U.S. Army Corps of Engineers

Final 2021 Sampling Summary Annual Report
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Prepared by

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1 INTRODUCTION

The Vineland Chemical Company Superfund Site (Site) is located in Vineland, Cumberland County, New Jersey. The Vineland Chemical Company operated from 1949 to 1994 and produced arsenical herbicides and fungicides. Chemical handling and disposal practices led to widespread arsenic (As) contamination of the soil, sediment, groundwater, and surface water at the site.

The purpose of this annual sampling summary report is to present analytical sampling results and water level data to monitor potential changes in the groundwater, porewater, surface water, and sediment of the Vineland Chemical Company site.

1.1 Summary of On-Site Remedial System Operations

The 1989 Record of Decision (ROD) called for a combination of groundwater extraction and treatment (pump and treat) along with natural attenuation to address the arsenic contaminated groundwater on the Site. A pump and treat system consisting of 13 extraction wells was brought online in 2000. Three extraction wells were added in 2007. In 2011, a Remedial System Evaluation (RSE) was conducted to help improve and/or optimize the remedial system performance. In response to the recommendations made in the 2011 RSE, an extensive field investigation was conducted which led to changes in the on-site remedial strategy. The work performed between 2011 and 2019 to address the RSE recommendations is documented in the DRAFT Post 2011 Investigations and Findings Report (USACE, 2020).

Several changes were made to the operation of the pump and treat system after 2011, which included drastically reducing the number of extraction wells that are operated. Additionally, a pilot air sparge system was brought online in November 2015. During 2021, 3 groundwater extraction wells and 6 air sparge wells were in operation. Extraction wells RW02, RW02A, and RW02B were pumped at a combined rate between 250 gpm and 300 gpm, which is consistent with pump and treat operations since August 2015. Air sparge wells AS1 through AS6 were each operated at 5 scfm, which is consistent with air sparge operations since December 2017. Additional details of pump and treat and air sparge operations can be found in **Appendix A** and USACE, 2020.

2 FIELD AND LABORATORY WORK

Field work was conducted by staff from the U.S. Army Corps of Engineers (USACE) Philadelphia District. Tasks included monitoring groundwater levels and collecting samples of groundwater, porewater, surface water, and sediment. Two sampling events were conducted during 2021. The first event was conducted in June and July 2021 (Spring/Summer 2021) and included:

- 35 groundwater samples analyzed for dissolved arsenic (As(D)) and dissolved iron (Fe(D)) from monitoring wells and piezometers
- 65 surface water samples analyzed for total arsenic (As(t)) from the Blackwater Branch

- 7 surface water samples analyzed for As(t) from ponds and discharges from ponds
- 7 surface water samples analyzed for As(t) from seeps within the floodplain of the Blackwater Branch
- 15 sediment samples analyzed for As and Fe from the Blackwater Branch
- 7 sediment samples analyzed for As and Fe from seeps in the floodplain of the Blackwater Branch

The second sampling event was conducted during November and December 2021 (Fall 2021) and included:

- 21 groundwater samples analyzed for dissolved arsenic As(D) and Fe(D) from monitoring wells and piezometers
- 49 porewater samples analyzed for As(D) and Fe(D) from 17 wellpoint transects
- 42 surface water samples analyzed for total arsenic (As(t)) from the Blackwater Branch
- 7 surface water samples analyzed for As(t) from ponds and discharges from ponds
- 1 surface water sample analyzed for As(t) from a seep within the floodplain of the Blackwater Branch
- 15 sediment samples analyzed for As and Fe from the Blackwater Branch
- 1 sediment sample analyzed for As and Fe from a seeps in the floodplain of the Blackwater Branch
- Water levels collected from 42 wellpoints and the adjacent Blackwater Branch.

All groundwater, porewater, surface water, and sediment samples were analyzed by the USACE Engineering Research and Development Center Environmental Laboratory (ERDC-EL) using standard EPA methods. Standard Quality Assurance/Quality Control (QA/QC) procedures were followed.

3 RESULTS OF FIELD INVESTIGATION

The following subsections describe the results of the sampling events that took place in Spring/Summer 2021 and Fall 2021. Final analytical laboratory reports are included as **Appendix B**. Results of the quality analysis indicates that all data reported by the laboratory are considered usable and acceptable for the project with the data qualifiers described in **Appendix B**.

3.1 Groundwater Sampling

Groundwater was collected from 35 monitoring locations from 14 June 2021 to 17 June 2021 and 21 monitoring locations from 22 November 2021 to 02 December 2021. Sampling locations included both shallow and mid-depth monitoring wells and piezometers. Three duplicate samples were collected during the spring/summer event and 2 duplicate samples were collected during the fall event. Sampling was conducted using standard U.S. Environmental Protection Agency (EPA) low stress (low flow) guidelines. Samples were collected following stabilization of groundwater quality parameters and were filtered upon collection using a 0.45 µm in-line filter. Well purge records are included as **Appendix C**.

Samples were collected from wells near the air sparge pilot system, wells next to areas of high arsenic mass in saturated soil, and wells with previously observed increasing As(D) trends or occasional high peaks of As(D) concentrations.

Groundwater samples were analyzed by ERDC-EL for As(D) and Fe(D)**.** **Table 1** summarizes the groundwater sample results for the spring/summer sampling event and **Table 2** summarizes the results for the fall sampling event.

Figures 1 and **2** show the spatial distribution of As(D) in groundwater from the Spring/Summer 2021 and Fall 2021 USACE sampling events, respectively. These figures show results from both shallow wells (plotted as small circles) and mid-depth wells (plotted as large circles). The New Jersey Department of Environmental Protection (NJDEP) also conducts groundwater monitoring periodically throughout the year. (NJDEP sampling reports are provided in **Appendix D**.) The As(D) concentration data collected by NJDEP in 2021 was combined with the USACE data and spatially plotted in **Figures 3** and **4** for the shallow and mid-depth wells, respectively. If a single well was sampled multiple times throughout the year, the maximum As(D) concentration is shown in these figures. These figures show that the extent of the As(D) plume in groundwater remained within its historical footprint in 2021.

Timeseries plots of As(D) in wells sampled in 2021 and wells located in key areas of the site are included in **Appendix E**. These plots also include results of samples collected by NJDEP. In some cases, results of samples collected by NJDEP differed significantly from results of samples collected by USACE. These cases are flagged on the plots.

As(D) in shallow wells sampled by USACE in 2021 remained within the historical range except for piezometers PD2P1 and PD2P3 in Pond 2, which were installed in 2017 and have a shorter history of monitoring than most other wells on site. As(D) at PD2P1 were recorded at a maximum of 0.580 mg/L in June 2021 but declined significantly to 0.0621 mg/L during the fall sampling event. As(D) at PD2P3 was 0.109 mg/L in November 2021. Concentrations at this monitoring location had previously fluctuated between < 0.001 mg/L and 0.030 mg/L; however, concentrations at nearby, upgradient monitoring locations PD2P2 and MW52S have been much higher than PD2P3, with concentrations at PD2P2 ranging between 0.408 mg/L and 1.07 mg/L and concentrations at MW52S fluctuating around 0.100 mg/L. Some fluctuations in concentrations are expected at PD3P1, PD2P2, and PD2P3 due to redistribution of the plume caused by slight shifts in flow direction. However, PD2P1 and PD2P3 as well as PD2P2 and MW52S should continue to be monitored since they are along the downgradient edge of the As(D) plume.

As(D) in mid-depth wells sampled by USACE in 2021 also remained within the historical range except for PZ-15. As(D) at PZ-15 was 0.142 mg/L in June 2021 and was not sampled in Fall 2021. The previous maximum As(D) at PZ-15 was 0.080 mg/L in 2015. Mid-depth wells EW23M, MW51M, MW56M, and MW57M downgradient of PZ-15 at the perimeter of the site

remained non-detect for As(D) in 2021 (USACE and NJDEP results). PZ-15 should continue to be monitored in 2022 to determine if the June 2021 result was an isolated incident or indicative of an increasing trend.

Although not outside of the historical range, the As(D) concentration of 0.425 mg/L at MW53M recorded by USACE in Fall 2021 was near the previously observed peak (0.516 mg/L in Fall 2019). NJDEP also sampled this well in December 2021 and reported an As(D) concentration of 0.0032 mg/L. Significant fluctuations in As(D) have previously been observed and were attributed to meteorological changes causing slight shifts in groundwater flow of the more highly contaminated areas of the As(D) plume in close proximity to MW53M.

Previous annual monitoring reports have also discussed increasing As(D) trends at several wells and piezometers, which current data shows are now decreasing or have stabilized. The bullets below discuss these wells and piezometers.

- Shallow piezometer PZ-11 was previously reported to have an increasing trend that peaked at 1.08 mg/L in 2017 and subsequently decreased. Another slight increase in As(D) to 0.271 mg/L occurred in Summer 2020, but results from samples collected in both Spring and Fall 2021 show that concentrations of As(D) have declined to below 0.100 mg/L at this location. The temporary increases in As(D) at this location have been attributed to plume redistribution.
- Shallow piezometer PD2P1 was previously reported to have an increasing trend. This trend continued to increase to an As(D) concentration of 0.580 mg/L in Spring 2021 but declined to 0.0621 mg/L by Fall 2021.
- Based on data collected by NJDEP, mid-depth well MW64M was noted to have increased to 0.056 mg/L in May 2020 after having historically been less than 0.002 mg/L or non-detect. NJDEP did not report sampling this well in 2021, but USACE will assess future sampling results obtained by NJDEP at this location.
- Mid-depth well MW73M was reported to have an increasing trend based on As(D) concentrations from Fall 2012 to Summer 2019 when As(D) peaked at levels greater than 10 mg/L. Concentrations subsequently decreased and were reported at 1.45 mg/L in Fall 2021. The spike in As(D) at this well was attributed to changes in geochemical conditions resulting in dissolution of As from highly contaminated soil located immediately upgradient of MW73M.
- Mid-depth well MW75S was reported to have an increasing trend in As(D) concentrations between 2011 and 2020, with a maximum concentration of 2.59 mg/L reported in July 2020. As(D) decreased slightly in Spring 2021 to 2.24 mg/L and was reported at 2.34 mg/L in Fall 2021. Although As(D) concentrations at this well are high, results from Spring and Fall 2021 indicate they have stabilized.
- Mid-depth well MP-7L was reported to have increased to a new maximum concentration in 2020 (1.83 mg/L). This well is associated with monitoring the performance of the air

sparge pilot system, but it is outside the air sparge zone of influence. Concentrations of As(D) at MP-7L were 1.44 mg/L and 1.73 mg/L in Spring 2021 and Fall 2021, respectively, suggesting that concentrations in this well have stabilized at an elevated level. Trends associated with other air sparge monitoring locations are discussed in Section 3.2.1 below.

3.1.1 Air Sparge Pilot System Monitoring

The Spring/Summer and Fall 2021 sampling events included sampling wells associated with monitoring the performance of the air sparge pilot system located along a portion of the downstream edge of the As(D) plume (mid-depth monitoring locations MP-1L through MP-9L and PZ-10). During 2021, the air sparge wells (AS1 through AS6) were each operating at an air flow rate of 5 scfm. This mode of operation is consistent with air sparge operations since December 2017.

In general, air sparge monitoring results are similar to those reported in 2019 (*Draft Multi-Well Air Sparge Report, Large Scale Pilot, 2015-2019*, USACE 2022) and 2020 (*June/July 2020 Sampling Summary Report, Vineland Chemical Company*, USACE 2020). As(D) concentrations at MP-4L, MP-5L, and PZ-10 remained below 0.010 mg/L. As(D) concentrations at MP-6L increased to 0.016 mg/L in Spring 2021 but were again less than 0.010 mg/L by Fall 2021. MP-2L and MP-3L remained close to the Record of Decision (ROD) goal of 0.050 mg/L, and MP-9L remains below the ROD Alternate Concentration Level (ACL) of 0.350 mg/L. Upgradient well MP-1L and side-gradient well MP-7L appear to have stabilized at an elevated level greater than 1 mg/L. Concentrations of As(D) at MP-8L also remain elevated around 1 mg/L as air flow does not reach this well under the current air sparge system operating conditions. As(D) and Fe(D) results from air sparge monitoring locations are included in **Tables 1** and **2, Figures 1**, **2**, and **4**, and plots of As(D) concentrations over time are shown at the end of **Appendix E**.

3.2 Porewater Sampling

Porewater was collected from 49 wellpoints along 17 transects of the Blackwater Branch from 16 November 2021 through 01 December 2021. Three duplicate samples were collected. Samples were collected using standard EPA low flow sampling guidelines in accordance with the Quality Assurance Project Plan (QAPP). Samples were filtered upon collection using a 0.45 µm in-line filter and analyzed for As(D) and Fe(D). Sample results are summarized in **Table 3** and spatially plotted in **Figure 5**. Timeseries plots for wellpoints sampled in 2021 are shown on **Figures 6**, **7**, and **8** for Blackwater Branch Segments A, B, and C, respectively. Wellpoint sampling since October 2017 has targeted wellpoints along the south bank of the Blackwater Branch, in the center of the Blackwater Branch, and along the north bank of the Blackwater Branch (wellpoints with designations “B”, “C”, and “D”). Prior to this time, wellpoints with designations “A” and “E”, located in the floodplain, were also sampled. Timeseries plots of As(D) in porewater including “A” and “E” wellpoints (all data) are included in **Appendix F**.

Overall, concentrations of As(D) in wellpoints remained within the historical range, except at WP 450 B (Segment A) and WP 1825 D (Segment B). As(D) at WP 450 B was reported at 0.111 mg/L, with the previous maximum concentration occurring in August 2015 at 0.051 mg/L. As(D) in WP 1825 D was measured at 0.199 mg/L in November 2021 which was higher than the previous maximum concentration of 0.109 mg/L recorded in November 2019.

As(D) exceeded the ACL of 0.350 mg/L in two wellpoints (WP 2100 C and WP 2875 C). As(D) at WP 2100 C was measured at 0.414 mg/L which is the highest concentration observed at this wellpoint since October 2013. As(D) at WP 2875 C, which is near an area of highly contaminated soil, was measured at 0.375 mg/L. As(D) concentrations at this wellpoint have historically been as high as 1.99 mg/L (May 2016).

Depth to water measurements were also collected from the wellpoints and the stream adjacent to the "C" wellpoints in November and December 2021. These measurements are summarized in **Table 4**. The measurements indicate that most of Segment B of the Blackwater Branch is a gaining stream during Fall 2021, except for WP1950 and WP2275. Over this segment of the Blackwater Branch, porewater levels are higher that surface water levels, and groundwater discharges to the surface water. Other sections of the Blackwater Branch are either stagnant, where the porewater level is approximately equal to the surface water level, or have surface water levels higher than porewater levels (losing stream).

3.3 Surface Water Sampling

Two surface water sampling events were conducted in 2021. The first event took place between 07 July 2021 and 16 July 2021 and consisted of collecting samples for As(t) from 65 locations within the Blackwater Branch, 7 locations in ponds and discharges from ponds, and 7 seep locations within the floodplain of the Blackwater Branch. The second event took place between 15 November 2021 and 09 December 2021 and consisted of 42 samples from the Blackwater Branch, 7 samples from ponds and discharges from ponds, and 1 seep sample since most seep locations were dry during this event. Samples were collected from locations where arsenic concentrations in the surface water have exceeded 0.010 mg/L in at least one sampling event since 2013, arsenic concentrations in the sediment have exceeded 19 mg/kg in at least one sampling event since 2013, or iron-stained sediments were observed during the current sampling event. Five duplicate samples were collected during each event. All samples were collected in accordance with sampling protocols described in the QAPP.

As(t) results for surface water samples are summarized in **Tables 5** and **6** for the July 2021 and November-December 2021 sampling events, respectively. **Figures 9** and **10** show the spatial distribution of As(t) in surface water for these two events. In both sampling events, surface water samples collected from locations within the Blackwater Branch were below the EPA drinking water standard of 0.010 mg/L. Samples collected from Pond 1, Pond 2, and the discharge from Pond 2 (P2D1 and P2D2) exceeded the ROD criteria for As(t) in the Blackwater Branch. However, arsenic concentrations in the Blackwater Branch drop to less than 0.010 mg/L

in less than 50 ft downstream from the pond discharge points, which is well within the 100-meter mixing zone length allowed by the ROD.

Plots of As(t) through time for Pond 1, Pond 3 and the Pond 3 discharge (P3D1) are shown on **Figure 11** and on **Figure 12** for Pond 2 and the Pond 2 discharge sample locations (P2D1 and P2D2). The As(t) in Pond 1 during the July 2021 sampling event (0.0541 mg/L) was the highest that has been recorded in this location since sampling began in 2014. However, the concentration returned to normal range during November 2021. As(t) at P2D2 was also the highest that has been recorded in this location in July 2021 but returned within normal range in November 2021. Seasonal variations of As(t) in ponds are expected and have been discussed in the DRAFT Post-RSE Report (USACE, 2020).

The highest concentrations of As(t) in surface waters were observed in the seeps in both sampling events, as is typical. Seeps are areas where groundwater discharges to low-lying areas of the floodplain, leaving areas of standing water. Seeps targeted for sampling are in areas known to have high levels of groundwater contamination, and therefore, levels of arsenic in the seeps are also expected to be high. There is also the possibility for As(t) in the seeps to become "concentrated" as evaporation and transpiration occurs, leading to potentially higher concentrations of As(t) in seeps compared to the adjacent groundwater. Seeps could become diluted during rain events, but no precipitation occurred immediately before or during seep sampling in 2021. During dry periods, such as November and December of 2021, the number and extent of seeps are not as prevalent as during wet periods, and some seeps may disappear completely.

3.4 Sediment Sampling

Sediments were sampled in July 2021 and November – December 2021, coinciding with surface water sampling events. In July 2021, 15 sediment samples were collected from locations in the Blackwater Branch, 8 sediment samples were collected from seep locations, and 3 duplicate samples were collected. Fifteen sediment samples were also collected from locations in the Blackwater Branch during November 2021 with two duplicate samples collected. Only one sediment sample was taken from a seep location (Seep 2370 N) in December 2021 since most historic seep locations were dry during this time. Samples were collected from locations where arsenic concentrations in the surface water have exceeded 0.010 mg/l in at least one sampling event since 2013, arsenic concentrations in the sediment have exceeded 19 mg/kg in at least one sampling event since 2013, or iron-stained sediments were observed during the current sampling event. All sediments were submerged at the time of sampling. Samples were analyzed for arsenic and iron.

Sediment sample results are summarized in **Tables 7** and **8** for the July 2021 and November – December 2021 sampling events, respectively. Sample locations and arsenic results are plotted spatially on **Figures 13** and **14**. The only sample to exceed the criteria for arsenic in exposed sediment of 19 mg/kg arsenic was SED 225 S in July 2021 with an arsenic concentration of 20.5

mg/kg. This concentration is well below the criteria for arsenic in submerged sediment of 120 mg/kg. There have been very few sediment samples that have exceeded an arsenic concentration of 19 mg/kg since 2017 (USACE, 2020). Since sediment sampling between 2017 and 2021 has been conducted under various hydrologic conditions as depicted by the surface water flow and precipitation obtained from a nearby USGS gage (see **Figure 15**), the improved sediment quality could continue.

4 SUMMARY AND RECOMMENDATIONS

Two sampling events were conducted by USACE in 2021. The spring/summer event was conducted in June and July 2021, and the fall event was conducted in November and December 2021. Both events included collecting groundwater, surface water, and sediment samples. The fall sampling event also included collecting porewater samples and obtaining water level measurements from well points and the adjacent stream. Groundwater and porewater were analyzed for As(D) and Fe(D). Surface water was analyzed for As(T), and sediment samples were analyzed for As and Fe.

Analysis of results of the investigations conducted by USACE in 2021 support the site conceptual model and findings presented in the Draft Post RSE report. Specifically, the analysis indicates that under the current groundwater remedial action which includes recovery wells RW2, RW2A, and RW2B pumping at an average total recovery rate of 250-300 gpm, and air sparge wells AS1, AS2, AS3, AS4, AS5, and AS6 operating continuously at average rate of 5 scfm to each well:

- Pumping from RW2, RW2A and RW2B continue to ensure that the arsenic pore water along Segment C, located within the "hot spot" as defined in the Draft Post RSE Report, does not discharge to the BWB.
- The arsenic plumes in the shallow and mid-depth aquifers remained within the historical footprint.
- As(D) in shallow wells sampled by USACE remained within the historical range except for piezometers PD2P1 and PD2P3 in Pond 2. These piezometers have a shorter monitoring history than most on-site wells since they were installed in 2017.
- As(D) in mid-depth wells sampled by USACE remained within the historical range except for PZ-15, which had a concentration of 0.142 mg/L in June 2021 (well below the ACL of 0.350 mg/L).
- Wells and piezometers previously reported to have increasing As(D) trends are now decreasing or have stabilized (PZ-11, PD2P1, MW73M, MW75M, and MP-7L). There are no new sustained increasing trends in As(D). Additional data is needed to determine if recent increases in concentration at PD2P3 and PZ-15 are indicative of long-term trends.
- The air sparge pilot system remains successful at reducing concentrations of As(D) in the groundwater. As(D) results at air sparge monitoring points are consistent with results collected since December 2017, when the air sparge system began operating with flow

rates of 5 scfm to each well. As(D) remains near or below the ROD goal of 0.050 mg/L at MP-2L, MP-3L, MP-4L, MP-5L, MP-6L, and PZ-10. As(D) at MP-9L, located approximately 90 ft downgradient of the air sparge line, remains below the ROD ACL of 0.350 mg/L.

