332-07	MW-40
		1HI0332-04	MW-34
		1HI0332-08	MW-33
		1HI0332-01	MW-6 (b)
		1HI0332-05	MW-35
		1HI0332-09	SW-3

Batch Quality Control Summary: Microbac Laboratories, Inc., Newton

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0433 - Wet Chem Preparation - EPA 410.4										
Blank (1HI0433-BLK1)			Prepared: 09/10/24 08:21 Analyzed: 09/10/24 14:46							
COD, total	<20	20	mg/L							
LCS (1HI0433-BS1)			Prepared: 09/10/24 08:21 Analyzed: 09/10/24 14:46							
COD, total	78.3	20	mg/L	75.0		104	90-110			
Matrix Spike (1HI0433-MS1)	Source: 1HI0332-01		Prepared: 09/10/24 08:21 Analyzed: 09/10/24 14:46							
COD, total	179	40	mg/L	150	ND	119	90-110			M1
Matrix Spike Dup (1HI0433-MSD1)	Source: 1HI0332-01		Prepared: 09/10/24 08:21 Analyzed: 09/10/24 14:46							
COD, total	184	40	mg/L	150	ND	123	90-110	2.80	10	M1
Batch 1HI0652 - General Prep HPLC/IC - TIMBERLINE										

Determination of Conventional Chemistry Parameters	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0652 - General Prep HPLC/IC - TIMBERLINE										
Blank (1HI0652-BLK1)			Prepared: 09/12/24 13:22 Analyzed: 09/14/24 17:48							
Nitrogen, Ammonia	<1.00	1.00	mg/L							
LCS (1HI0652-BS1)			Prepared: 09/12/24 13:22 Analyzed: 09/14/24 17:51							
Nitrogen, Ammonia	5.18	1.00	mg/L	5.00		104	90-114			
Matrix Spike (1HI0652-MS1)		**Source: 2HI0074-02**	Prepared: 09/12/24 13:22 Analyzed: 09/14/24 17:54							
Nitrogen, Ammonia	11.1	1.00	mg/L	5.00	4.94	123	84-115			M1
Matrix Spike Dup (1HI0652-MSD1)		**Source: 2HI0074-02**	Prepared: 09/12/24 13:22 Analyzed: 09/14/24 17:56							
Nitrogen, Ammonia	11.2	1.00	mg/L	5.00	4.94	126	84-115	1.18	20	M1

Determination of Inorganic Anions	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0836 - General Prep HPLC/IC - EPA 9056										
Blank (1HI0836-BLK1)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 10:09							
Chloride	<1.0	1.0	mg/L							
Blank (1HI0836-BLK3)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 19:44							
Chloride	<1.0	1.0	mg/L							
Blank (1HI0836-BLK4)			Prepared: 09/16/24 00:00 Analyzed: 09/17/24 01:29							
Chloride	<1.0	1.0	mg/L							
LCS (1HI0836-BS1)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 10:45							
Chloride	14.47	1.0	mg/L	15.4		94.2	80-120			
LCS (1HI0836-BS2)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 20:38							
Chloride	14.32	1.0	mg/L	15.4		93.2	80-120			
LCS Dup (1HI0836-BSD1)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 11:03							
Chloride	14.62	1.0	mg/L	15.4		95.2	80-120	1.04	10	
LCS Dup (1HI0836-BSD2)			Prepared: 09/16/24 00:00 Analyzed: 09/16/24 20:56							
Chloride	14.46	1.0	mg/L	15.4		94.1	80-120	0.931	10	
Matrix Spike (1HI0836-MS1)		**Source: 1HI0006-01**	Prepared: 09/16/24 00:00 Analyzed: 09/16/24 12:46							
Chloride	235.6	10.0	mg/L	154	89.67	95.0	81-116			
Matrix Spike (1HI0836-MS2)		**Source: 1HI0217-01**	Prepared: 09/16/24 00:00 Analyzed: 09/16/24 22:45							
Chloride	422.0	10.0	mg/L	154	261.0	105	81-116			
Matrix Spike Dup (1HI0836-MSD1)		**Source: 1HI0006-01**	Prepared: 09/16/24 00:00 Analyzed: 09/16/24 13:04							
Chloride	236.1	10.0	mg/L	154	89.67	95.3	81-116	0.233	10	
Matrix Spike Dup (1HI0836-MSD2)		**Source: 1HI0217-01**	Prepared: 09/16/24 00:00 Analyzed: 09/16/24 23:03							
Chloride	421.6	10.0	mg/L	154	261.0	105	81-116	0.104	10	

Determination of Dissolved Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes

Determination of Dissolved Metals	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1HI0636 - Dissolved Metal Prep - EPA 6010B										
Blank (1HI0636-BLK1)				Prepared: 09/12/24 12:00 Analyzed: 09/13/24 00:44						
Iron, dissolved	<0.100	0.100	mg/L							
LCS (1HI0636-BS1)				Prepared: 09/12/24 12:00 Analyzed: 09/13/24 00:50						
Iron, dissolved	2.33	0.100	mg/L	2.22		105	80-120			
Matrix Spike (1HI0636-MS1)		Source: 1HI0332-01		Prepared: 09/12/24 12:00 Analyzed: 09/13/24 01:06						
Iron, dissolved	2.29	0.100	mg/L	2.22	0.0217	102	75-125			
Matrix Spike Dup (1HI0636-MSD1)		Source: 1HI0332-01		Prepared: 09/12/24 12:00 Analyzed: 09/13/24 01:16						
Iron, dissolved	2.34	0.100	mg/L	2.22	0.0217	104	75-125	1.99	20	

Definitions

M1: Matrix spike recovery is above acceptance limits.
RL: Reporting Limit
RPD: Relative Percent Difference

Cooler Receipt Log

Cooler ID: Default Cooler Temp: 1.0°C

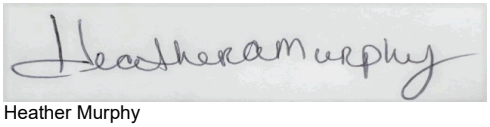
Cooler Inspection Checklist

Custody Seals	No	Containers Intact	Yes
COC/Labels Agree	Yes	Preservation Confirmed	No
Received On Ice	Yes		

Report Comments

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included. ***The services were provided under and subject to Microbac's standard terms and conditions which can be located and reviewed at <https://www.microbac.com/standard-terms-conditions>.***

Reviewed and Approved By:



Heather Murphy
Customer Relationship Specialist
heather.murphy@microbac.com
09/18/24 10:47

CHAIN OF CUSTODY RECORD

MICROBAC®
600 East 17th Street South
Newton, IA 50208
641-792-8451

1 H I 0 3 3 2

HLW Engineering
PM: Heather Murphy

SITE INFORMATION

Sampler: Todd Whipple

Project: Ames-Story Landfill-Fall-2024 8004

REPORT TO

Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO

Mr. William Foster
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS

None

Turn Around Time

☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY

Work Order 1HI0332
Temperature 1.0
Turn-Cooler: No

- ☐ Custody Seal
- ☑ Containers Intact
- ☑ COC/Labels Agree
- ☐ Preservation Confirmed
- ☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	MW-6 (b)	Aqueous	GRAB	9/3/24	10:46	3	Indfll-para-e	01
-001	MW-36 (b)	Aqueous	GRAB	9/3/24	11:28	3	Indfll-para-e	02
-001	MW-25	Aqueous	GRAB	9/3/24	13:23	3	Indfll-para-e	03
-001	MW-34	Aqueous	GRAB	9/3/24	12:50	3	Indfll-para-e	04
-001	MW-35	Aqueous	GRAB	9/3/24	11:54	3	Indfll-para-e	05
-001	MW-39	Aqueous	GRAB	9/3/24	14:54	3	Indfll-para-e	06
-001	MW-40	Aqueous	GRAB	9/3/24	15:18	3	Indfll-para-e	07

Relinquished By: Todd Whipple Date/Time: 9/4/24

Received By ____ Date/Time ____

Relinquished By ____ Date/Time ____

Received for Lab By: Date/Time: 9-4-24 10:14

Remarks:

Original - Lab Copy Yellow - Sampler Copy

CHAIN OF CUSTODY RECORD

MICROBAC®
600 East 17th Street South
Newton, IA 50208
~~641-792-9451~~

1 H I 0 3 3 2
HLW Engineering
PM: Heather Murphy

Prnd: 7/30/2024 10:21:53A
www.keystonelabs.com

SITE INFORMATION
Sampler: TODD WHIPPLE
Project: ~~Ames-Story Landfill-Fall-0004~~ 0004

REPORT TO
Todd Whipple
HLW Engineering
PO Box 314
Story City, IA 50248

INVOICE TO
Mr. William Peueler
Ames/Story Environmental Landfill
2111 Leopold Dr
Ames, IA 50010

SPECIAL INSTRUCTIONS
None

Turn Around Time
☐ Standard ☐ RUSH, need by ___/___/___

LAB USE ONLY
Work Order
Temperature 1.0
Turn-Cooler: No

☐ Custody Seal
☐ Containers Intact
☐ COC/Labels Agree
☐ Preservation Confirmed
☒ Received on Ice

Number	Sample Identification / Client ID	Matrix	Sample Type	Date	Time	Number of Containers	Analyses	Lab Sample Number
-001	MW-33	Aqueous	GRAB	9/3/24	13:45	3	lndfll-para-e	08
-001	SW-3	Aqueous	GRAB	9/3/24	12:29	3	lndfll-para-e	09

Todd Whipple 9/4/24
Relinquished By Date/Time

Relinquished By Date/Time

Received By Date/Time

Received for Lab By 9-4-24 10:14
Date/Time

Remarks:

Original - Lab Copy Yellow - Sampler Copy