- As(D) exceeded the ROD ACL of 0.350 mg/L in two wellpoints (WP 2100 C and WP 2875 C). Concentrations of As(D) at WP 450 B (Blackwater Branch Segment A) and WP 1825 D (Blackwater Branch Segment B) were above the historical range for these locations but below the ROD ACL.
- All surface water samples collected from the Blackwater Branch in both the spring/summer and fall 2021 sampling events were below the EPA drinking water standard for As(t) of 0.010 mg/L and the ROD criteria for As(t) in surface water of 0.050 mg/L.
- Surface water samples collected from Pond 1, Pond 2 and the discharge from Pond 2 in spring/summer 2021 exceeded 0.050 mg/L. However, arsenic concentrations in the Blackwater Branch drop to less than 0.010 mg/L in less than 50 ft downstream from the discharge point of Pond 2, which is well within the 100-meter mixing zone length. As(t) in ponds and discharges from ponds were below 0.050 mg/L in fall 2021, which is in-line with previous observations of seasonal fluctuations in ponds and pond discharges.
- The improved sediment quality that has been observed since 2017 continued in 2021. The criteria of 19 mg/kg for arsenic in exposed sediment was exceeded in only one sample in 2021 (SED 225 S in July 2021, 20.5 mg/kg). This concentration is well below the submerged criteria of 120 mg/kg.

Continued monitoring of the groundwater, porewater, surface water, and sediment locations sampled in 2021 is recommended so that trends in arsenic concentration can be assessed. Sampling in both the fall and spring is recommended for surface water, sediment, and selected wells. For consistency, locations sampled in the spring and fall should remain similar to those sampled in 2021. Data should be evaluated annually to determine if changes to the sampling program are warranted. No changes to pumping or air sparge operations are recommended as a result of the analysis of the 2021 data.

5 REFERENCES

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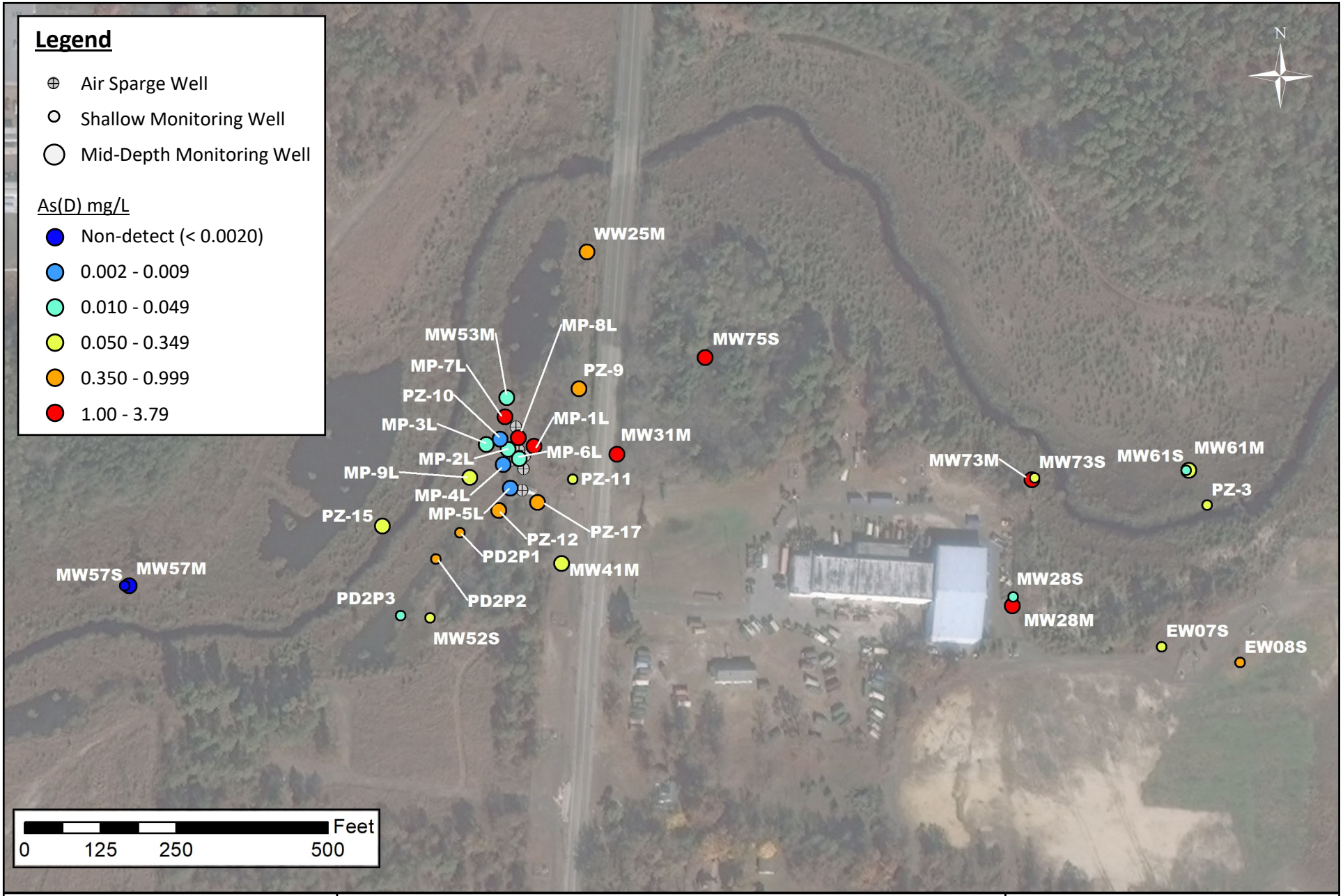
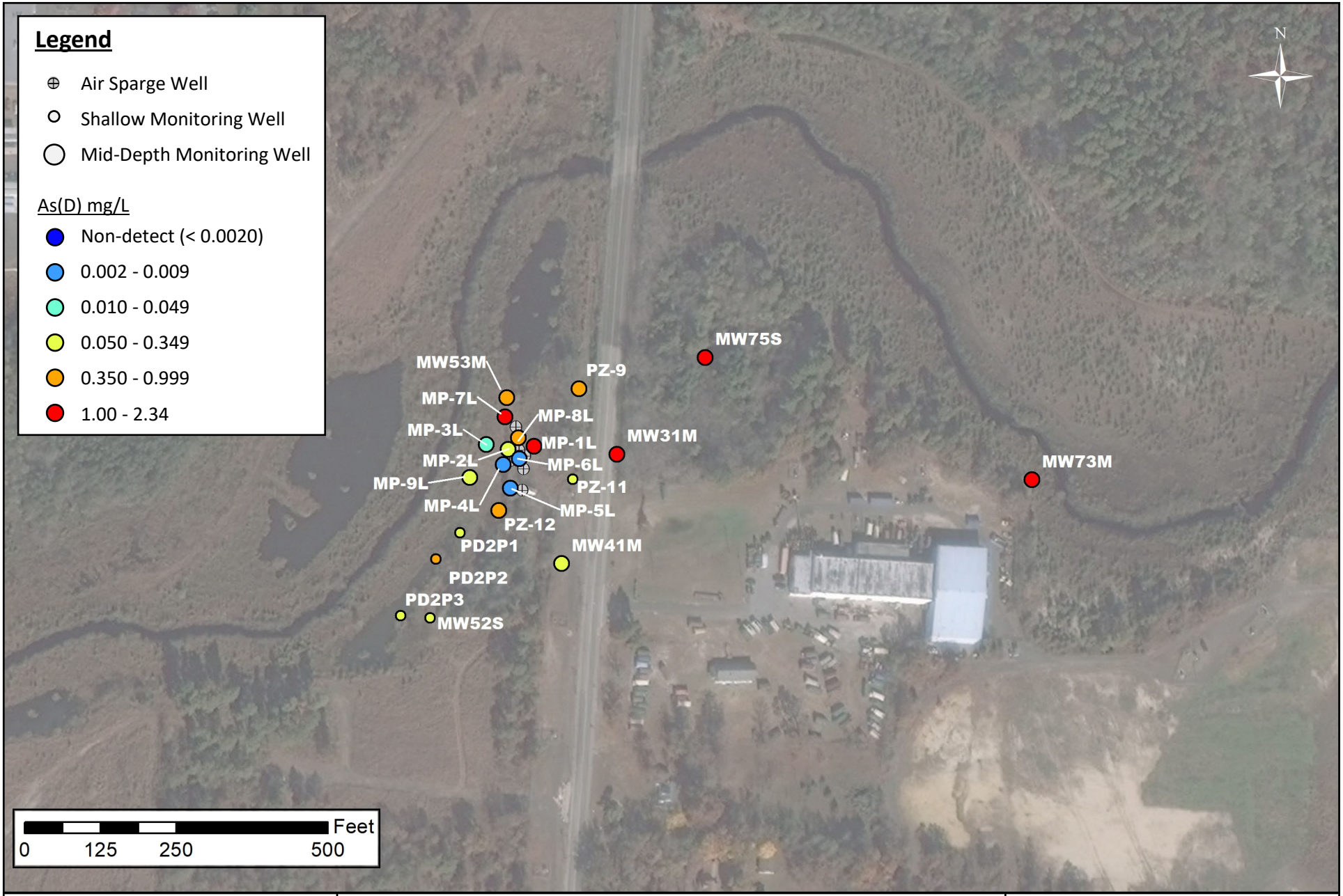
Figures



Dissolved Arsenic Concentration in Groundwater
USACE Sampling
June 2021

Figure 1

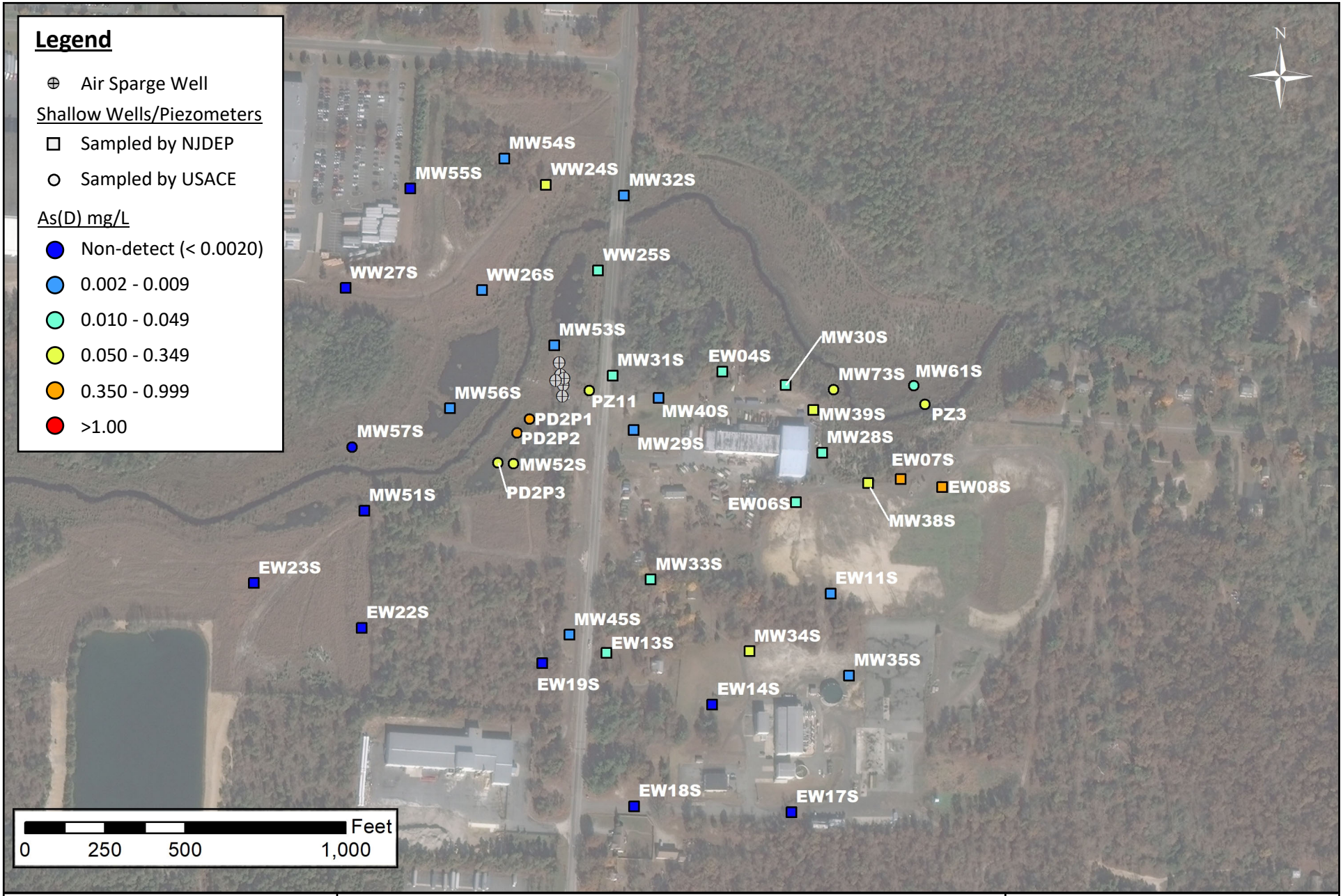
November 2022



Dissolved Arsenic Concentration in Groundwater
USACE Sampling
November - December 2021

Figure 2

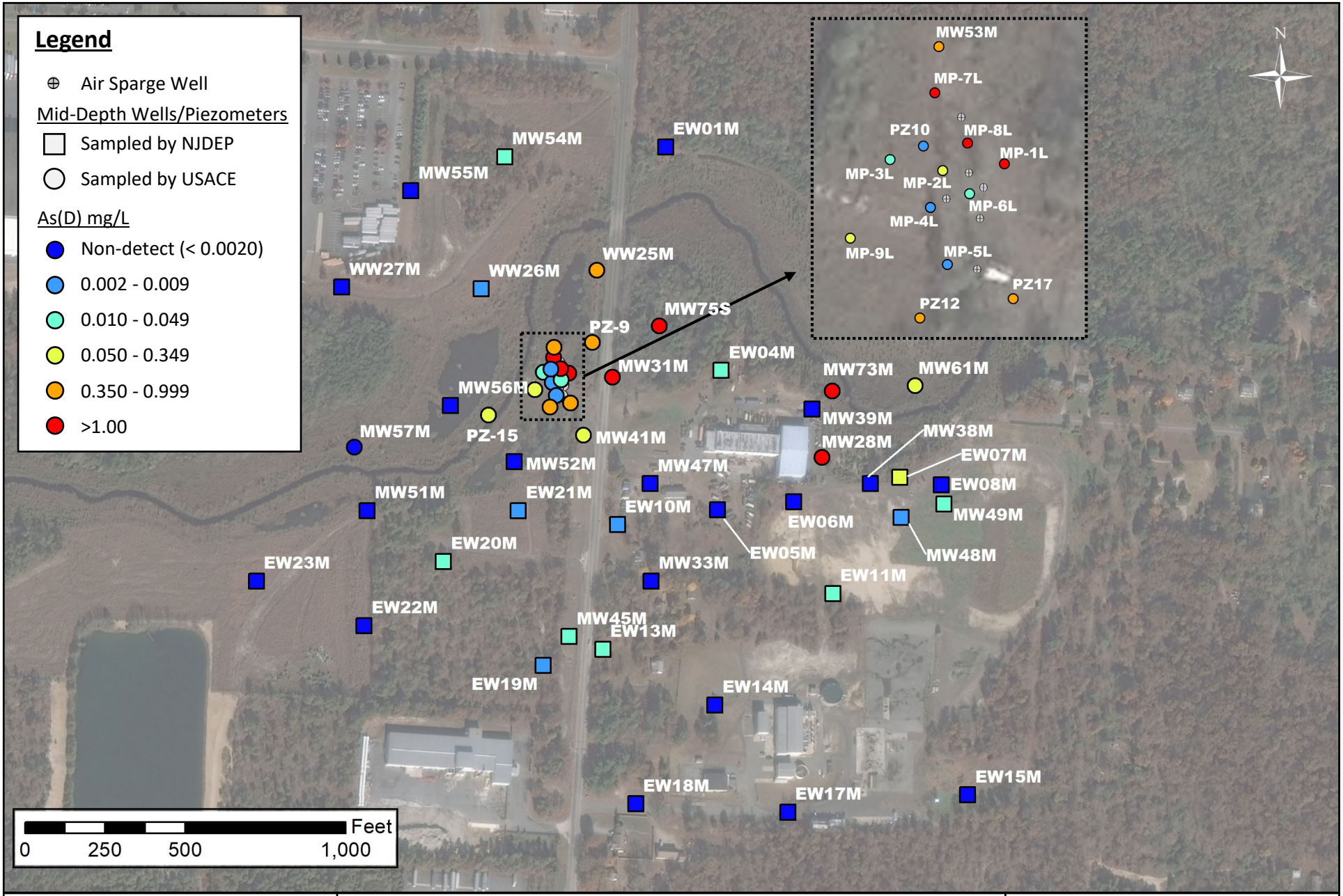
November 2022



Maximum Dissolved Arsenic Concentration in Groundwater
Shallow Aquifer
USACE and NJDEP Sampling, 2021

Figure 3

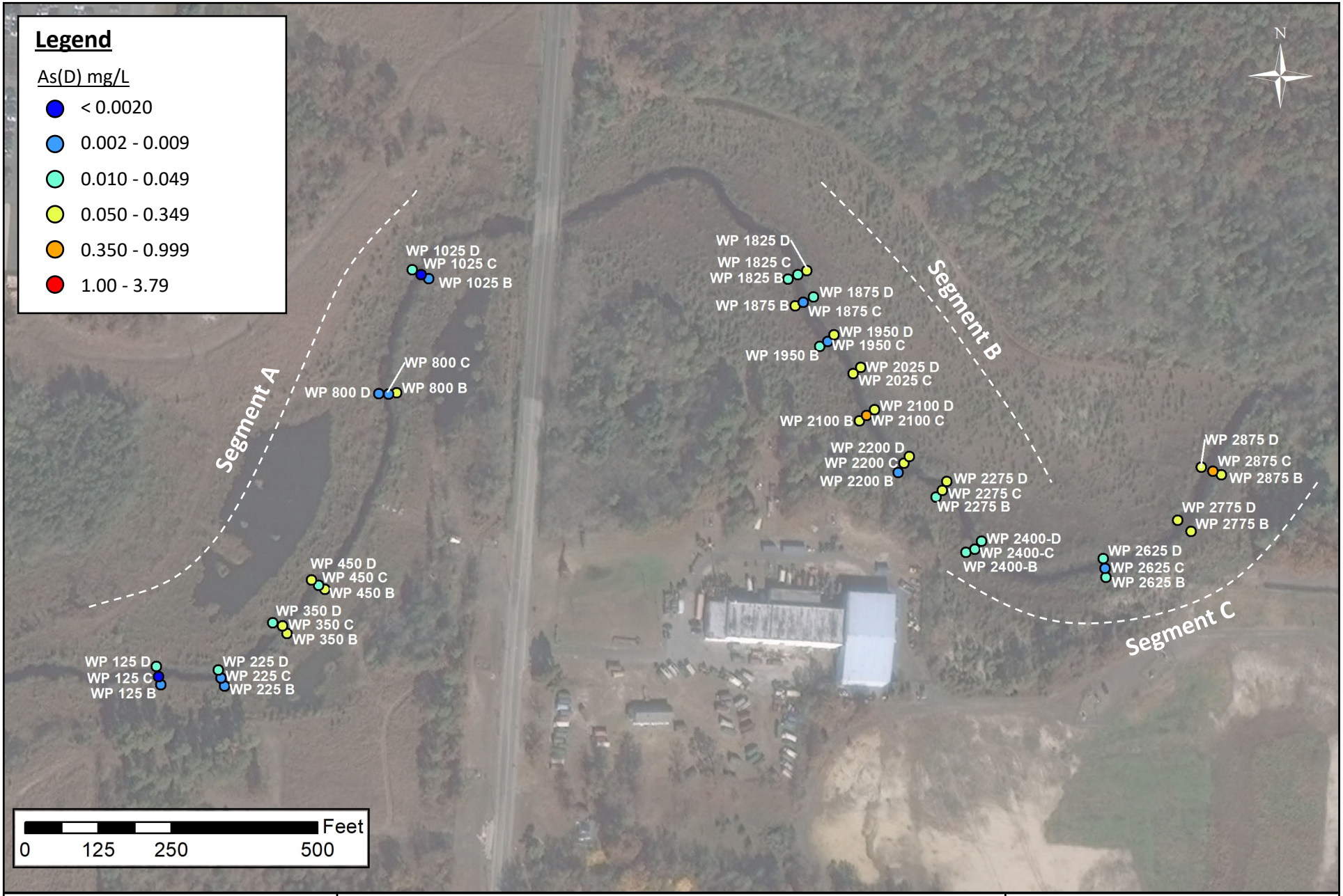
November 2022



Maximum Dissolved Arsenic Concentration in Groundwater
Mid-Depth Aquifer
USACE and NJDEP Sampling, 2021

Figure 4

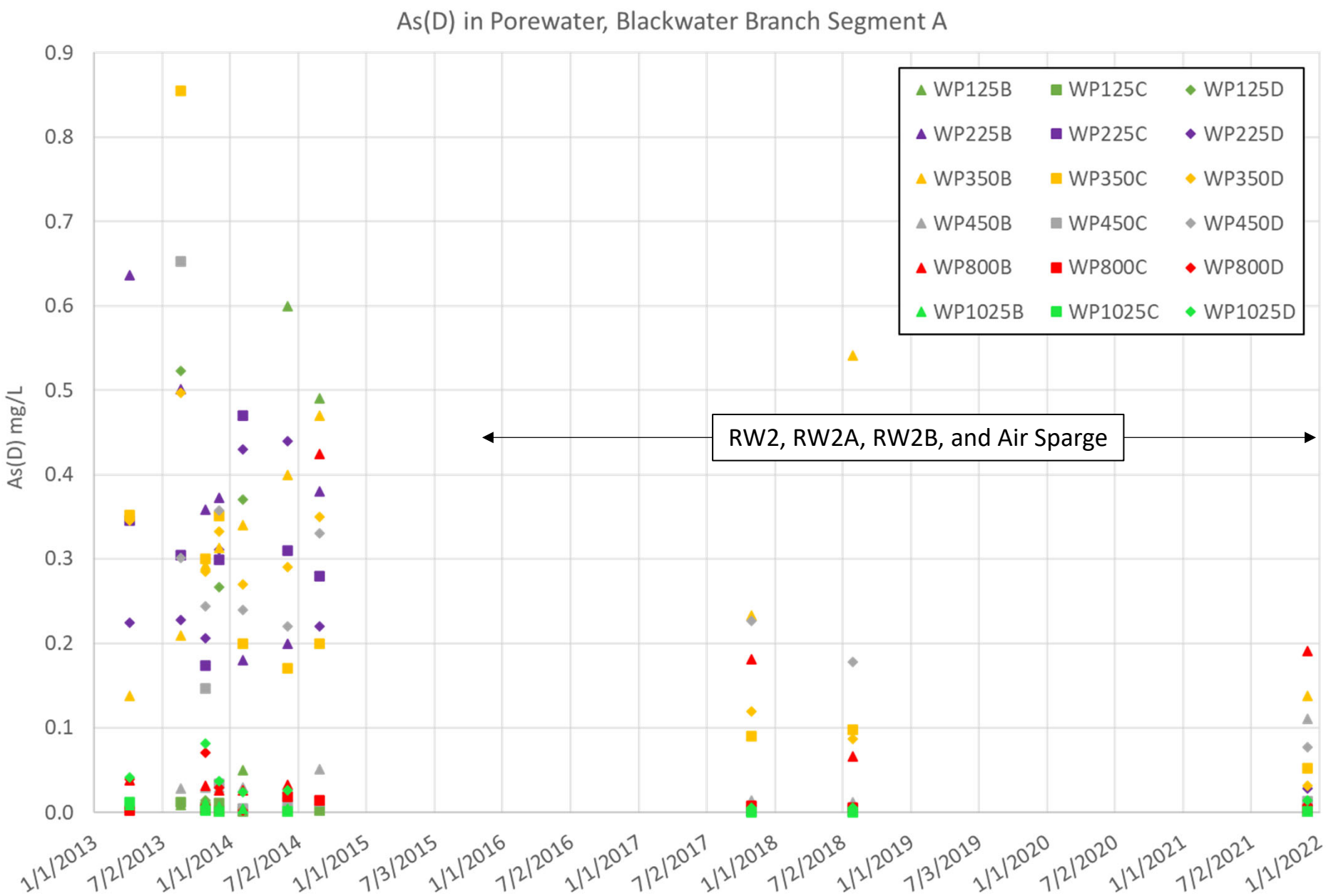
November 2022



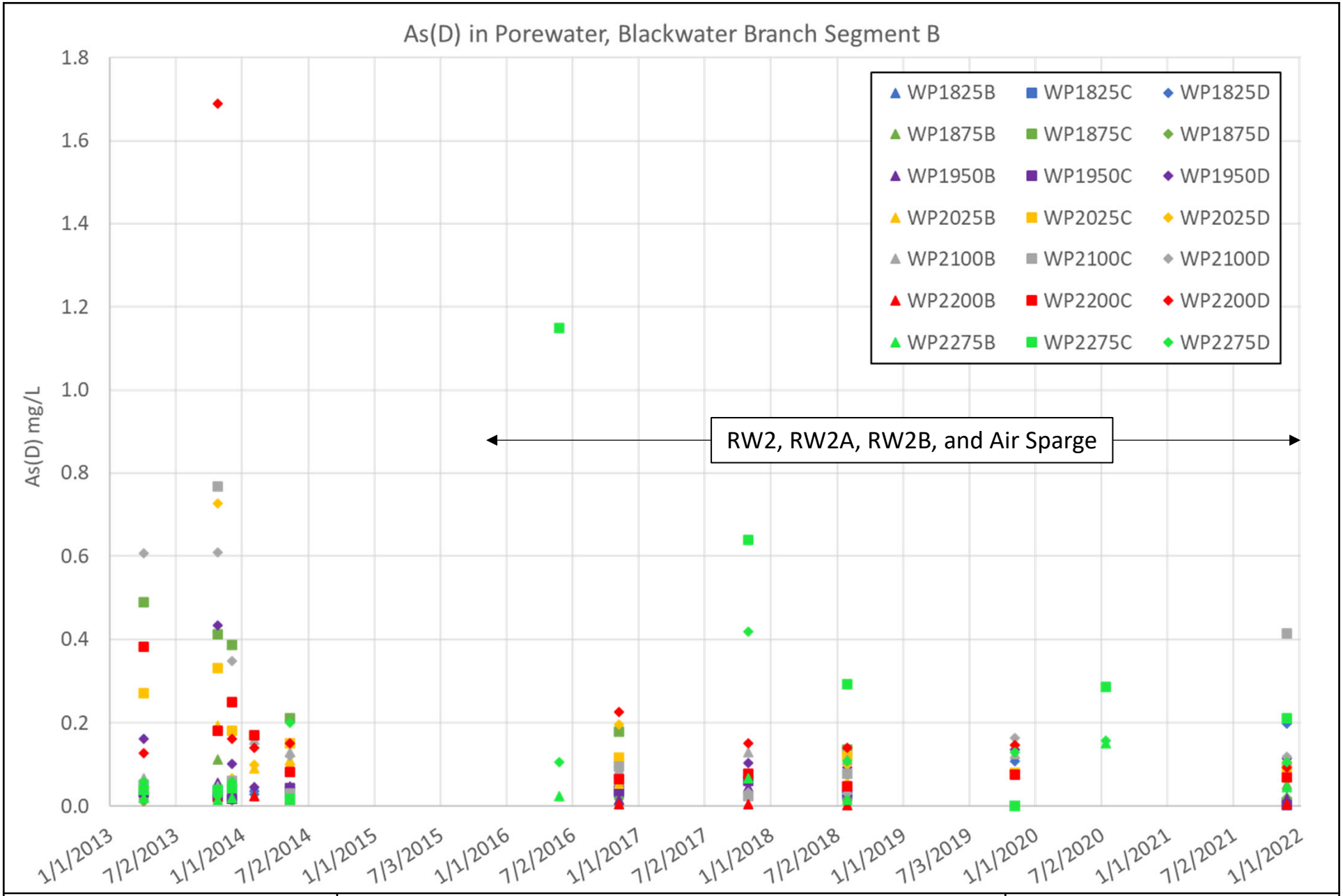
Dissolved Arsenic Concentrations in Porewater
November - December 2021

Figure 5

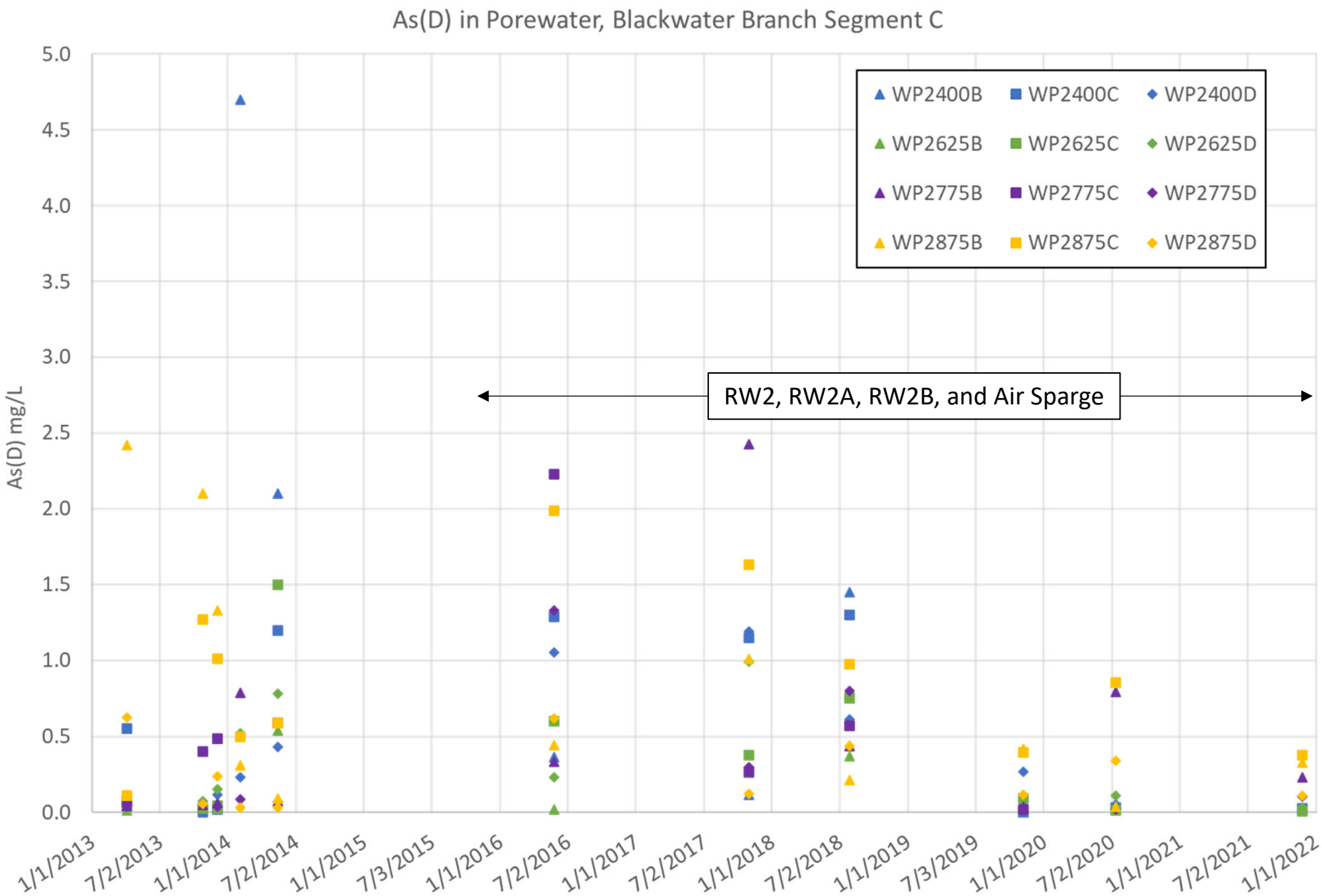
November 2022



	Dissolved Arsenic Concentrations in Porewater 2013 - 2021 Segment A of the Blackwater Branch	Figure 6 November 2022



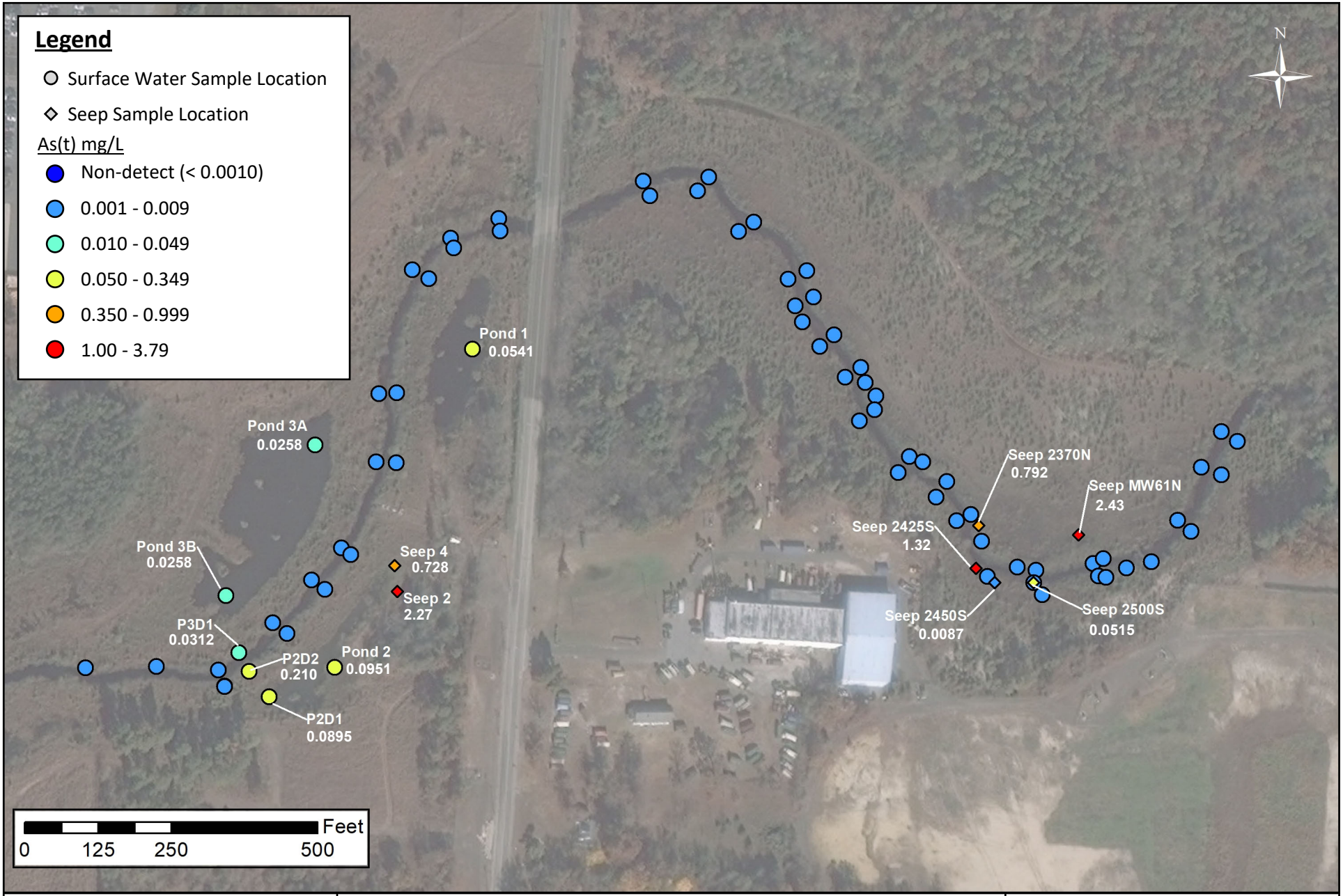
	Dissolved Arsenic Concentrations in Porewater 2013 - 2021 Segment B of the Blackwater Branch	Figure 7 November 2022



Dissolved Arsenic Concentrations in Porewater
2013 - 2021
Segment C of the Blackwater Branch

Figure 8

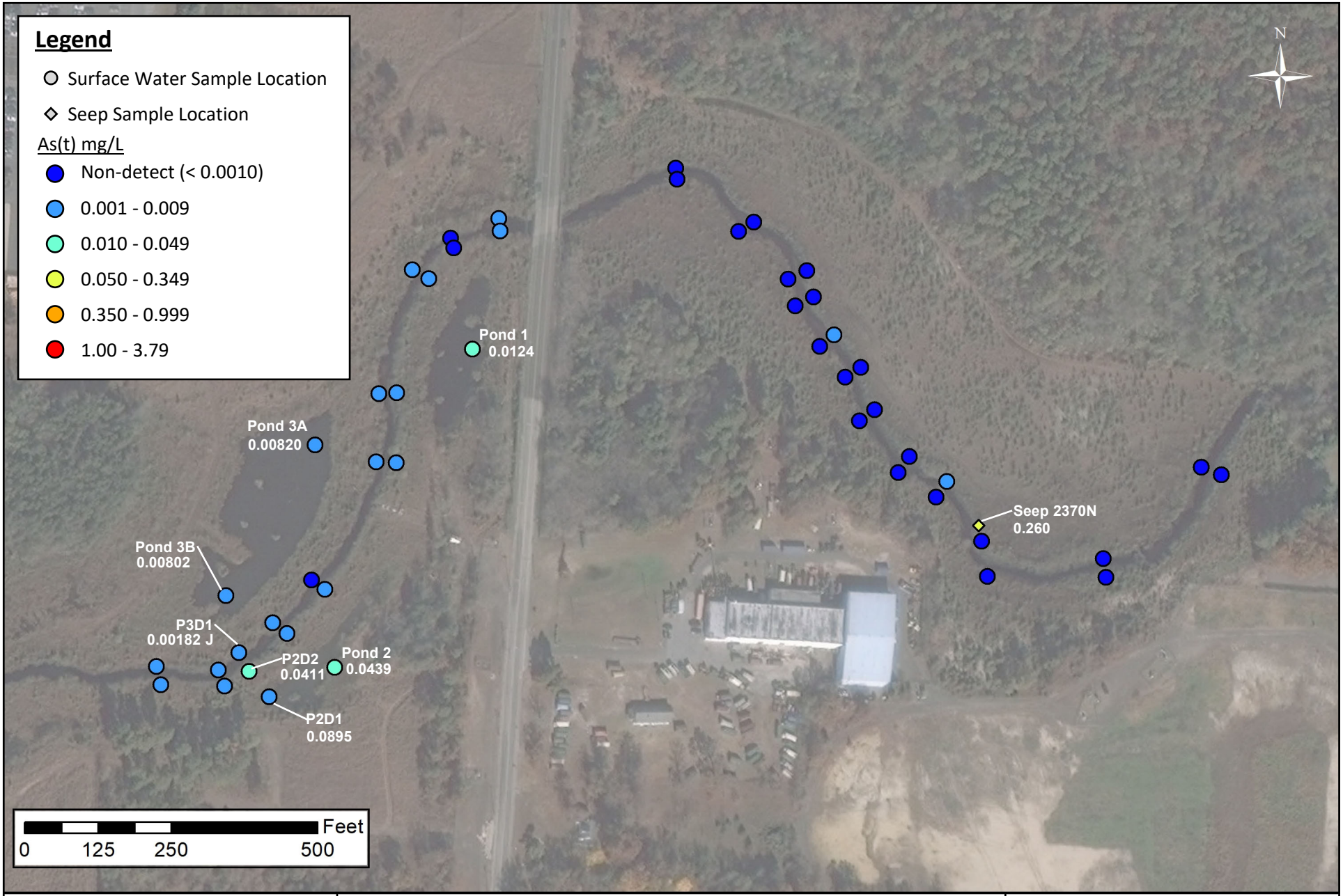
November 2022



Total Arsenic in Surface Water and Seeps
July 2021

Figure 9

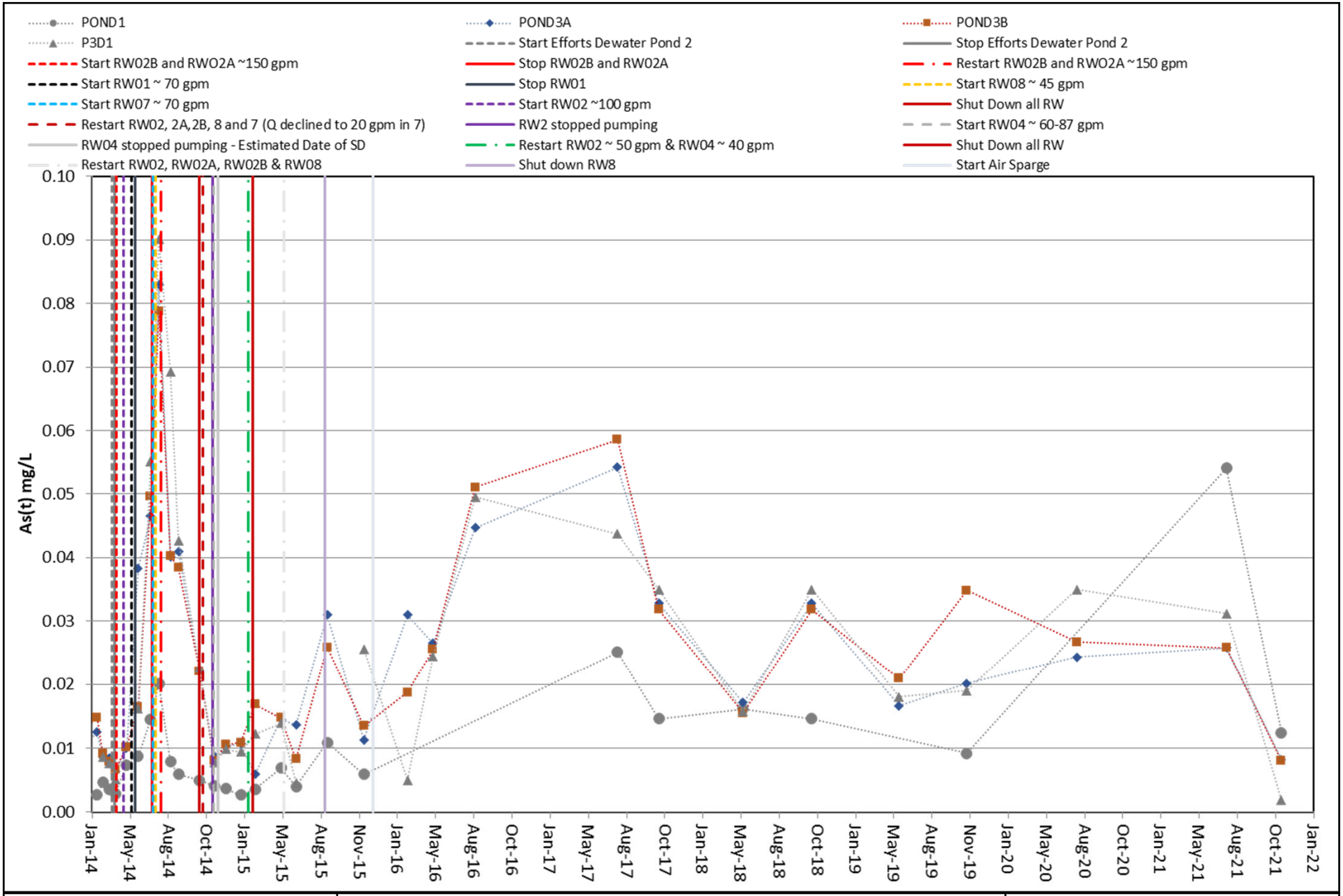
November 2022



Total Arsenic in Surface Water and Seeps
November – December 2021

Figure 10

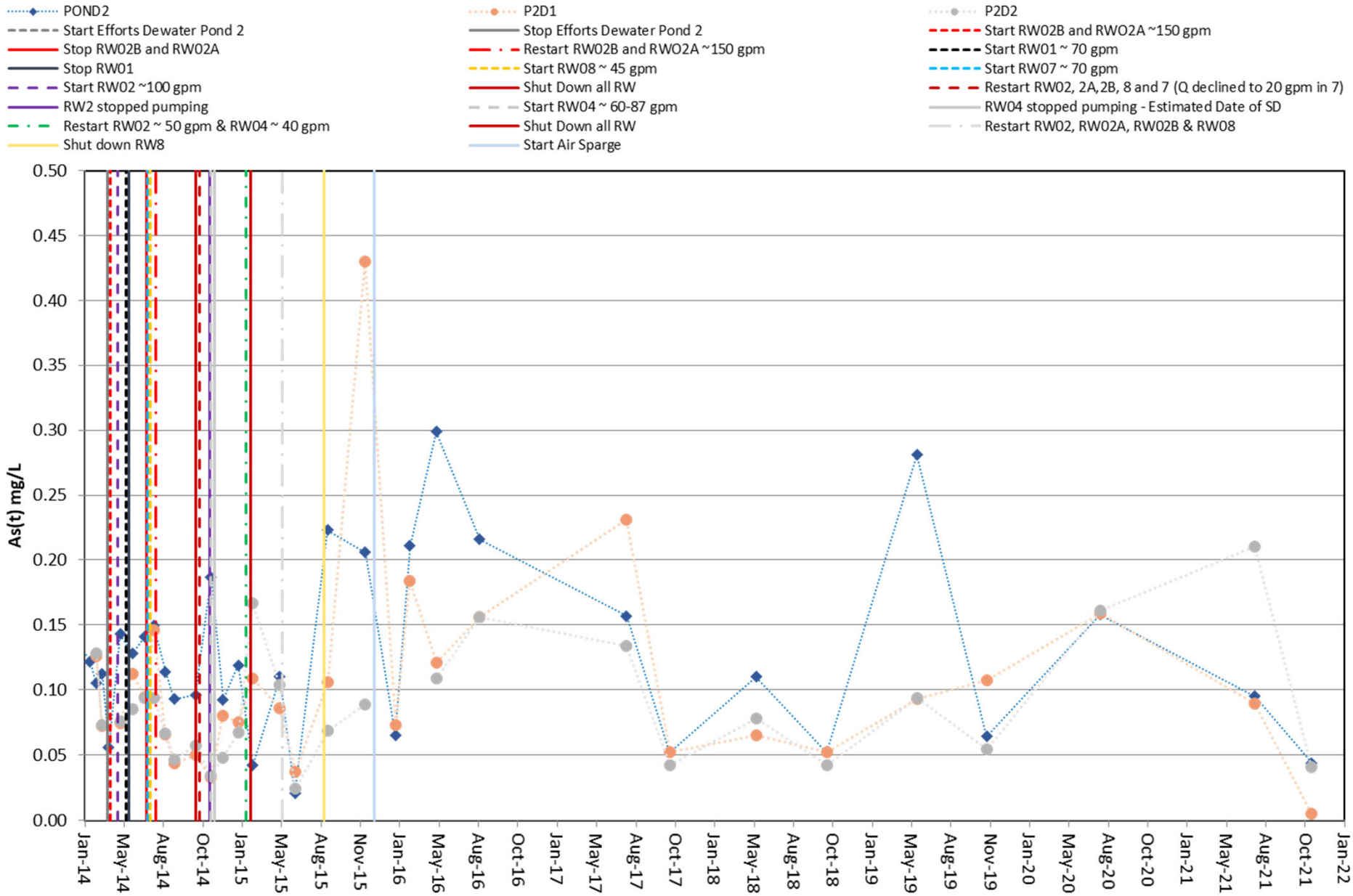
November 2022



Total Arsenic in Pond 1, Pond 3, and Pond 3 Discharge
2014 - 2021

Figure 11

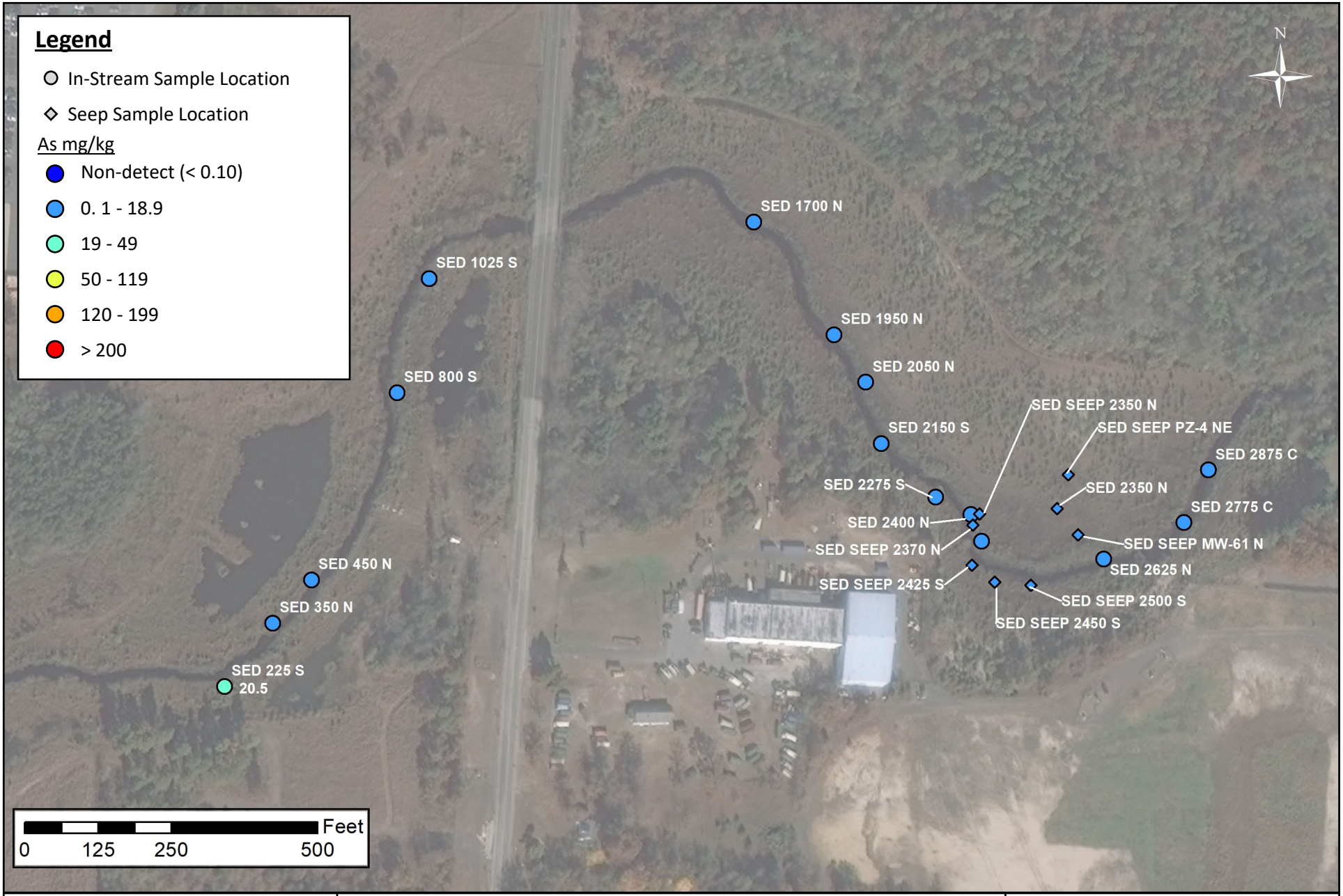
November 2022



Total Arsenic in Pond 2 and Pond 2 Discharge
2014 - 2021

Figure 12

November 2022



Arsenic in Sediments
July 2021

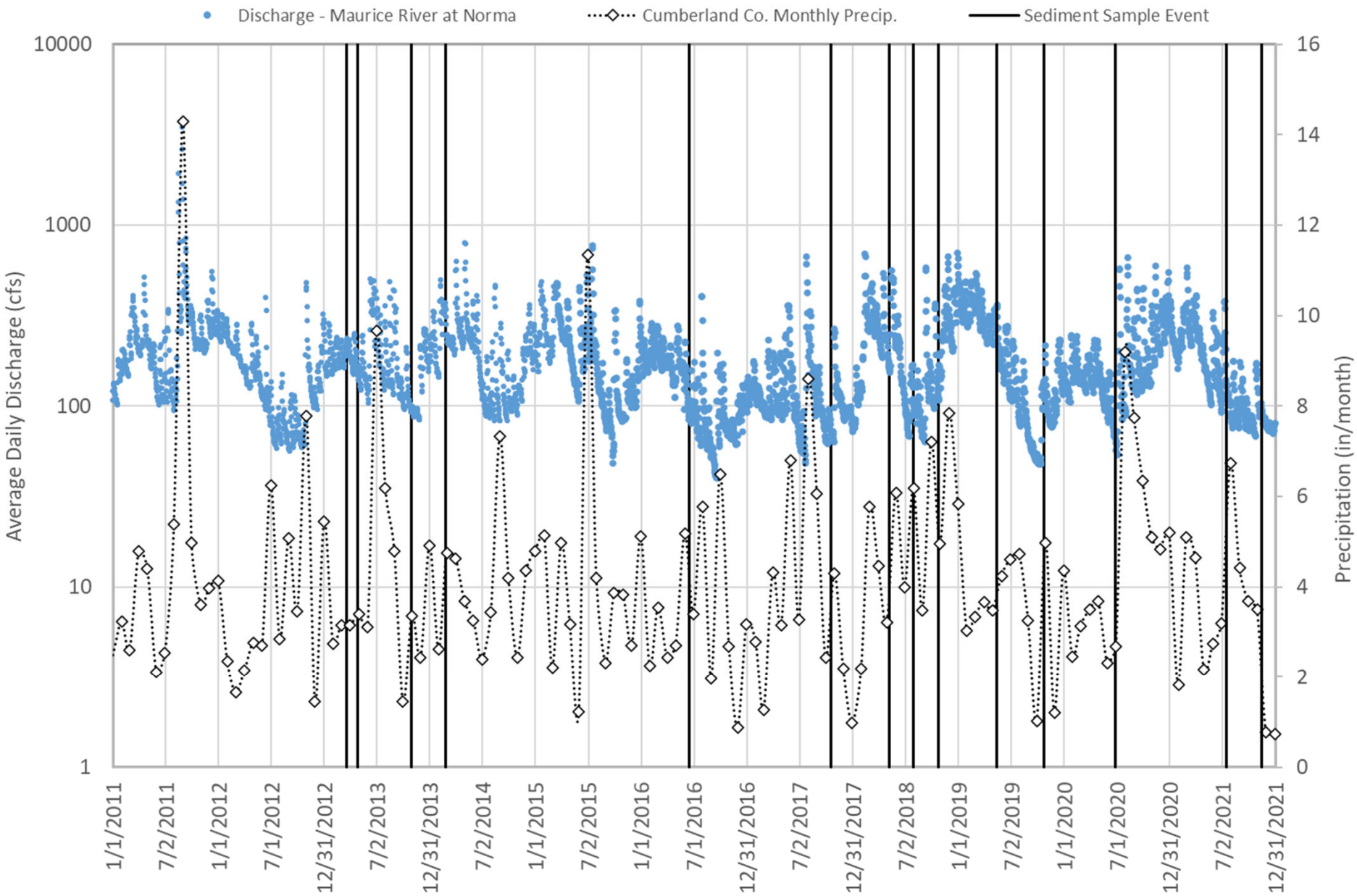
Figure 13

November 2022

Arsenic in Sediments
November – December 2021

Figure 14

November 2022



Maurice River Average Daily Discharge and Monthly Precipitation Compared to Sediment Sample Events

Figure 15

November 2022

Tables

Table 1: Groundwater Sample Results
June 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Dissolved As (mg/L)	Q	Dissolved Fe (mg/L)	Q
		Easting	Northing					
EW07S		335156.37	247202.72	6/17/21 11:55	0.299		0.148	
EW08S		335285.87	247176.65	6/16/21 13:40	**0.522**		0.0307	J
MP-1L		334120.79	247533.15	6/14/21 9:40	**1.23**		16.7	
MP-2L		334078.33	247528.52	6/15/21 12:15	0.0341		2.57	
MP-3L		334042.25	247536.07	6/15/21 11:50	0.0459		0.711	
MP-4L		334069.98	247503.30	6/15/21 11:20	0.0021		0.120	
MP-5L		334081.64	247464.25	6/15/21 10:55	0.0034		0.602	
MP-6L		334096.96	247512.74	6/14/21 10:10	0.0165		0.826	
MP-7L		334073.10	247581.94	6/14/21 8:40	**1.44**		17.5	
MP-8L		334095.39	247547.44	6/14/21 9:10	**1.03**		12.4	
MP-9L		334015.11	247482.13	6/15/21 10:25	0.204		2.38	
DUP-2	MP-9L	334015.11	247482.13	6/15/21 12:50	0.206		2.37	
MW28M		334910.53	247270.13	6/17/21 10:35	**3.79**		8.61	
MW28S		334911.92	247284.70	6/17/21 10:50	0.0377		0.0702	
MW31M		334257.68	247520.15	6/16/21 10:45	**1.37**		16.4	
MW41M		334166.93	247339.65	6/16/21 9:55	0.176		7.68	
MW52S		333949.28	247250.27	6/15/21 8:20	0.0957		2.38	
MW53M		334075.86	247613.62	6/14/21 8:15	0.0126		0.699	
MW57M		333453.00	247303.00	6/16/21 8:40	0.0020	U	0.581	
MW57S		333446.00	247303.00	6/16/21 8:15	0.0020	U	0.0400	U
DUP-3	MW57S	333446.00	247303.00	6/16/21 12:00	0.0020	U	0.0400	U
MW61M		335201.20	247493.58	6/17/21 8:50	0.222		0.0400	U
MW61S		335197.10	247493.84	6/17/21 8:35	0.0446		0.0400	U
MW73M		334942.80	247477.94	6/16/21 12:45	**1.94**		5.28	
MW73S		334946.83	247481.29	6/16/21 12:20	0.0829		0.0400	U
MW75S		334403.38	247680.06	6/16/21 11:30	**2.24**		12.4	
PD2P1		333998.74	247390.61	6/15/21 9:35	**0.580**		17.4	
PD2P2		333959.41	247346.95	6/15/21 9:05	**0.408**		16.4	
PD2P3		333900.69	247254.06	6/15/21 8:40	0.0115		0.0400	J
PZ-3		335231.63	247436.13	6/17/21 9:20	0.106		0.0400	U
PZ-9		334194.97	247628.52	6/14/21 11:20	**0.467**		3.79	
PZ-10		334065.21	247545.45	6/15/21 12:50	0.0074		0.489	
PZ-11		334185.12	247478.71	6/14/21 10:45	0.0915		0.0400	U
PZ-12		334062.88	247427.40	6/15/21 10:05	**0.371**		16.0	
PZ-15		333870.92	247401.78	6/17/21 13:10	0.142		8.02	
PZ-17		334126.69	247440.64	6/14/21 12:15	**0.524**		15.7	
DUP-1	PZ-17	334126.69	247440.64	6/14/21 12:15	**0.526**		15.5	
WW25M		334208.25	247853.74	6/14/21 11:45	**0.370**		4.80	

Notes:

As - Arsenic

Fe - Iron

Q - Qualifier

U - Analyte not detected (detection limit shown as result).

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration.

Sample results that exceed the groundwater alternate concentration limit of 0.350 mg/L for As are shown in **bold**.

Table 2: Groundwater Sample Results
November 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Dissolved As (mg/L)	Q	Dissolved Fe (mg/L)	Q
		Easting	Northing					
MP-1L		334120.79	247533.15	11/22/2021 10:45:00	**1.40**		15.8	
MP-2L		334078.33	247528.52	11/22/2021 13:50:00	0.0618		4.65	
MP-3L		334042.25	247536.07	11/24/2021 09:05:00	0.0397		0.713	
MP-4L		334069.98	247503.30	11/24/2021 08:45:00	0.0024		0.0448	
MP-5L		334081.64	247464.25	11/24/2021 10:05:00	0.0074		2.18	
MP-6L		334096.96	247512.74	11/22/2021 11:10:00	0.0047		0.0216	
MP-7L		334073.10	247581.94	11/22/2021 13:00:00	**1.73**		17.3	
GW DUP-1	MP-7L	334073.10	247581.94	11/22/2021 12:00:00	**1.74**		17.4	
MP-8L		334095.39	247547.44	11/22/2021 11:55:00	**0.878**		9.75	
MP-9L		334015.11	247482.13	11/24/2021 09:45:00	0.284		2.98	
GW DUP-2	MP-9L	334015.11	247482.13	11/24/2021 12:00:00	0.282		3.08	
MW-31M		334257.68	247520.15	12/02/2021 10:50:00	**1.33**		13.1	
MW-41M		334166.93	247339.65	12/02/2021 09:40:00	0.176		6.74	
MW-52S		333949.28	247250.27	11/24/2021 11:20:00	0.0807		1.38	
MW-53M		334075.86	247613.62	11/22/2021 12:25:00	**0.425**		7.52	
MW-73M		334942.80	247477.94	12/02/2021 12:20:00	**1.45**		3.77	
MW-75S		334403.38	247680.06	12/02/2021 11:30:00	**2.34**		12.9	
PD2P1		333998.74	247390.61	11/30/2021 09:40:00	0.0621		2.08	
PD2P2		333959.41	247346.95	11/30/2021 10:25:00	**0.682**		17.4	
PD2P3		333900.69	247254.06	11/30/2021 11:15:00	0.109		2.68	
PZ-9		334194.97	247628.52	11/30/2021 12:40:00	**0.527**		4.15	
PZ-11		334185.12	247478.71	11/30/2021 12:00:00	0.0869		0.201	
PZ-12		334062.88	247427.40	11/24/2021 10:35:00	**0.357**		13.9	

Notes:
As - Arsenic
Fe - Iron
Q - Qualifier
Sample results that exceed the groundwater alternate concentration limit of 0.350 mg/L for As are shown in **bold**.

Table 3: Porewater Sample Results
November and December 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Dissolved As (mg/L)	Q	Dissolved Fe (mg/L)	Q
		Easting	Northing					
WP 125 B		333612.10	247210.71	12/1/2021 12:28	0.0069		0.0290	
WP 125 C		333608.31	247224.84	12/1/2021 12:10	0.0012	J	0.306	
WP 125 D		333604.65	247242.09	12/1/2021 12:12	0.0124		0.651	
WP 225 B		333721.01	247208.44	12/1/2021 11:51	0.0038		0.0424	
WP 225 C		333714.99	247222.16	12/1/2021 11:31	0.0020	J	0.246	
WP 225 D		333710.63	247236.08	12/1/2021 11:34	0.0286		0.671	
WP 350 B		333828.06	247298.20	12/1/2021 10:51	0.138		6.64	
WP 350 C		333820.45	247311.17	12/1/2021 10:49	0.0528		8.40	
WP DUP-3	WP 350 C	333820.45	247311.17	12/1/2021 12:00	0.0532		8.22	
WP 350 D		333803.72	247316.35	12/1/2021 11:10	0.0320		0.975	
WP 450 B		333892.72	247373.70	12/1/2021 10:15	0.111		16.2	
WP 450 C		333882.45	247381.05	12/1/2021 10:12	0.0135		2.74	
WP 450 D		333870.25	247390.17	12/1/2021 10:30	0.0773		0.141	
WP 800 B		334015.83	247710.23	12/1/2021 9:50	0.191		1.41	
WP 800 C		334001.68	247708.01	12/1/2021 9:25	0.0034		1.10	
WP 800 D		333985.22	247708.11	12/1/2021 9:30	0.0090		0.0218	
WP 1025 B		334070.51	247905.38	11/29/2021 12:47	0.0031		0.0187	
WP 1025 C		334057.70	247911.73	11/29/2021 12:43	0.0012	J	1.02	
WP 1025 D		334042.22	247920.53	11/29/2021 12:40	0.0148		0.0632	
WP 1825 B		334684.86	247904.41	11/29/2021 11:48	0.0234		0.0212	
WP 1825 C		334701.29	247911.73	11/29/2021 11:47	0.0102		0.886	
WP 1825 D		334716.67	247918.76	11/29/2021 12:05	0.199		0.647	
WP DUP-2	WP 1825 D	334716.67	247918.76	11/29/2021 12:00	0.192		0.642	
WP 1875 B		334696.90	247858.47	11/29/2021 11:23	0.0519		2.08	
WP 1875 C		334710.39	247864.87	11/29/2021 11:05	0.0071		0.374	
WP 1875 D		334727.80	247873.70	11/29/2021 11:06	0.0196		1.97	
WP 1950 B		334738.97	247789.01	11/29/2021 10:38	0.0182		0.0801	
WP 1950 C		334752.07	247797.58	11/29/2021 10:22	0.0024		0.362	
WP 1950 D		334763.27	247808.97	11/29/2021 10:20	0.114		8.09	
WP 2025 C		334795.84	247742.84	11/29/2021 9:42	0.095		6.27	
WP 2025 D		334808.64	247753.58	11/29/2021 9:55	0.0944		6.35	
WP 2100 B		334806.53	247662.28	11/23/2021 12:10	0.110		2.21	
WP 2100 C		334818.74	247670.72	11/23/2021 12:11	**0.414**		8.74	
WP 2100 D		334832.50	247681.23	11/23/2021 12:30	0.118		6.10	
WP 2200 B		334872.84	247573.18	11/23/2021 11:20	0.0047		0.189	
WP DUP-1	WP 2200 B	334872.84	247573.18	11/23/2021 12:00	0.0047		0.185	
WP 2200 C		334882.47	247589.75	11/23/2021 11:21	0.0689		5.06	
WP 2200 D		334892.22	247600.72	11/23/2021 11:43	0.0939		6.40	J
WP 2275 B		334937.26	247531.53	11/23/2021 10:21	0.0457		1.30	
WP 2275 C		334948.11	247543.06	11/23/2021 10:22	0.211		9.92	
WP 2275 D		334955.58	247558.41	11/23/2021 10:55	0.106		6.60	
WP 2400 B		334988.73	247436.91	11/23/2021 9:37	0.0201		0.125	
WP 2400 C		335004.08	247442.69	11/23/2021 9:35	0.0251		0.212	
WP 2400 D		335015.35	247456.41	11/23/2021 9:52	0.0119		0.113	
WP 2625 B		335228.33	247394.51	11/16/2021 12:35	0.0196		0.129	
WP 2625 C		335226.35	247409.89	11/16/2021 12:18	0.0066		0.973	
WP 2625 D		335223.61	247426.18	11/16/2021 11:57	0.0345		0.221	
WP 2775 B		335373.40	247472.71	11/16/2021 11:33	0.233		1.53	
WP 2775 D		335350.61	247491.85	11/16/2021 11:16	0.103		1.64	
WP 2875 B		335425.12	247569.41	11/16/2021 10:50	0.329		3.84	
WP 2875 C		335410.77	247575.57	11/16/2021 10:33	**0.375**		8.45	
WP 2875 D		335391.28	247582.35	11/16/2021 10:05	0.112		4.32	

Notes:

As - Arsenic Q - Qualifier

Fe - Iron J - Detected but below the Reporting Limit; therefore, result is an estimated concentration.

Sample results that exceed the groundwater alternate concentration limit of 0.350 mg/L for As are shown in **bold**.

Table 4 : Porwater and Surface Water Elevations
November and December 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Well Point Location	NJ State Plane NAD 83 ft		Date/Time	Measuring Point Elevation (ft NAVD88)	Depth to Porewater (ft)	Depth to Surface Water (ft)	Porewater Elevation (ft NAVD88)	Surface Water Elevation (ft NAVD88)*
	Easting	Northing						
WP 125 B	333612.10	247210.71	12/1/21 12:28	60.74	3.12	NM	57.62	-
WP 125 C	333608.31	247224.84	12/1/21 12:10	59.09	1.31	0.90	57.78	58.19
WP 125 D	333604.65	247242.09	12/1/21 12:12	60.37	2.7	NM	57.67	-
WP 225 B	333721.01	247208.44	12/1/21 11:51	60.42	2.74	NM	57.68	-
WP 225 C	333714.99	247222.16	12/1/21 11:31	59.83	2.01	1.60	57.82	58.23
WP 225 D	333710.63	247236.08	12/1/21 11:34	60.35	2.63	NM	57.72	-
WP 350 B	333828.06	247298.20	12/1/21 10:51	60.67	2.81	NM	57.86	-
WP 350 C	333820.45	247311.17	12/1/21 10:49	60.12	1.98	1.82	58.14	58.30
WP 350 D	333803.72	247316.35	12/1/21 11:10	60.68	2.7	NM	57.98	-
WP 450 B	333892.72	247373.70	12/1/21 10:15	61.13	3.06	NM	58.07	-
WP 450 C	333882.45	247381.05	12/1/21 10:12	59.43	1.18	1.15	58.25	58.28
WP 450 D	333870.25	247390.17	12/1/21 10:30	60.91	2.66	NM	58.25	-
WP 800 B	334015.83	247710.23	12/1/21 9:50	60.97	2.38	NM	58.59	-
WP 800 C	334001.68	247708.01	12/1/21 9:25	59.58	1.36	1.31	58.22	58.27
WP 800 D	333985.22	247708.11	12/1/21 9:30	61.08	2.75	NM	58.33	-
WP 1025 B	334070.51	247905.38	11/29/21 12:47	61.34	NM	NM	-	-
WP 1025 C	334057.70	247911.73	11/29/21 12:43	59.90	1.18	1.53	58.72	***58.37***
WP 1025 D	334042.22	247920.53	11/29/21 12:40	61.23	1.47	NM	59.76	-
WP 1825 B	334684.86	247904.41	11/29/21 11:48	61.84	2.34	NM	59.50	-
WP 1825 C	334701.29	247911.73	11/29/21 11:47	60.66	1.19	1.58	59.47	***59.08***
WP 1825 D	334716.67	247918.76	11/29/21 12:05	61.57	2.03	NM	59.54	-
WP 1875 B	334696.90	247858.47	11/29/21 11:23	61.74	2.72	NM	59.02	-
WP 1875 C	334710.39	247864.87	11/29/21 11:05	60.80	1.79	1.86	59.01	***58.94***
WP 1875 D	334727.80	247873.70	11/29/21 11:06	61.34	1.80	NM	59.54	-
WP 1950 B	334738.97	247789.01	11/29/21 10:38	61.53	2.44	NM	59.09	-
WP 1950 C	334752.07	247797.58	11/29/21 10:22	60.74	1.84	1.73	58.90	59.01
WP 1950 D	334763.27	247808.97	11/29/21 10:20	61.54	2.55	NM	58.99	-
WP 2025 C	334795.84	247742.84	11/29/21 9:42	60.63	1.66	1.91	58.97	***58.72***
WP 2025 D	334808.64	247753.58	11/29/21 9:55	61.71	NM	NM	-	-
WP 2100 B	334806.53	247662.28	11/23/21 12:10	61.42	NM	NM	-	-
WP 2100 C	334818.74	247670.72	11/23/21 12:11	60.67	1.38	1.58	59.29	***59.09***
WP 2100 D	334832.50	247681.23	11/23/21 12:30	61.78	NM	NM	-	-
WP 2200 B	334872.84	247573.18	11/23/21 11:20	61.77	2.34	NM	59.43	-
WP 2200 C	334882.47	247589.75	11/23/21 11:21	60.84	1.32	1.68	59.52	***59.16***
WP 2200 D	334892.22	247600.72	11/23/21 11:43	61.68	2.49	NM	59.19	-
WP 2275 B	334937.26	247531.53	11/23/21 10:21	62.04	NM	NM	-	-
WP 2275 C	334948.11	247543.06	11/23/21 10:22	61.08	1.65	1.67	59.43	59.41
WP 2275 D	334955.58	247558.41	11/23/21 10:55	61.89	NM	NM	-	-
WP 2400 B	334988.73	247436.91	11/23/21 9:37	62.23	NM	NM	-	-
WP 2400 C	335004.08	247442.69	11/23/21 9:35	61.75	2.33	1.89	59.42	59.86
WP 2400 D	335015.35	247456.41	11/23/21 9:52	62.01	2.50	NM	59.51	-
WP 2625 B	335228.33	247394.51	11/17/21 12:35	62.25	NM	NM	-	-
WP 2625 C	335226.35	247409.89	11/17/21 12:18	60.96	0.9	0.9	60.06	60.06
WP 2625 D	335223.61	247426.18	11/17/21 11:57	62.21	2.50	NM	59.71	-
WP 2775 B	335373.40	247472.71	11/17/21 11:33	62.49	2.39	NM	60.10	-
WP 2775 D	335350.61	247491.85	11/17/21 11:16	61.09	2.34	NM	58.75	-
WP 2875 B	335425.12	247569.41	11/17/21 10:50	62.62	2.37	NM	60.25	-
WP 2875 C	335410.77	247575.57	11/17/21 10:33	61.17	0.96	0.97	60.21	60.20
WP 2875 D	335391.28	247582.35	11/17/21 10:05	62.71	2.60	NM	60.11	-

* Surface water elevations in bold italics are more than 0.05 ft lower than the adjacent porewater elevations to note areas where the Blackwater Branch is a gaining stream
NM = Not Measured

Table 5: Surface Water Sample Results
July 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Total As (mg/L)	Q
		Easting*	Northing*			
Blackwater Branch						
SW 00 N		333483	247240	7/7/2021 9:00	0.0032	
SW 125 N		333605	247242	7/7/2021 9:04	0.0025	
DUP-2	125N	333605	247242	7/7/2021 12:00	0.0024	
SW SG7 S		333721	247208	7/7/2021 9:20	0.0032	
SW 225 N		333711	247236	7/7/2021 9:07	0.0024	
SW 225 S		333721	247208	7/7/2021 9:07	0.0092	
SW 350 N		333804	247316	7/7/2021 9:13	0.0023	
SW 350 S		333828	247298	7/7/2021 9:13	0.0023	
SW 450 N		333870	247390	7/7/2021 9:17	0.0021	
SW 450 S		333893	247374	7/7/2021 9:17	0.0022	
SW 575 N		333921	247444	7/7/2021 9:25	0.0022	
SW 575 S		333937	247433	7/7/2021 9:25	0.0022	
SW SG6 N		333981	247592	7/7/2021 9:29	0.0055	
SW SG6 S		334014	247590	7/7/2021 9:29	0.0025	
SW 800 N		333985	247708	7/7/2021 9:32	0.0026	
SW 800 S		334016	247710	7/7/2021 9:32	0.0024	
SW 1025 N		334042	247921	7/7/2021 9:38	0.0026	
SW 1025 S		334071	247905	7/7/2021 9:38	0.0026	
SW SG5 N		334108	247974	7/7/2021 9:45	0.0024	
SW SG5 S		334113	247957	7/7/2021 9:45	0.0024	
SW 1200 N		334190	248008	7/7/2021 9:50	0.0062	
SW 1200 S		334192	247986	7/7/2021 9:50	0.0023	
SW 1500 N		334437	248072	7/8/2021 8:31	0.0055	
SW 1500 S		334448	248047	7/8/2021 8:31	0.0023	
SW 1600 N		334549	248079	7/8/2021 8:35	0.0032	
SW 1600 S		334530	248055	7/8/2021 8:35	0.0022	
SW 1700 N		334626	248002	7/8/2021 8:41	0.0024	
SW 1700 S		334600	247986	7/8/2021 8:41	0.0023	
SW 1825 N		334717	247919	7/8/2021 8:48	0.0027	
SW 1825 S		334685	247904	7/8/2021 8:48	0.0025	
SW 1875 N		334728	247874	7/8/2021 8:50	0.0023	
SW 1875 S		334697	247858	7/8/2021 8:50	0.0022	
SW 1900 S		334709	247831	7/8/2021 8:52	0.0022	
SW 1950 N		334763	247809	7/8/2021 8:54	0.0022	
DUP-3	1950N	334763	247809	7/8/2021 12:00	0.002	
SW 1950 S		334739	247789	7/8/2021 8:54	0.0021	
SW 2025 N		334809	247754	7/8/2021 9:00	0.002	
SW 2025 S		334782	247736	7/8/2021 9:00	0.002	
SW 2050 N		334817	247728	7/8/2021 9:02	0.0021	
SW 2075 N		334835	247705	7/8/2021 9:05	0.0019	J
SW 2100 N		334833	247681	7/8/2021 9:10	0.0019	J
SW 2100 S		334807	247662	7/8/2021 9:10	0.0019	J
SW 2200 N		334892	247601	7/8/2021 9:16	0.0018	J
SW 2200 S		334873	247573	7/8/2021 9:16	0.0018	J
SW 2225 N		334915	247592	7/8/2021 9:18	0.0031	
SW 2275 N		334956	247558	7/8/2021 9:20	0.0018	J
SW 2275 S		334937	247532	7/8/2021 12:00	0.002	

Table 5: Surface Water Sample Results
July 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Total As (mg/L)	Q
		Easting*	Northing*			
SW 2350 N		334997	247502	7/8/2021 9:24	0.0018	J
SW 2350 S		334973	247491	7/8/2021 9:24	0.0017	J
SW 2400 N		335015	247456	7/8/2021 9:26	0.0017	J
SW 2450 S		335025	247396	7/8/2021 9:28	0.0017	J
SW 2475 N		335076	247412	7/8/2021 9:29	0.0015	J
DUP-4	2475N	335076	247412	7/8/2021 12:00	0.0016	J
SW 2500 N		335108	247407	7/8/2021 9:32	0.0016	J
SW 2500 S		335105	247386	7/8/2021 9:32	0.0016	J
SW 2550 S		335119	247365	7/8/2021 9:36	0.0016	J
SW 2600 N		335206	247418	7/8/2021 9:40	0.0015	J
SW 2600 S		335215	247397	7/8/2021 9:40	0.0016	J
SW 2625 N		335224	247426	7/8/2021 9:43	0.0016	J
SW 2625 S		335228	247395	7/8/2021 9:43	0.0017	J
SW 2650 S		335263	247411	7/8/2021 9:45	0.0029	
SW 2700 S		335306	247421	7/8/2021 9:48	0.0019	J
SW 2775 N		335351	247492	7/8/2021 9:51	0.0015	J
SW 2775 S		335373	247473	7/8/2021 9:51	0.0015	J
SW 2875 N		335391	247582	7/8/2021 9:57	0.0014	J
SW 2875 S		335425	247569	7/8/2021 9:57	0.0015	J
DUP-5	2875S	335425	247569	7/8/2021 12:00	0.0014	J
SW 2950 N		335426	247644	7/8/2021 10:00	0.0014	J
SW 2950 S		335453	247627	7/8/2021 10:00	0.0014	J
Ponds						
Pond 1		334145	247784	7/7/2021 8:40	***0.0541***	
Pond 2		333909	247240	7/7/2021 8:46	***0.0951***	
Pond 3A		333876	247621	7/7/2021 8:30	**0.0258**	
Pond 3B		333724	247363	7/7/2021 8:32	**0.0258**	
DUP-1	Pond3B	333724	247363	7/7/2021 12:00	**0.0262**	
Discharge from Ponds						
P2D1		333798	247190	7/7/2021 8:51	***0.0895***	
P2D2		333763	247233	7/7/2021 8:52	***0.210***	
P3D1		333746	247266	7/7/2021 9:10	**0.0312**	
Seeps						
SW Seep 4		334012	247414	7/16/2021 11:00	***0.728***	
SW Seep 2		334017	247370	7/16/2021 11:02	***2.27***	
SW Seep 2370N		335010	247483	7/16/2021 12:01	***0.792***	
SW Seep 2425S		335006	247410	7/16/2021 9:14	***1.32***	
SW Seep 2450S		335038	247386	7/16/2021 9:16	0.0087	
SW Seep 2500S		335105	247386	7/16/2021 9:06	***0.0515***	
SW Seep MW61N		335181	247467	7/16/2021 12:15	***2.43***	

Notes: As - Arsenic; Fe - Iron; Q - Qualifier

J - Detected but below the Reporting Limit; therefore, result is an estimated concentration

Sample results that exceed the EPA drinking water standard of 0.010 mg/L for As are shown in **bold**.

Sample results that exceed the Blackwater Branch surface water criteria of 0.050 mg/L for As are shown in ***bold italics*** . The surface water criteria applies at the end of a 100 meter mixing zone, but the mixing zone is not accounted for in these results.

*Locations are approximate

Table 6: Surface Water Sample Results
November and December 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Total As (mg/L)	Q
		Easting*	Northing*			
Blackwater Branch						
SW 125 N		333605	247242	11/16/2021 11:14	0.00146	J
SW 125 S		333612	247211	11/16/2021 11:15	0.00148	J
SW DUP-1	SW 125 S	333612	247211	11/16/2021 12:00	0.00153	J
SW 225 N		333711	247236	11/16/2021 11:11	0.00114	J
SW 225 S		333721	247208	11/16/2021 11:12	0.00129	J
SW 350 N		333804	247316	11/16/2021 11:08	0.00209	
SW DUP-2	SW 350 N	333804	247316	11/16/2021 12:00	0.00146	J
SW 350 S		333828	247298	11/16/2021 11:09	0.00160	J
SW 450 N		333870	247390	11/16/2021 11:04	0.00100	U
SW 450 S		333893	247374	11/16/2021 11:05	0.00128	J
SW SG6 N		333981	247592	11/16/2021 11:00	0.00110	J
SW SG6 S		334014	247590	11/16/2021 11:01	0.00467	
SW 800 N		333985	247708	11/16/2021 10:54	0.00101	J
SW 800 S		334016	247710	11/16/2021 10:55	0.00129	J
SW 1025 N		334042	247921	11/16/2021 10:50	0.00119	J
SW 1025 S		334071	247905	11/16/2021 10:51	0.00140	J
SW SG5 N		334108	247974	11/16/2021 10:44	0.00100	U
SW SG5 S		334113	247957	11/16/2021 10:45	0.00100	U
SW 1200 N		334190	248008	11/16/2021 10:48	0.00112	J
SW DUP-3	SW 1200 N	334190	248008	11/16/2021 12:00	0.00112	J
SW 1200 S		334192	247986	11/16/2021 10:49	0.00101	J
SW 1550 N		334493	248094	11/16/2021 10:40	0.00100	U
SW 1550 S		334495	248075	11/16/2021 10:41	0.00100	U
SW 1700 N		334626	248002	11/16/2021 10:37	0.00100	U
SW 1700 S		334600	247986	11/16/2021 10:38	0.00100	U
SW 1825 N		334717	247919	11/16/2021 10:34	0.00100	U
SW 1825 S		334685	247904	11/16/2021 10:35	0.00100	U
SW 1875 N		334728	247874	11/16/2021 10:30	0.00100	U
SW 1875 S		334697	247858	11/16/2021 10:31	0.00100	U
SW DUP-4	SW 1875 S	334697	247858	11/16/2021 12:00	0.00100	U
SW 1950 N		334763	247809	11/16/2021 10:27	0.00134	J
SW 1950 S		334739	247789	11/16/2021 10:28	0.00100	U
SW 2025 N		334809	247754	11/16/2021 10:23	0.00100	U
SW 2025 S		334782	247736	11/16/2021 10:24	0.00100	U
SW 2100 N		334833	247681	11/16/2021 10:21	0.00100	U
SW 2100 S		334807	247662	11/16/2021 10:22	0.00100	U
SW 2200 N		334892	247601	11/16/2021 10:18	0.00100	U
SW 2200 S		334873	247573	11/16/2021 10:19	0.00100	U
SW 2275 N		334956	247558	11/16/2021 10:14	0.00188	J
SW DUP-5	SW 2275 N	334956	247558	11/16/2021 12:00	0.00128	J
SW 2275 S		334937	247532	11/16/2021 10:15	0.00100	U
SW 2400 N		335015	247456	11/16/2021 10:10	0.00100	U
SW 2400 S		335025	247396	11/16/2021 10:11	0.00100	U
SW 2625 N		335224	247426	11/16/2021 10:04	0.00100	U
SW 2625 S		335228	247395	11/16/2021 10:05	0.00100	U
SW 2875 N		335391	247582	11/16/2021 10:00	0.00100	U
SW 2875 S		335425	247569	11/16/2021 10:01	0.00100	U

Table 6: Surface Water Sample Results
November and December 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Location	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	Total As (mg/L)	Q
		Easting*	Northing*			
Ponds						
Pond 1		334145	247784	11/15/2021 11:00	**0.0124**	
Pond 2		333909	247240	11/15/2021 11:05	**0.0439**	
Pond 3A		333876	247621	11/15/2021 11:20	0.00820	
Pond 3B		333724	247363	11/15/2021 11:22	0.00802	
Discharge from Ponds						
P2D1		333798	247190	11/15/2021 11:30	0.00503	
P2D2		333763	247233	11/15/2021 11:31	**0.0411**	
P3D1		333746	247266	11/15/2021 11:40	0.00182	J
Seeps						
Seep 2370 N**		335010	247483	12/9/2021 10:30	***0.260***	

Notes: As - Arsenic; Fe - Iron; Q - Qualifier
J - Detected but below the Reporting Limit; therefore, result is an estimated concentration.
U - Analyte not detected (detection limit shown as result).
Sample results that exceed the EPA drinking water standard of 0.010 mg/L for As are shown in **bold**.
Sample results that exceed the Blackwater Branch surface water criteria of 0.050 mg/L for As are shown in ***bold italics*** .
The surface water criteria applies at the end of a 100 meter mixing zone, but the mixing zone is not accounted for in these results.
* Locations are approximate
**Surface water at Seep 2370N was also analyzed for Fe(t), As(D), and Fe(D). Results were:
Fe(t) = 18.2 mg/L
As(D) = 0.140 mg/L
Fe(D) = 12.0 mg/L

Table 7: Sediment Sample Results
July 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Name	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	As (mg/kg)	Q	Fe (mg/kg)	Q
		Easting*	Northing*					
Blackwater Branch								
SED 225 S		333721	247208	7/16/21 10:55	**20.5**		2340	
SED 350 N		333804	247316	7/16/21 10:41	2.57		509	
Sed DUP-3	SED 350 N	333804	247316	7/16/21 12:00	2.79		368	
SED 450 N		333870	247390	7/16/21 10:38	2.71		703	
SED 800 S		334016	247710	7/16/21 10:31	2.04		249	
SED 1025 S		334071	247905	7/16/21 10:26	1.69		422	
SED 1700 N		334626	248002	7/16/21 10:15	2.45		320	
SED 1950 N		334763	247809	7/16/21 10:10	3.88		476	
SED 2050 N		334817	247728	7/16/21 10:04	5.89	J	2460	J
Sed DUP-2	SED 2050 N	334817	247728	7/16/21 12:00	2.79	J	325	J
SED 2150 S		334844	247623	7/16/21 10:01	3.35		612	
SED 2275 S		334937	247532	7/16/21 9:56	6.80		558	
SED 2350 N		334997	247502	7/16/21 9:52	7.29		757	
SED 2400 N		335015	247456	7/16/21 9:29	4.14		764	
SED 2625 N		335224	247426	7/16/21 8:56	2.76		291	
Sed DUP-1	SED 2625N	335224	247426	7/16/21 12:00	2.60		318	
SED 2775 C		335361	247488	7/16/21 8:50	3.19		614	
SED 2875 C		335403	247578	7/16/21 8:46	6.76		461	
Seeps								
SED SEEP 2350 N		335012	247503	7/16/21 12:04	3.00		342	
SED SEEP 2370 N		335001	247484	7/16/21 11:58	16.6		395	
SED SEEP 2425 S		334999	247415	7/16/21 9:13	6.84		588	
SED SEEP 2450 S		335038	247386	7/16/21 9:18	2.33		267	
SED SEEP 2500 S		335100	247381	7/16/21 9:07	11.3		1210	
SED SEEP PZ-4 NE		335164	247570	7/16/21 12:28	4.76		551	
SED SEEP MW-61 N		335181	247467	7/16/21 12:14	10.5	J	673	J
SED SEEP MW-61N-PZ-4		335145	247512	7/16/21 12:20	2.89		529	

Notes:
As - Arsenic
Fe - Iron
Q - Qualifier
J - Detected but below the Reporting Limit; therefore, result is an estimated concentration.
Sample results that exceed the exposed sediment criteria of 19 mg/kg for As are shown in **bold**.
*Locations are approximate

Table 8: Sediment Sample Results
November and December 2021
Vineland Chemical Company Superfund Site
Vineland, New Jersey

Sample Name	Duplicate Sample	NJ State Plane NAD 83 ft		Sample Date/Time	As (mg/kg)	Q	Fe (mg/kg)	Q
		Easting*	Northing*					
Blackwater Branch								
Sed 225 S		333721	247208	11/16/21 12:36	1.86		677	
Sed 350 N		333804	247316	11/16/21 12:31	4.09		865	
Sed 450 S		333893	247374	11/16/21 12:25	2.41		401	
Sed SG6 N		333981	247592	11/16/21 12:19	3.81		631	
Sed 800 S		334016	247710	11/16/21 12:14	3.03		874	
Sed 1025 S		334071	247905	11/16/21 12:04	2.65		473	
Sed SG5 S		334113	247957	11/16/21 12:10	0.787		714	
Sed 1550 S		334495	248075	11/16/21 11:59	8.68		509	
Sed DUP-1	Sed 1550 S	334495	248075	11/16/21 12:00	2.33		473	
Sed 1700 N		334626	248002	11/16/21 11:55	3.20		142	
Sed 1825 N		334717	247919	11/16/21 11:49	3.81		387	
Sed 1950 S		334739	247789	11/16/21 11:44	3.05		454	
Sed 2150 N		334858	247637	11/16/21 11:40	3.32		602	
Sed 2200 N		334892	247601	11/16/21 11:38	4.98		498	
Sed DUP-2	Sed 2200 N	334892	247601	11/16/21 12:00	5.09		540	
Sed 2400 N		335015	247456	11/16/21 11:35	1.77		516	
Sed 2625 N		335224	247426	11/16/21 11:30	1.34		564	
Seeps								
Seep 2370 N		335010	247483	12/9/21 10:30	14.2		946	

Notes:
As - Arsenic
Fe - Iron
Q - Qualifier
Sample results that exceed the exposed sediment criteria of 19 mg/kg for As are shown in **bold**.
*Locations are approximate

Appendix A
Remedial System Operations Summary
Pump and Treat and Air Sparge
2011 - 2021

Appendix A

Pump and Treat System Operations, 2011 - 2021

Dates	Pump and Treat System Status
Pre 2011 RSE - 28 October 2013	Pump and Treat On (full pumping)
October 28, 2013 - 12 March 2015	Pump and Treat Off (no pumping)
12 March 2015 - 18 May 2015	Pump and Treat Optimization Studies (partial pumping)
18 May 2015 - 18 August 2015	Pump RW02, RW02A, RW02B, and RW08
18 August 2015 - 31 December 2021	Pump RW02, RW02A, and RW02B

Appendix A

Air Sparge System Operations, 2015 - 2021

Well(s) ID	Date	Schedule	Air Flow Rate (scfm)
AS1	11/23/2015	10:35-13:35	10
AS3	11/23/2015	14:40-17:15	10
AS2	11/24/2015	07:55-10:45	10
AS4	11/24/2015	11:55-14:55	10
AS2U	11/24/2015	15:00-17:00	10
AS3U	11/25/2015	07:15-09:25	10
Shut Down	11/25/2015 -11/29/2015	-	-
AS1,AS2,AS3&AS4	11/30/2015	10:50-15:20	10
AS1,AS2,AS3&AS4	12/1/2015	08:15-10:10 & Restart 11:15	15
AS1,AS2,AS3&AS4	12/2/2015	Restart 07:15-11:15 (Down ~1 hr)	15
AS1,AS2,AS3&AS4	12/3/2015	Overnight	20
AS1,AS2,AS3 or AS4	12/04/2015-12/06/2015	Pulse Mode 2 hrs on/ 6 hrs off Sequence: AS1, AS2, AS4, AS3	10
AS1&AS3, AS2&AS4	12/07/2015-12/28/2015	Oscilate Each Pair - Pulse 2 hrs on/2 hrs off	10
AS1&AS3, AS2&AS4	12/29/2015-01/19/16	Oscilate Each Pair - Pulse 2 hrs on/2 hrs off	15
AS1&AS3, AS2&AS4	01/21/2016 – 02/22/16	Oscilate Each Pair - Pulse 2 hrs on/2 hrs off	20
Shut Down	02/22/16 – 02/28/2016	-	-
AS1&AS3, AS2&AS4	02/29/16 – 03/14/2016	Oscillate Each Pair – Pulse 1 hr on / 1 hr off	20
Shut Down	03/14/16 – 03/15/2016	-	-
AS1&AS3, AS2&AS4	03/16/16 – 03/20/2016	Oscillate Each Pair – Pulse 1 hr on / 1 hr off	20
AS1&AS3, AS2&AS4	03/21/16 – 04/01/2016	Oscillate Each Pair – Pulse 1 hr on / 1 hr off	20
Shut Down	04/02/2016-04/10/2016	Install AS5 & AS6	
AS1, AS2, AS3, AS4 & AS5	04/12/2016-04/25/2016	Continuous Air Flow	10
Shut Down	04/25/2016-04/28/2016	-	-
AS1, AS2, AS3, AS4 & AS5	04/28/2016-07/20/2016	Continuous Air Flow	10
AS1, AS2, AS3, AS4, AS5 & AS6	08/24/2016- 11/30/2017	Continuous Air Flow	AS1= 15 all other at 10[(a)]
AS1, AS2, AS3, AS4, AS5 & AS6	12/01/2017-12/31/2021	Continuous Air Flow	5

(a) After increase in air flow rate in AS1 to 15 scfm and the addition of AS6, the Air Sparge system operated intermittently. System shut down occurred due to high temperature. O'Brien & Gere addressed the issue on August 24, 2016, serviced the system and suggested balancing the flow to the wells.

Appendix B
Laboratory Analytical Reports

Vineland Chemical Company Superfund Site
Data Review Summary
Groundwater, Pore Water, Surface Water and Sediment Sampling
June 14 – July 16, 2021

This report summarizes the findings of the review performed on the laboratory data associated with the analysis of water and sediment samples and associated quality control (QC) samples collected at the Vineland Chemical Superfund Site located in Vineland, New Jersey. The samples were collected by U.S. Army Corps of Engineers (USACE) personnel to monitor environmental quality in Operable Unit-3 at the site. All sampling and analysis activities were performed in accordance with the Final Uniform Federal Policy Quality Assurance Project Plan (USACE, September 2019).

All samples were submitted to the U.S. Army Engineer Research and Development Center (ERDC) Environmental Laboratory in Vicksburg, Mississippi for the analysis of arsenic and iron. Data for the sample analysis was reported in Portable Document Format (PDF) data packages in a reduced deliverables format with a laboratory narrative, sample results, and QC summary forms presenting data for method blanks, laboratory control samples, matrix spike samples, and laboratory duplicate samples. These PDF data packages are provided in Attachment A of this Summary Report. Data review items included the laboratory narrative, sample receipt/chain-of-custody documentation, preservation and holding times, equipment blank results, field duplicate results, and the QC summary forms. Data validation qualifiers were applied using general guidance provided in the "National Functional Guidelines for Inorganic Superfund Methods Data Review", (EPA, January 2017).

All data qualifiers applied to the sample results are described in this report. The final validation results and validation qualifiers have been appended to the EXCEL based electronic data deliverables (EDDs) that were provide by the laboratory. The EDD deliverables with the validation results and qualifiers are included in electronic format in Attachment B of this Summary Report.

Data Review

All "non-detect" sample results have been marked with a validation qualifier of "U" in the validation EDD to indicate that the analyte was not detected at or above the sample Reporting Limit (RL). All positive results reported at concentrations below the RL but above the sample Detection Limit (DL) have been marked with a validation qualifier of "J" in the validation EDD to indicate that the result is an estimated value.

Sample Receipt, Preservation and Holding Times

All sample were received intact at the laboratory under proper chain-of-custody and with proper preservation.

All samples were prepared and analyzed within the required holding times.

Blank Contamination

A low concentration of iron, between the DL and RL, was detected in one of the laboratory method blanks. Two of the samples associated with this method blank, PZ-11 and PD2P3, also had positive results for iron that were less than the RL. The positive results for iron in these two samples were negated and reported as "non-detect" values with a "U" qualifier at the listed RL in the validation EDD. Qualification on the basis of blank contamination for method and equipment blank samples was not required for any other field samples.

Laboratory Control Samples

Analyte recoveries for all Laboratory Control Samples were within laboratory QC limits.

Matrix Spike Analysis

All matrix spike recoveries for samples associated with this event were within laboratory QC limits.

Laboratory Duplicate Sample Analysis

The precision of the laboratory duplicate analysis performed for sample Sed Seep MW-61N was outside of the laboratory QC limit of 20% for relative percent difference (RPD), with values of 32.9% for arsenic and 25.7% for iron. This poor precision is attributed to a non-homogeneous sample matrix, and the positive results for arsenic and iron in sample Sed Seep MW-61N were marked with "J" qualifiers in the validation EDD to indicate that they are estimated values.

The precision for all other results reported for laboratory duplicate samples was within laboratory QC limits.

Field Duplicate Precision

Eleven field duplicate sample pairs were collected for this sampling event. Field duplicate precision for these sample pairs was evaluated by calculation of the RPD when both sample results were greater than 5X the RL, with QC limits of 35% RPD for aqueous samples and 40% RPD for sediment samples. When one or both of the sample results were less than 5X the RL, the absolute difference between the two results was used to evaluate precision, with QC limits of 2X the RL for aqueous samples and 3X the RL for sediment samples. The field duplicate results and associated precision evaluation is summarized in Table 1.

Results for all of the field duplicate pairs were within project QC limits, with the exception of the sediment duplicate pair collected at location Sed 2050N with RPDs for both arsenic and iron that were above the QC limits. The poor precision for this duplicate pair is attributed to homogeneity issues with the sediment matrix, and the positive results for arsenic and iron in samples Sed 2050N and Sed DUP-2 were marked with "J" qualifiers in the validation EDD to indicate that they are estimated values.

Overall Assessment of the Data

All data reported by the laboratory are considered usable and acceptable for the project with the data qualifiers described in this report. The validated sample results and data qualifiers have been added to the validation EDDs associated with each of the laboratory reports.

Table 1

Summary of Field Duplicate Sample Results

Field Duplicate Pairs	Analyte	Matrix[1]	Result	RPD (%) or Difference	QC Limit
PZ-17	Arsenic	Aqueous	0.524	0.381 %	40 %
DUP-1			0.526		
PZ-17	Iron	Aqueous	15.7	1.28 %	40 %
DUP-1			15.5		
MP-9L	Arsenic	Aqueous	0.204	0.976 %	40 %
DUP-2			0.206		
MP-9L	Iron	Aqueous	2.38	0.421 %	40 %
DUP-2			2.37		
MW57S	Arsenic	Aqueous	ND	NA	NA
DUP-3			ND		
MW57S	Iron	Aqueous	ND	NA	NA
DUP-3			ND		
POND 3B	Arsenic	Aqueous	0.0262	1.538 %	40 %
DUP-1			0.0258		
SW 125N	Arsenic	Aqueous	0.0025	0.0001	0.0004
DUP-2			0.0024		
SW 1950N	Arsenic	Aqueous	0.0022	0.0002	0.0004
DUP-3			0.0020		
SW 2475N	Arsenic	Aqueous	0.0015	0.0001	0.0004
DUP-4			0.0016		
SW 2875S	Arsenic	Aqueous	0.0015	0.0001	0.0004
DUP-5			0.0014		
Sed 2625N	Arsenic	Sediment	2.76	5.97 %	40%
Sed DUP-1			2.60		
Sed 2625N	Iron	Sediment	291	8.87 %	40%
Sed DUP-1			318		
Sed 2050N	Arsenic	Sediment	5.89	71.4 %	40%
Sed DUP-2			2.79		
Sed 2050N	Iron	Sediment	2460	153 %	40%
Sed DUP-2			325		
Sed 350N	Arsenic	Sediment	2.57	8.21 %	40%
Sed DUP-3			2.79		
Sed 350N	Iron	Sediment	509	32.2 %	40%
Sed DUP-3			368		

[1]Units for aqueous sample results = mg/L. Units for sediment sample results = mg/Kg.

Attachment A

Laboratory Reports
(electronic format)

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

05 October 2021

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 16-Jun-2021-21-Jun-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
MW53M	21F1601-01	Water	14-Jun-2021	16-Jun-2021
MP-7L	21F1601-02	Water	14-Jun-2021	16-Jun-2021
MP-8L	21F1601-03	Water	14-Jun-2021	16-Jun-2021
MP-1L	21F1601-04	Water	14-Jun-2021	16-Jun-2021
MP-6L	21F1601-05	Water	14-Jun-2021	16-Jun-2021
PZ-11	21F1601-06	Water	14-Jun-2021	16-Jun-2021
PZ-9	21F1601-07	Water	14-Jun-2021	16-Jun-2021
WW25M	21F1601-08	Water	14-Jun-2021	16-Jun-2021
PZ-17	21F1601-09	Water	14-Jun-2021	16-Jun-2021
DUP-1	21F1601-10	Water	14-Jun-2021	16-Jun-2021
MW52S	21F1601-11	Water	15-Jun-2021	16-Jun-2021
PD2P3	21F1601-12	Water	15-Jun-2021	16-Jun-2021
PD2P2	21F1601-13	Water	15-Jun-2021	16-Jun-2021
PD2P1	21F1601-14	Water	15-Jun-2021	16-Jun-2021
PZ-12	21F1601-15	Water	15-Jun-2021	16-Jun-2021
MP-9L	21F1601-16	Water	15-Jun-2021	16-Jun-2021
MP-5L	21F1601-17	Water	15-Jun-2021	16-Jun-2021
MP-4L	21F1601-18	Water	15-Jun-2021	16-Jun-2021
MP-3L	21F1601-19	Water	15-Jun-2021	16-Jun-2021
MP-2L	21F1601-20	Water	15-Jun-2021	16-Jun-2021
PZ-10	21F1601-21	Water	15-Jun-2021	16-Jun-2021
DUP-2	21F1601-22	Water	15-Jun-2021	16-Jun-2021
MW57S	21F1704-01	Water	16-Jun-2021	21-Jun-2021
MW57M	21F1704-02	Water	16-Jun-2021	21-Jun-2021
MW41M	21F1704-03	Water	16-Jun-2021	21-Jun-2021
MW31M	21F1704-04	Water	16-Jun-2021	21-Jun-2021
MW75S	21F1704-05	Water	16-Jun-2021	21-Jun-2021
MW73S	21F1704-06	Water	16-Jun-2021	21-Jun-2021
EW08S	21F1704-07	Water	16-Jun-2021	21-Jun-2021
MW61S	21F1704-08	Water	17-Jun-2021	21-Jun-2021
MW61M	21F1704-09	Water	17-Jun-2021	21-Jun-2021

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
PZ-3	21F1704-10	Water	17-Jun-2021	21-Jun-2021
MW28M	21F1704-11	Water	17-Jun-2021	21-Jun-2021
MW28S	21F1704-12	Water	17-Jun-2021	21-Jun-2021
EW07S	21F1704-13	Water	17-Jun-2021	21-Jun-2021
PZ-15	21F1704-14	Water	17-Jun-2021	21-Jun-2021
DUP-3	21F1704-15	Water	16-Jun-2021	21-Jun-2021
MW73M	21F1704-16	Water	16-Jun-2021	21-Jun-2021

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

Case Narrative

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Result is an estimated concentration. It is detected but below the Reporting Limit (Limit of Quantitation) or the supporting QC does not meet the acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW53M

21F1601-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0126**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.699**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-7L

21F1601-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**1.44**	0.0100	0.0200	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**17.5**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-8L

21F1601-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**1.03**	0.0100	0.0200	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**12.4**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-1L

21F1601-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**1.23**	0.0100	0.0200	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**16.7**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-6L

21F1601-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0165**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.826**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-11

21F1601-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0915**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.0222**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	J

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USACE ERDC-EP-C
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Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-9

21F1601-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.467**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**3.79**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

WW25M

21F1601-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.370**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**4.80**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-17

21F1601-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.524**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**15.7**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

DUP-1

21F1601-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.526**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**15.5**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW52S

21F1601-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0957**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**2.38**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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Philadelphia District	Project: Vineland	
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PD2P3

21F1601-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0115**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.0163**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PD2P2

21F1601-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.408**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**16.4**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PD2P1

21F1601-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.580**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**17.4**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-12

21F1601-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.371**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**16.0**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-9L

21F1601-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.204**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**2.38**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-5L

21F1601-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0034**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.602**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-4L

21F1601-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0021**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.120**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-3L

21F1601-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0459**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.711**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MP-2L

21F1601-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0341**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**2.57**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-10

21F1601-21 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0074**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.489**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

DUP-2

21F1601-22 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.206**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**2.37**	0.0080	0.0400	mg/L	16-Jun-2021	17-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW57S

21F1704-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	ND	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	U
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW57M

21F1704-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	ND	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	U
Iron	**0.581**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW41M

21F1704-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.176**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**7.68**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW31M

21F1704-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**1.37**	0.0100	0.0200	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**16.4**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW75S

21F1704-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**2.24**	0.0200	0.0400	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**12.4**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW73S

21F1704-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0829**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

EW08S

21F1704-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.522**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.0307**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW61S

21F1704-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0446**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW61M

21F1704-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.222**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-3

21F1704-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.106**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW28M

21F1704-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**3.79**	0.0200	0.0400	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**8.61**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW28S

21F1704-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.0377**	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.0702**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

EW07S

21F1704-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.299**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**0.148**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

PZ-15

21F1704-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**0.142**	0.0050	0.0100	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**8.02**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

DUP-3

21F1704-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	ND	0.0010	0.0020	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	U
Iron	ND	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

MW73M

21F1704-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic	**1.94**	0.0100	0.0200	mg/L	22-Jun-2021	22-Jun-2021	GF-AAS 7000	
Iron	**5.28**	0.0080	0.0400	mg/L	23-Jun-2021	23-Jun-2021	SW 846/6010	

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21F174 - Default Prep Metals											
Blank (B21F174-BLK1)					Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	0.0087	0.0040	0.0200	mg/L							J
Blank (B21F174-BLK2)					Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	ND	0.0040	0.0200	mg/L							U
LCS (B21F174-BS1)					Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	50.0	0.0040	0.0200	mg/L	50.00		99.9	80-120			
LCS (B21F174-BS2)					Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	49.9	0.0040	0.0200	mg/L	50.00		99.8	80-120			
Duplicate (B21F174-DUP1)		**Source: 21F1601-01**			Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	0.698	0.0080	0.0400	mg/L		0.699			0.224	20	
Duplicate (B21F174-DUP2)		**Source: 21F1601-22**			Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	2.29	0.0080	0.0400	mg/L		2.37			3.60	20	
Matrix Spike (B21F174-MS1)		**Source: 21F1601-01**			Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	101	0.0080	0.0400	mg/L	100.0	0.699	100	80-120			
Matrix Spike (B21F174-MS2)		**Source: 21F1601-22**			Prepared: 16-Jun-2021 Analyzed: 17-Jun-2021						
Iron	105	0.0080	0.0400	mg/L	100.0	2.37	103	80-120			
Batch B21F249 - Default Prep Metals											
Blank (B21F249-BLK1)					Prepared & Analyzed: 23-Jun-2021						
Iron	ND	0.0040	0.0200	mg/L							U

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21F249 - Default Prep Metals											
LCS (B21F249-BS1)					Prepared & Analyzed: 23-Jun-2021						
Iron	49.6	0.0040	0.0200	mg/L	50.00		99.1	80-120			
Duplicate (B21F249-DUP1)		**Source: 21F1704-01**			Prepared & Analyzed: 23-Jun-2021						
Iron	ND	0.0080	0.0400	mg/L		ND				20	U
Matrix Spike (B21F249-MS1)		**Source: 21F1704-01**			Prepared & Analyzed: 23-Jun-2021						
Iron	97.6	0.0080	0.0400	mg/L	100.0	ND	97.6	80-120			
Batch B21I113 - Default Prep Metals											
Blank (B21I113-BLK1)					Prepared & Analyzed: 22-Jun-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
Blank (B21I113-BLK2)					Prepared & Analyzed: 22-Jun-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
LCS (B21I113-BS1)					Prepared & Analyzed: 22-Jun-2021						
Arsenic	0.0254	0.0005	0.0010	mg/L	0.02500		102	80-120			
LCS (B21I113-BS2)					Prepared & Analyzed: 22-Jun-2021						
Arsenic	0.0254	0.0005	0.0010	mg/L	0.02500		101	80-120			
Duplicate (B21I113-DUP1)		**Source: 21F1601-01**			Prepared & Analyzed: 22-Jun-2021						
Arsenic	0.0124	0.0010	0.0020	mg/L		0.0126			1.15	20	
Duplicate (B21I113-DUP2)		**Source: 21F1704-01**			Prepared & Analyzed: 22-Jun-2021						
Arsenic	ND	0.0010	0.0020	mg/L		ND				20	U

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	05-Oct-2021

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21I113 - Default Prep Metals											
Matrix Spike (B21I113-MS1)		**Source: 21F1601-01**			Prepared & Analyzed: 22-Jun-2021						
Arsenic	0.0631	0.0010	0.0020	mg/L	0.05000	0.0126	101	80-120			
Matrix Spike (B21I113-MS2)		**Source: 21F1704-01**			Prepared & Analyzed: 22-Jun-2021						
Arsenic	0.0485	0.0010	0.0020	mg/L	0.05000	ND	97.0	80-120			

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U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Chem.

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DISS. AS Fe	REMARKS
	6/14/21	0815		X	MW53M	1	1	please email results to:
		0840			MP-7L			
		0910			MP-8L			bailey.L.calvitti@usace.army.mil
		0940			MP-1L			
		1010			MP-6L			lily.sehayek@usace.army.mil
		1045			PZ-11			
		1120			PZ-9			joseph.m.loeper@usace.army.mil
		1145			WW25M			
		1215			PZ-17			
		—			DUP-1			
	6/15/21	0820			MW52S			
		0840			PD2P3			
		0905			PD2P2			
		0935			PD2P1			
		1005			PZ-12			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	6/15/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Emma Nash	06/16/21 1155	6.4C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

11963

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Chem

SAMPLERS: (Signature) Bailey Calvetti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DISS. As, Fe						REMARKS
	6/15/21	1025		X	MP-9L	1	1						
	↓	1055		↓	MP-5L	↓	↓						
		1120			MP-4L								
		1150			MP-3L								
		1215			MP-2L								
		1250			PZ-10								
	↓	—		↓	DUP-2	↓	↓						

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvetti	6/15/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	06/16/21 1155	6.4C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

11977

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Chem.

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	DISS. As, Fe	REMARKS
	6/16/21	0815		X	MW57S	1	1	please email results to:
		0840			MW57M			
		—			DUP-3			bailey.L.calvitti@usace.army.mil
		0955			MW41M			
		1045			MW31M			lily.sehayek@usace.army.mil
		1130			MW75S			
		1220			MW73S			
		1245			MW73M			~~loep~~
		1340			EW08S			joseph.m.loeper@usace.army.mil
	6/17/21	0835			MW61S			
		0850			MW61M			
		0920			PZ-3			
		1035			MW28M			
		1050			MW28S			
		1155			EW07S			
		1310			PZ-15			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	6/17/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[signature]	06/21/21 1129	24.9	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

13108

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

12 October 2021

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 09-Jul-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
DUP-1	21G0904-01	Water	07-Jul-2021	09-Jul-2021
DUP-2	21G0904-02	Water	07-Jul-2021	09-Jul-2021
POND 3B	21G0904-03	Water	07-Jul-2021	09-Jul-2021
POND 3A	21G0904-04	Water	07-Jul-2021	09-Jul-2021
POND 1	21G0904-05	Water	07-Jul-2021	09-Jul-2021
POND 2	21G0904-06	Water	07-Jul-2021	09-Jul-2021
P2D1	21G0904-07	Water	07-Jul-2021	09-Jul-2021
P2D2	21G0904-08	Water	07-Jul-2021	09-Jul-2021
P3D1	21G0904-09	Water	07-Jul-2021	09-Jul-2021
SW 00N	21G0904-10	Water	07-Jul-2021	09-Jul-2021
SW 125N	21G0904-11	Water	07-Jul-2021	09-Jul-2021
SW 225N	21G0904-12	Water	07-Jul-2021	09-Jul-2021
SW 225S	21G0904-13	Water	07-Jul-2021	09-Jul-2021
SW 350N	21G0904-14	Water	07-Jul-2021	09-Jul-2021
SW 350S	21G0904-15	Water	07-Jul-2021	09-Jul-2021
SW 450N	21G0904-16	Water	07-Jul-2021	09-Jul-2021
SW 450S	21G0904-17	Water	07-Jul-2021	09-Jul-2021
SW 575N	21G0904-18	Water	07-Jul-2021	09-Jul-2021
SW 575S	21G0904-19	Water	07-Jul-2021	09-Jul-2021
SW 800N	21G0904-20	Water	07-Jul-2021	09-Jul-2021
SW 800S	21G0904-21	Water	07-Jul-2021	09-Jul-2021
SW 1025N	21G0904-22	Water	07-Jul-2021	09-Jul-2021
SW 1025S	21G0904-23	Water	07-Jul-2021	09-Jul-2021
SW 1200N	21G0904-24	Water	07-Jul-2021	09-Jul-2021
SW 1200S	21G0904-25	Water	07-Jul-2021	09-Jul-2021
SW SG5N	21G0904-26	Water	07-Jul-2021	09-Jul-2021
SW SG5S	21G0904-27	Water	07-Jul-2021	09-Jul-2021
SW SG6N	21G0904-28	Water	07-Jul-2021	09-Jul-2021
SW SG6S	21G0904-29	Water	07-Jul-2021	09-Jul-2021
SW SG7S	21G0904-30	Water	07-Jul-2021	09-Jul-2021
SW 1500N	21G0904-31	Water	08-Jul-2021	09-Jul-2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
SW 1500S	21G0904-32	Water	08-Jul-2021	09-Jul-2021
SW 1600N	21G0904-33	Water	08-Jul-2021	09-Jul-2021
SW 1600S	21G0904-34	Water	08-Jul-2021	09-Jul-2021
SW 1700N	21G0904-35	Water	08-Jul-2021	09-Jul-2021
SW 1700S	21G0904-36	Water	08-Jul-2021	09-Jul-2021
SW 1825N	21G0904-37	Water	08-Jul-2021	09-Jul-2021
SW 1825S	21G0904-38	Water	08-Jul-2021	09-Jul-2021
SW 1875N	21G0904-39	Water	08-Jul-2021	09-Jul-2021
SW 1875S	21G0904-40	Water	08-Jul-2021	09-Jul-2021
SW 1900S	21G0904-41	Water	08-Jul-2021	09-Jul-2021
SW 1950N	21G0904-42	Water	08-Jul-2021	09-Jul-2021
SW 1950S	21G0904-43	Water	08-Jul-2021	09-Jul-2021
SW 2025N	21G0904-44	Water	08-Jul-2021	09-Jul-2021
SW 2025S	21G0904-45	Water	08-Jul-2021	09-Jul-2021
SW 2050N	21G0904-46	Water	08-Jul-2021	09-Jul-2021
SW 2075N	21G0904-47	Water	08-Jul-2021	09-Jul-2021
SW 2100N	21G0904-48	Water	08-Jul-2021	09-Jul-2021
SW 2100S	21G0904-49	Water	08-Jul-2021	09-Jul-2021
SW 2200N	21G0904-50	Water	08-Jul-2021	09-Jul-2021
SW 2200S	21G0904-51	Water	08-Jul-2021	09-Jul-2021
SW 2225N	21G0904-52	Water	08-Jul-2021	09-Jul-2021
SW 2275N	21G0904-53	Water	08-Jul-2021	09-Jul-2021
SW 2350N	21G0904-54	Water	08-Jul-2021	09-Jul-2021
SW 2350S	21G0904-55	Water	08-Jul-2021	09-Jul-2021
SW 2400N	21G0904-56	Water	08-Jul-2021	09-Jul-2021
SW 2450S	21G0904-57	Water	08-Jul-2021	09-Jul-2021
SW 2475N	21G0904-58	Water	08-Jul-2021	09-Jul-2021
SW 2500N	21G0904-59	Water	08-Jul-2021	09-Jul-2021
SW 2500S	21G0904-60	Water	08-Jul-2021	09-Jul-2021
SW 2250S	21G0904-61	Water	08-Jul-2021	09-Jul-2021
SW 2600N	21G0904-62	Water	08-Jul-2021	09-Jul-2021
SW 2600S	21G0904-63	Water	08-Jul-2021	09-Jul-2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
SW 2625N	21G0904-64	Water	08-Jul-2021	09-Jul-2021
SW 2625S	21G0904-65	Water	08-Jul-2021	09-Jul-2021
SW 2650S	21G0904-66	Water	08-Jul-2021	09-Jul-2021
SW 2700S	21G0904-67	Water	08-Jul-2021	09-Jul-2021
SW 2775N	21G0904-68	Water	08-Jul-2021	09-Jul-2021
SW 2775S	21G0904-69	Water	08-Jul-2021	09-Jul-2021
SW 2875N	21G0904-70	Water	08-Jul-2021	09-Jul-2021
SW 2875S	21G0904-71	Water	08-Jul-2021	09-Jul-2021
SW 2950N	21G0904-72	Water	08-Jul-2021	09-Jul-2021
SW 2950S	21G0904-73	Water	08-Jul-2021	09-Jul-2021
DUP-3	21G0904-74	Water	08-Jul-2021	09-Jul-2021
DUP-4	21G0904-75	Water	08-Jul-2021	09-Jul-2021
DUP-5	21G0904-76	Water	08-Jul-2021	09-Jul-2021
SW 2275 S	21G0904-77	Water	08-Jul-2021	09-Jul-2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Result is an estimated concentration. It is detected but below the Reporting Limit (Limit of Quantitation) or the supporting QC does not meet the acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

DUP-1

21G0904-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0262**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

DUP-2

21G0904-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

POND 3B

21G0904-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0258**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

POND 3A

21G0904-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0258**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

POND 1

21G0904-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0541**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

POND 2

21G0904-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0951**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

P2D1

21G0904-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0895**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

P2D2

21G0904-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.210**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

P3D1

21G0904-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0312**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 00N

21G0904-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0032**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 125N

21G0904-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0025**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 225N

21G0904-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 225S

21G0904-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0092**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 350N

21G0904-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 350S

21G0904-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 450N

21G0904-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0021**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 450S

21G0904-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 575N

21G0904-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 575S

21G0904-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 800N

21G0904-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0026**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 800S

21G0904-21 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1025N

21G0904-22 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0026**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1025S

21G0904-23 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0026**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1200N

21G0904-24 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0062**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1200S

21G0904-25 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW SG5N

21G0904-26 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW SG5S

21G0904-27 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW SG6N

21G0904-28 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0055**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW SG6S

21G0904-29 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0025**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW SG7S

21G0904-30 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0032**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1500N

21G0904-31 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0055**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1500S

21G0904-32 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1600N

21G0904-33 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0032**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1600S

21G0904-34 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1700N

21G0904-35 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0024**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1700S

21G0904-36 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1825N

21G0904-37 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0027**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1825S

21G0904-38 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0025**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1875N

21G0904-39 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0023**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1875S

21G0904-40 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1900S

21G0904-41 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1950N

21G0904-42 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0022**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 1950S

21G0904-43 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0021**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2025N

21G0904-44 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0020**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2025S

21G0904-45 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0020**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2050N

21G0904-46 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0021**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2075N

21G0904-47 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0019**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2100N

21G0904-48 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0019**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2100S

21G0904-49 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0019**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2200N

21G0904-50 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0018**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2200S

21G0904-51 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0018**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2225N

21G0904-52 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0031**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2275N

21G0904-53 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0018**	0.0010	0.0020	mg/L	12-Jul-2021	12-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2350N

21G0904-54 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0018**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2350S

21G0904-55 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0017**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2400N

21G0904-56 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0017**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2450S

21G0904-57 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0017**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2475N

21G0904-58 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0015**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2500N

21G0904-59 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2500S

21G0904-60 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2250S

21G0904-61 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2600N

21G0904-62 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0015**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2600S

21G0904-63 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2625N

21G0904-64 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2625S

21G0904-65 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0017**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2650S

21G0904-66 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0029**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2700S

21G0904-67 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0019**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2775N

21G0904-68 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0015**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2775S

21G0904-69 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0015**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2875N

21G0904-70 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0014**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2875S

21G0904-71 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0015**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2950N

21G0904-72 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0014**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2950S

21G0904-73 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0014**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

DUP-3

21G0904-74 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0020**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

DUP-4

21G0904-75 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0016**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

DUP-5

21G0904-76 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0014**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW 2275 S

21G0904-77 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0020**	0.0010	0.0020	mg/L	12-Jul-2021	13-Jul-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21I112 - Default Prep Metals											
Blank (B21I112-BLK1)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
Blank (B21I112-BLK2)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
Blank (B21I112-BLK3)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
Blank (B21I112-BLK4)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
LCS (B21I112-BS1)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0248	0.0005	0.0010	mg/L	0.02500		99.3	80-120			
LCS (B21I112-BS2)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0249	0.0005	0.0010	mg/L	0.02500		99.6	80-120			
LCS (B21I112-BS3)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0243	0.0005	0.0010	mg/L	0.02500		97.0	80-120			
LCS (B21I112-BS4)					Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0249	0.0005	0.0010	mg/L	0.02500		99.5	80-120			
Duplicate (B21I112-DUP1)		**Source: 21G0904-01**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0266	0.0010	0.0020	mg/L		0.0262			1.64	20	
Duplicate (B21I112-DUP2)		**Source: 21G0904-21**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0023	0.0010	0.0020	mg/L		0.0024			3.37	20	

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21I112 - Default Prep Metals											
Duplicate (B21I112-DUP3)		**Source: 21G0904-41**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0023	0.0010	0.0020	mg/L		0.0022			4.91	20	
Duplicate (B21I112-DUP4)		**Source: 21G0904-61**			Prepared: 12-Jul-2021 Analyzed: 13-Jul-2021						
Arsenic	0.0016	0.0010	0.0020	mg/L		0.0016			2.75	20	J
Matrix Spike (B21I112-MS1)		**Source: 21G0904-01**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0748	0.0010	0.0020	mg/L	0.05000	0.0262	97.2	80-120			
Matrix Spike (B21I112-MS2)		**Source: 21G0904-21**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0517	0.0010	0.0020	mg/L	0.05000	0.0024	98.7	80-120			
Matrix Spike (B21I112-MS3)		**Source: 21G0904-41**			Prepared & Analyzed: 12-Jul-2021						
Arsenic	0.0516	0.0010	0.0020	mg/L	0.05000	0.0022	98.7	80-120			
Matrix Spike (B21I112-MS4)		**Source: 21G0904-61**			Prepared: 12-Jul-2021 Analyzed: 13-Jul-2021						
Arsenic	0.0514	0.0010	0.0020	mg/L	0.05000	0.0016	99.5	80-120			

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U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Tot. AS	REMARKS
	7/7/21	–		X	DUP-1	1	1	Please email results to:
		–			DUP-2			
		0832			Pond 3B			bailey.L.calvitti@usace.army.mil
		0830			Pond 3A			
		0840			Pond 1			lily.sehayek@usace.army.mil
		0846			Pond 2			
		0851			P2D1			joseph.m.loeper@usace.army.mil
		0852			P2D2			
		0910			P3D1			
		0900			SW00N			
		0904			SW125N			
		0907			SW225N			
		0907			SW225S			
		0913			SW350N			
		0913			SW350S			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	7/8/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Hayley Salen	7/11/21 1500	7.0°C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

13109

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: (Signature) Bailey Calvetti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TOT. AS						REMARKS
	7/7/21	0917		X	SW 450 N	1	1						
		0917			SW 450 S								
		0925			SW 575 N								
		0925			SW 575 S								
		0932			SW 800 N								
		0932			SW 800 S								
		0938			SW 1025 N								
		0938			SW 1025 S								
		0950			SW 1200 N								
		0950			SW 1200 S								
		0945			SW SG5N								
		0945			SW SG5S								
		0929			SW SG6N								
		0929			SW SG6S								
		0920			SW SG7S								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvetti	7/8/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Hayley Saler	7/9/21 1500		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

13110

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TOT. AS						REMARKS
	7/8/21	0831		X	SW 1500 N	1	1						
		0831			SW 1500 S								
		0835			SW 1600 N								
		0835			SW 1600 S								
		0841			SW 1700 N								
		0841			SW 1700 S								
		0848			SW 1825 N								
		0848			SW 1825 S								
		0850			SW 1875 N								
		0850			SW 1875 S								
		0852			SW 1900 S								
		0854			SW 1950 N								
		0854			SW 1950 S								
		0900			SW 2025 N								
		0900			SW 2025 S								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	7/8/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Hayley Lalu	7/9/21 1500		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

12885

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: (Signature) Bailey Calvetti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Tot. AS	REMARKS
	7/8/21	0902		X	SW 2050 N	1	1	
		0905			SW 2075 N			
		0910			SW 2100 N			
		0910			SW 2100 S			
		0916			SW 2200 N			
		0916			SW 2200 S			
		0918			SW 2225 N			
		0920			SW 2275 N/S	2	2	
		0924			SW 2350 N	1	1	
		0924			SW 2350 S			
		0926			SW 2400 N			
		0928			SW 2450 S			
		0929			SW 2475 N			
		0932			SW 2500 N			
		0932			SW 2500 S			

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvetti	7/8/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Hayley Kelm	7/9/21 1500		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

12886

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: (Signature) Bailey Calvetti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TOT. AS	REMARKS
	7/8/21	0936		X	SW 2550S	1	1	
		0940			SW 2600N			
		0940			SW 2600S			
		0943			SW 2625N			
		0943			SW 2625S			
		0945			SW 2650S			
		0948			SW 2700S			
		0951			SW 2775N			
		0951			SW 2775S			
		0957			SW 2875N			
		0957			SW 2875S			
		1000			SW 2950N			
		1000			SW 2950S			
		~~1007~~			~~SW 3011N~~			
		—			DUP-3			BC

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvetti	7/8/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		Hayley Aiken	7/9/21 1500		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

12887

U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Superfund

SAMPLERS: *(Signature)* Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	TOT. AS						REMARKS
	7/8/21	–		X	DUP-4	1	1						
	↓	–		↓	DUP-5	↓	↓						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Bailey Calvitti	7/8/21 1600				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
		Hayley Palm	7/9/21 1500		

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

12889

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

12 October 2021

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 20-Jul-2021-20-Jul-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
SW Seep 4	21G2006-01	Water	16-Jul-2021	20-Jul-2021
SW Seep 2	21G2006-02	Water	16-Jul-2021	20-Jul-2021
SW Seep 2450S	21G2006-03	Water	16-Jul-2021	20-Jul-2021
SW Seep 2370N	21G2006-04	Water	16-Jul-2021	20-Jul-2021
SW Seep MW61N	21G2006-05	Water	16-Jul-2021	20-Jul-2021
SW Seep 2425S	21G2006-06	Water	16-Jul-2021	20-Jul-2021
SW Seep 2500S	21G2006-07	Water	16-Jul-2021	20-Jul-2021
Sed Seep MW-61N	21G2007-01	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep MW-61N-PZ-4	21G2007-02	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep MW-4NE	21G2007-03	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep 2350N	21G2007-04	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep 2500S	21G2007-05	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep 2450S	21G2007-06	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep 2425S	21G2007-07	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed Seep 2370N	21G2007-08	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2875C	21G2007-09	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2775C	21G2007-10	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2625N	21G2007-11	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2400N	21G2007-12	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2350N	21G2007-13	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2275S	21G2007-14	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2150S	21G2007-15	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 2050N	21G2007-16	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 1950N	21G2007-17	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 1700N	21G2007-18	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 1025S	21G2007-19	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 800S	21G2007-20	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 450N	21G2007-21	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 350N	21G2007-22	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed 225S	21G2007-23	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed DUP-1	21G2007-24	Soil/Sediment	16-Jul-2021	20-Jul-2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Sed DUP-2	21G2007-25	Soil/Sediment	16-Jul-2021	20-Jul-2021
Sed DUP-3	21G2007-26	Soil/Sediment	16-Jul-2021	20-Jul-2021

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Case Narrative

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Notes and Definitions

U	Analyte included in the analysis, but not detected
RPD-06	RPD between duplicate samples or spikes exceeds acceptance limit.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 4

21G2006-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.728**	0.0100	0.0200	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 2

21G2006-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.27**	0.0250	0.0500	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 2450S

21G2006-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0087**	0.0010	0.0020	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 2370N

21G2006-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.792**	0.0100	0.0200	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep MW61N

21G2006-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.43**	0.0250	0.0500	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 2425S

21G2006-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**1.32**	0.0100	0.0200	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

SW Seep 2500S

21G2006-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0515**	0.0010	0.0020	mg/L	05-Aug-2021	05-Aug-2021	GF-AAS 7000	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep MW-61N

21G2007-01 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**10.5**	0.393	0.982	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**673**	0.393	0.982	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep MW-61N-PZ-4

21G2007-02 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.89**	0.393	0.983	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**529**	0.393	0.983	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep MW-4NE

21G2007-03 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**4.76**	0.391	0.977	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**551**	0.391	0.977	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep 2350N

21G2007-04 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**3.00**	0.381	0.952	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**342**	0.381	0.952	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep 2500S

21G2007-05 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**11.3**	0.382	0.956	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**1210**	0.382	0.956	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep 2450S

21G2007-06 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.33**	0.360	0.901	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**267**	0.360	0.901	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep 2425S

21G2007-07 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**6.84**	0.399	0.996	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**588**	0.399	0.996	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed Seep 2370N

21G2007-08 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**16.6**	0.373	0.933	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**395**	0.373	0.933	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2875C

21G2007-09 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**6.76**	0.391	0.977	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**461**	0.391	0.977	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2775C

21G2007-10 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**3.19**	0.387	0.968	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**614**	0.387	0.968	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2625N

21G2007-11 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.76**	0.399	0.998	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**291**	0.399	0.998	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2400N

21G2007-12 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**4.14**	0.381	0.953	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**764**	0.381	0.953	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2350N

21G2007-13 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**7.29**	0.360	0.899	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**757**	0.360	0.899	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2275S

21G2007-14 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**6.80**	0.364	0.909	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**558**	0.364	0.909	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2150S

21G2007-15 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**3.35**	0.352	0.879	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**612**	0.352	0.879	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 2050N

21G2007-16 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**5.89**	0.394	0.985	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**2460**	0.394	0.985	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 1950N

21G2007-17 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**3.88**	0.373	0.933	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**476**	0.373	0.933	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 1700N

21G2007-18 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.45**	0.379	0.947	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**320**	0.379	0.947	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 1025S

21G2007-19 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**1.69**	0.389	0.973	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**422**	0.389	0.973	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 800S

21G2007-20 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.04**	0.388	0.971	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**249**	0.388	0.971	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 450N

21G2007-21 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.71**	0.397	0.992	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**703**	0.397	0.992	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 350N

21G2007-22 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.57**	0.387	0.968	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**509**	0.387	0.968	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed 225S

21G2007-23 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**20.5**	0.398	0.995	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**2340**	0.398	0.995	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed DUP-1

21G2007-24 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.60**	0.389	0.972	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**318**	0.389	0.972	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed DUP-2

21G2007-25 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.79**	0.368	0.921	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**325**	0.368	0.921	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Sed DUP-3

21G2007-26 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**2.79**	0.371	0.928	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	
Iron	**368**	0.371	0.928	mg/kg	19-Jul-2021	20-Aug-2021	SW 846/6010	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21H243 - Default Prep Metals											
Blank (B21H243-BLK1)					Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	ND	0.400	1.00	mg/kg							U
Iron	ND	0.400	1.00	mg/kg							U
Blank (B21H243-BLK2)					Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	ND	0.400	1.00	mg/kg							U
Iron	ND	0.400	1.00	mg/kg							U
LCS (B21H243-BS1)					Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	24.2	0.400	1.00	mg/kg	25.00		96.8	80-120			
Iron	2220	0.400	1.00	mg/kg	2500		89.0	80-120			
LCS (B21H243-BS2)					Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	23.6	0.400	1.00	mg/kg	25.00		94.5	80-120			
Iron	2280	0.400	1.00	mg/kg	2500		91.2	80-120			
Duplicate (B21H243-DUP1)		**Source: 21G2007-01**			Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	7.52	0.398	0.994	mg/kg		10.5			32.9	20	RPD-06
Iron	520	0.398	0.994	mg/kg		673			25.7	20	RPD-06
Duplicate (B21H243-DUP2)		**Source: 21G2007-26**			Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	2.83	0.384	0.959	mg/kg		2.79			1.52	20	
Iron	402	0.384	0.959	mg/kg		368			8.58	20	
Matrix Spike (B21H243-MS1)		**Source: 21G2007-01**			Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	36.9	0.389	0.973	mg/kg	24.32	10.5	109	80-120			
Iron	2950	0.389	0.973	mg/kg	2432	673	93.7	80-120			
Matrix Spike (B21H243-MS2)		**Source: 21G2007-26**			Prepared: 19-Jul-2021 Analyzed: 20-Aug-2021						
Arsenic	25.1	0.385	0.963	mg/kg	24.07	2.79	92.9	80-120			
Iron	2470	0.385	0.963	mg/kg	2407	368	87.1	80-120			

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	12-Oct-2021

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21I116 - Default Prep Metals											
Blank (B21I116-BLK1)					Prepared & Analyzed: 05-Aug-2021						
Arsenic	ND	0.0005	0.0010	mg/L							U
LCS (B21I116-BS1)					Prepared & Analyzed: 05-Aug-2021						
Arsenic	0.0234	0.0005	0.0010	mg/L	0.02500		93.7	80-120			
Duplicate (B21I116-DUP1)		**Source: 21G2006-07**			Prepared & Analyzed: 05-Aug-2021						
Arsenic	0.0517	0.0010	0.0020	mg/L		0.0515			0.485	20	
Matrix Spike (B21I116-MS1)		**Source: 21G2006-07**			Prepared & Analyzed: 05-Aug-2021						
Arsenic	0.109	0.0010	0.0020	mg/L	0.05000	0.0515	115	80-120			

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U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Chem.

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Tot. AS	Tot. AS, Fe	REMARKS
	7/16/21	1100		X	SW Seep 4	1	1		please email results to:
		1102			SW Seep 2				
		0916			SW Seep 2450 S				bailey.l.calvitti@usace.army.mil
		1201			SW Seep 2370 N				
		1215			SW Seep MW61N				lily.sehayek@usace.army.mil
		0914			SW Seep 2425 S				
		0906			SW Seep 2500 S				joseph.m.loeper@usace.army.mil
		1214			Sed Seep MW-61N			1	
		1220			Sed Seep MW-61N-PZ-4				
		1228			Sed Seep PZ-4NE				
		1204			Sed Seep 2350 N				
		0907			Sed Seep 2500 S				
		0918			Sed Seep 2450 S				
		0913			Sed Seep 2425 S				
		1158			Sed Seep 2370 N				

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	7/19/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	07/20/21 1130	4.8C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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U.S. ARMY CORPS OF ENGINEERS

CHAIN OF CUSTODY RECORD

PROJ. NO.

PROJECT NAME: Vineland Chem.

SAMPLERS: (Signature) Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Tot. AS, FE						REMARKS
	7/16/21	0846		X	Sed 2875 C	1	1						
		0850			Sed 2775 C								
		0856			Sed 2625 N								
		0929			Sed 2400 N								
		0952			Sed 2350 N								
		0956			Sed 2275 S								
		1001			Sed 2150 S								
		1004			Sed 2050 N								
		1010			Sed 1950 N								
		1015			Sed 1700 N								
		1026			Sed 1025 S								
		1031			Sed 800 S								
		1038			Sed 450 N								
		1041			Sed 350 N								
		1055			Sed 225 S								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Bailey Calvitti	7/19/21 1600				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	
		[illegible]	07/20/21 1130	4.8C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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U.S. ARMY CORPS OF ENGINEERS

Pg 3. of 3

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
	Vineland Chem.

SAMPLERS: *(Signature)* Bailey Calvitti

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	Tot. As, Fe						REMARKS
	7/16/21	—		X	Sed DUP-1	1	1						
	↓	—		↓	Sed DUP-2	↓	↓						
	↓	—		↓	Sed DUP-3	↓	↓						

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Bailey Calvitti	7/19/21 1600				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
		[signature]	07/20/21 1130	4.8C	

Distribution: Original Accompanies Shipment; Copy to Coordinator Field Files

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Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

Attachment B

Validation EDDs
(electronic format)

Vineland Chemical Company Superfund Site
Data Review Summary
Groundwater, Pore Water, Surface Water and Sediment Sampling
November and December 2021

This report summarizes the findings of the review performed on the laboratory data associated with the analysis of water and sediment samples and associated quality control (QC) samples collected at the Vineland Chemical Superfund Site located in Vineland, New Jersey. The samples were collected by U.S. Army Corps of Engineers (USACE) personnel to monitor environmental quality in Operable Unit-3 at the site. All sampling and analysis activities were performed in accordance with the Final Uniform Federal Policy Quality Assurance Project Plan (USACE, September 2019).

All samples were submitted to the U.S. Army Engineer Research and Development Center (ERDC) Environmental Laboratory in Vicksburg, Mississippi for the analysis of arsenic and iron. Data for the sample analysis was reported in Portable Document Format (PDF) data packages in a reduced deliverables format with a laboratory narrative, sample results, and QC summary forms presenting data for method blanks, laboratory control samples, matrix spike samples, and laboratory duplicate samples. These PDF data packages are provided in Attachment C of this Summary Report. Data review items included the laboratory narrative, sample receipt/chain-of-custody documentation, preservation and holding times, equipment blank results, field duplicate results, and the QC summary forms. Data validation qualifiers were applied using general guidance provided in the "National Functional Guidelines for Inorganic Superfund Methods Data Review", (EPA, January 2017).

All data qualifiers applied to the sample results are described in this report. The final validation results and validation qualifiers have been appended to the EXCEL based electronic data deliverables (EDDs) that were provide by the laboratory. The EDD deliverables with the validation results and qualifiers are included in electronic format in Attachment D of this Summary Report.

Data Review

All "non-detect" sample results have been marked with a validation qualifier of "U" in the validation EDD to indicate that the analyte was not detected at or above the sample Reporting Limit (RL). All positive results reported at concentrations below the RL but above the sample Detection Limit (DL) have been marked with a validation qualifier of "J" in the validation EDD to indicate that the result is an estimated value.

Sample Receipt, Preservation and Holding Times

All sample were received intact at the laboratory under proper chain-of-custody and with proper preservation.

All samples were prepared and analyzed within the required holding times.

Blank Contamination

Qualification based on blank contamination for method and equipment blank samples was not required for any field samples.

Laboratory Control Samples

Analyte recoveries for all Laboratory Control Samples were within laboratory QC limits.

Matrix Spike Analysis

All matrix spike recoveries for samples associated with this event were within laboratory QC limits.

Laboratory Duplicate Sample Analysis

The precision of the laboratory duplicate analysis performed for sample Sed Seep 2370 N marginally exceeded outside of the laboratory QC limit of 20% for relative percent difference (RPD), with a value of 20.9% for iron. No action was taken due to the marginal exceedance. The precision for all other results reported for laboratory duplicate samples was within laboratory QC limits.

Field Duplicate Precision

Twelve field duplicate sample pairs were collected for this sampling event. Field duplicate precision for these sample pairs was evaluated by calculation of the RPD when both sample results were greater than 5X the RL, with QC limits of 35% RPD for aqueous samples and 40% RPD for sediment samples. When one or both sample results were less than 5X the RL, the absolute difference between the two results was used to evaluate precision, with QC limits of 2X the RL for aqueous samples and 3X the RL for sediment samples. The field duplicate results and associated precision evaluation is summarized in Table 1.

Results for all the field duplicate pairs were within project QC limits, except for the surface water duplicate pair collected at location SW 350 N with RPDs for arsenic that were marginally outside the QC limit at 35.5 %. However, the positive result for the duplicated sample was originally marked with a “J” qualifier in the validation EDD to indicate that it is an estimated value. No additional qualification was needed.

Overall Assessment of the Data

All data reported by the laboratory are considered usable and acceptable for the project with the data qualifiers described in this report. The validated sample results and data qualifiers have been added to the validation EDDs associated with each of the laboratory reports.

Table 1

Summary of Field Duplicate Sample Results

Field Duplicate Pairs	Analyte	Matrix[1]	Result	RPD (%) or Difference	QC Limit
MP-7L	Arsenic	Aqueous	1.73	0.576 %	35 %
GW DUP-1			1.74		
MP-7L	Iron	Aqueous	17.3	0.576 %	35 %
GW DUP-1			17.4		
MP-9L	Arsenic	Aqueous	0.284	0.701 %	35 %
GW DUP-2			0.282		
MP-9L	Iron	Aqueous	2.98	3.30 %	35 %
GW DUP-2			3.08		
SW 125 S	Arsenic	Aqueous	0.00148	3.30 %	35 %
SW DUP-1			0.00153		
SW 350 N	Arsenic	Aqueous	0.00209	35.5 %	35 %
SW DUP-2			0.00146		
SW 1200 N	Arsenic	Aqueous	0.00112	0.00 %	35 %
SW DUP-3			0.00112		
SW 1875 S	Arsenic	Aqueous	ND	NA	NA
SW DUP-4			ND		
SW 2275 N	Arsenic	Aqueous	0.00118	8.10 %	35 %
SW DUP-5			0.00128		
WP 2200 B	Arsenic	Aqueous	0.00470	0.00 %	35 %
WP DUP-1			0.00470		
WP 2200 B	Iron	Aqueous	0.189	2.14 %	35 %
WP DUP-1			0.185		
WP 1825 D	Arsenic	Aqueous	0.199	3.58 %	35 %
WP DUP-2			0.192		
WP 1825 D	Iron	Aqueous	0.647	0.776 %	35 %
WP DUP-2			0.642		
WP 350 C	Arsenic	Aqueous	0.0528	0.755 %	35 %
WP DUP-3			0.0532		
WP 350 C	Iron	Aqueous	8.40	2.17 %	35 %
WP DUP-3			8.22		
Sed 1550 S	Arsenic	Sediment	2.65	12.9 %	40%
Sed DUP-1			2.33		
Sed 1550 S	Iron	Sediment	509.	7.30 %	40%
Sed DUP-1			473.		
Sed 2200 N	Arsenic	Sediment	4.98	2.20 %	40%
Sed DUP-2			5.09		
Sed 2200 N	Iron	Sediment	498.	8.10 %	40%
Sed DUP-2			540.		

[1]Units for aqueous sample results = mg/L. Units for sediment sample results = mg/Kg.

Attachment C

Laboratory Reports

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

19 January 2022

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 02-Dec-2021-30-Nov-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
MP-1L	21K2403-01	Water	22-Nov-2021	24-Nov-2021
MP-6L	21K2403-02	Water	22-Nov-2021	24-Nov-2021
MP-8L	21K2403-03	Water	22-Nov-2021	24-Nov-2021
MW-53M	21K2403-04	Water	22-Nov-2021	24-Nov-2021
MP-7L	21K2403-05	Water	22-Nov-2021	24-Nov-2021
MP-2L	21K2403-06	Water	22-Nov-2021	24-Nov-2021
GW DUP-1	21K2403-07	Water	22-Nov-2021	24-Nov-2021
WP 2400-B	21K2403-08	Water	23-Nov-2021	24-Nov-2021
WP 2400-C	21K2403-09	Water	23-Nov-2021	24-Nov-2021
WP 2400-D	21K2403-10	Water	23-Nov-2021	24-Nov-2021
WP 2275 B	21K2403-11	Water	23-Nov-2021	24-Nov-2021
WP 2275 C	21K2403-12	Water	23-Nov-2021	24-Nov-2021
WP 2275 D	21K2403-13	Water	23-Nov-2021	24-Nov-2021
WP 2200 B	21K2403-14	Water	23-Nov-2021	24-Nov-2021
WP 2200 C	21K2403-15	Water	23-Nov-2021	24-Nov-2021
WP 2200 D	21K2403-16	Water	23-Nov-2021	24-Nov-2021
WP 2100 B	21K2403-17	Water	23-Nov-2021	24-Nov-2021
WP 2100 C	21K2403-18	Water	23-Nov-2021	24-Nov-2021
WP 2100 D	21K2403-19	Water	23-Nov-2021	24-Nov-2021
WP DUP-1	21K2403-20	Water	23-Nov-2021	24-Nov-2021
MP-4L	21K3001-01	Water	24-Nov-2021	30-Nov-2021
MP-3L	21K3001-02	Water	24-Nov-2021	30-Nov-2021
MP-9L	21K3001-03	Water	24-Nov-2021	30-Nov-2021
MP-5L	21K3001-04	Water	24-Nov-2021	30-Nov-2021
PZ-12	21K3001-05	Water	24-Nov-2021	30-Nov-2021
MW-52S	21K3001-06	Water	24-Nov-2021	30-Nov-2021
GW DUP-2	21K3001-07	Water	24-Nov-2021	30-Nov-2021
WP 2025 C	21K3001-08	Water	29-Nov-2021	30-Nov-2021
WP 2025 D	21K3001-09	Water	29-Nov-2021	30-Nov-2021
WP 1950 B	21K3001-10	Water	29-Nov-2021	30-Nov-2021
WP 1950 C	21K3001-11	Water	29-Nov-2021	30-Nov-2021

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
WP 1950 D	21K3001-12	Water	29-Nov-2021	30-Nov-2021
WP 1875 B	21K3001-13	Water	29-Nov-2021	30-Nov-2021
WP 1875 C	21K3001-14	Water	29-Nov-2021	30-Nov-2021
WP 1875 D	21K3001-15	Water	29-Nov-2021	30-Nov-2021
WP 1825 B	21K3001-16	Water	29-Nov-2021	30-Nov-2021
WP 1825 C	21K3001-17	Water	29-Nov-2021	30-Nov-2021
WP 1825 D	21K3001-18	Water	29-Nov-2021	30-Nov-2021
WP 1025 B	21K3001-19	Water	29-Nov-2021	30-Nov-2021
WP 1025 C	21K3001-20	Water	29-Nov-2021	30-Nov-2021
WP 1025 D	21K3001-21	Water	29-Nov-2021	30-Nov-2021
WP DUP-2	21K3001-22	Water	29-Nov-2021	30-Nov-2021
WP 800 B	21L0201-01	Water	01-Dec-2021	02-Dec-2021
WP 800 C	21L0201-02	Water	01-Dec-2021	02-Dec-2021
WP 800 D	21L0201-03	Water	01-Dec-2021	02-Dec-2021
WP 450 B	21L0201-04	Water	01-Dec-2021	02-Dec-2021
WP 450 C	21L0201-05	Water	01-Dec-2021	02-Dec-2021
WP 450 D	21L0201-06	Water	01-Dec-2021	02-Dec-2021
WP 350 B	21L0201-07	Water	01-Dec-2021	02-Dec-2021
WP 350 C	21L0201-08	Water	01-Dec-2021	02-Dec-2021
WP 350 D	21L0201-09	Water	01-Dec-2021	02-Dec-2021
WP 225 B	21L0201-10	Water	01-Dec-2021	02-Dec-2021
WP 225 C	21L0201-11	Water	01-Dec-2021	02-Dec-2021
WP 225 D	21L0201-12	Water	01-Dec-2021	02-Dec-2021
WP 125 B	21L0201-13	Water	01-Dec-2021	02-Dec-2021
WP 125 C	21L0201-14	Water	01-Dec-2021	02-Dec-2021
WP 125 D	21L0201-15	Water	01-Dec-2021	02-Dec-2021
MW-41M	21L0201-16	Water	02-Dec-2021	02-Dec-2021
MW-31M	21L0201-17	Water	02-Dec-2021	02-Dec-2021
MW-75S	21L0201-18	Water	02-Dec-2021	02-Dec-2021
MW-73M	21L0201-19	Water	02-Dec-2021	02-Dec-2021
PD2P1	21L0201-20	Water	30-Nov-2021	02-Dec-2021
PD2P2	21L0201-21	Water	30-Nov-2021	02-Dec-2021

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
PD2P3	21L0201-22	Water	30-Nov-2021	02-Dec-2021
PZ-11	21L0201-23	Water	30-Nov-2021	02-Dec-2021
PZ-9	21L0201-24	Water	30-Nov-2021	02-Dec-2021
WP DUP-3	21L0201-25	Water	01-Dec-2021	02-Dec-2021

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Case Narrative

Case Narrative

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Notes and Definitions

U	Analyte included in the analysis, but not detected
QM-11	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to inherent analyte concentration greater than the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
J	Result is an estimated concentration. It is detected but below the Reporting Limit (Limit of Quantitation) or the supporting QC does not meet the acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-1L

21K2403-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**15.8**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**1.40**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-6L

21K2403-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0216**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0047**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-8L

21K2403-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**9.75**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.878**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-53M

21K2403-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**7.52**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.425**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-7L

21K2403-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**17.3**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**1.73**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-2L

21K2403-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**4.65**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0618**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

GW DUP-1

21K2403-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**17.4**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**1.74**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2400-B

21K2403-08 (Water)

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.125**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0201**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2400-C

21K2403-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.212**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0251**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2400-D

21K2403-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.113**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0119**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2275 B

21K2403-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.30**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0457**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2275 C

21K2403-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**9.92**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.211**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2275 D

21K2403-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.60**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.106**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2200 B

21K2403-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.189**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0047**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2200 C

21K2403-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**5.06**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0689**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2200 D

21K2403-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.40**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0939**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2100 B

21K2403-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.21**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.110**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2100 C

21K2403-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**8.74**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.414**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2100 D

21K2403-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.10**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.118**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP DUP-1

21K2403-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.185**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0047**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-4L

21K3001-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0448**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0024**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-3L

21K3001-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.713**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0397**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-9L

21K3001-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.98**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.284**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MP-5L

21K3001-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.18**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0074**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PZ-12

21K3001-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**13.9**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.357**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-52S

21K3001-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.38**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0807**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

GW DUP-2

21K3001-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**3.08**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.282**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2025 C

21K3001-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.27**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0950**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 2025 D

21K3001-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.35**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0944**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1950 B

21K3001-10 (Water)

ERDC-EL-EP-C

Metals (Dissolved) by EPA 6000/7000 Series Methods

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
Iron	**0.0801**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0182**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1950 C

21K3001-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.362**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0024**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1950 D

21K3001-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**8.09**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.114**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1875 B

21K3001-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.08**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0519**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1875 C

21K3001-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.374**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0071**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1875 D

21K3001-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.97**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0196**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1825 B

21K3001-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0212**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0234**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1825 C

21K3001-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.886**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0102**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1825 D

21K3001-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.647**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.199**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1025 B

21K3001-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0187**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0031**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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WP 1025 C

21K3001-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.02**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0012**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 1025 D

21K3001-21 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0632**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0148**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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3909 Halls Ferry Road
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP DUP-2

21K3001-22 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.642**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.192**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 800 B

21L0201-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.41**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.191**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 800 C

21L0201-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.10**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0034**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 800 D

21L0201-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0218**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0090**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 450 B

21L0201-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**16.2**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.111**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 450 C

21L0201-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.74**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0135**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 450 D

21L0201-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.141**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0773**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 350 B

21L0201-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.64**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.138**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 350 C

21L0201-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**8.40**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0528**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 350 D

21L0201-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.975**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0320**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 225 B

21L0201-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0424**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0038**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 225 C

21L0201-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.246**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0020**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 225 D

21L0201-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.671**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0286**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 125 B

21L0201-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.0290**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0069**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 125 C

21L0201-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.306**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0012**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP 125 D

21L0201-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.651**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0124**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-41M

21L0201-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**6.74**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.176**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-31M

21L0201-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**13.1**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**1.33**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-75S

21L0201-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**12.9**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**2.34**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

MW-73M

21L0201-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**3.77**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**1.45**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PD2P1

21L0201-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.08**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0621**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PD2P2

21L0201-21 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**17.4**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.682**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PD2P3

21L0201-22 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**2.68**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.109**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PZ-11

21L0201-23 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.201**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0869**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

PZ-9

21L0201-24 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**4.15**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.527**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

WP DUP-3

21L0201-25 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**8.22**	0.0080	0.0160	mg/L	09-Dec-2021	09-Dec-2021	SW 846/6010	
Arsenic-75 [2]	**0.0532**	0.0004	0.0020	mg/L	07-Dec-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L029 - Default Prep Metals											
Blank (B21L029-BLK1)					Prepared & Analyzed: 09-Dec-2021						
Iron	ND	0.0040	0.0080	mg/L							U
Blank (B21L029-BLK2)					Prepared & Analyzed: 09-Dec-2021						
Iron	ND	0.0040	0.0080	mg/L							U
Blank (B21L029-BLK3)					Prepared & Analyzed: 09-Dec-2021						
Iron	ND	0.0040	0.0080	mg/L							U
Blank (B21L029-BLK4)					Prepared & Analyzed: 09-Dec-2021						
Iron	ND	0.0040	0.0080	mg/L							U
LCS (B21L029-BS1)					Prepared & Analyzed: 09-Dec-2021						
Iron	48.2	0.0040	0.0080	mg/L	50.00		96.5	80-120			
LCS (B21L029-BS2)					Prepared & Analyzed: 09-Dec-2021						
Iron	48.0	0.0040	0.0080	mg/L	50.00		95.9	80-120			
LCS (B21L029-BS3)					Prepared & Analyzed: 09-Dec-2021						
Iron	49.1	0.0040	0.0080	mg/L	50.00		98.2	80-120			
LCS (B21L029-BS4)					Prepared & Analyzed: 09-Dec-2021						
Iron	49.2	0.0040	0.0080	mg/L	50.00		98.3	80-120			
Duplicate (B21L029-DUP1)		**Source: 21K2403-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	15.8	0.0080	0.0160	mg/L		15.8			0.00184	20	
Duplicate (B21L029-DUP2)		**Source: 21K3001-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	0.0433	0.0080	0.0160	mg/L		0.0448			3.36	20	

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L029 - Default Prep Metals											
Duplicate (B21L029-DUP3)		**Source: 21K3001-22**			Prepared & Analyzed: 09-Dec-2021						
Iron	0.635	0.0080	0.0160	mg/L		0.642			1.12	20	
Duplicate (B21L029-DUP4)		**Source: 21L0201-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	1.48	0.0080	0.0160	mg/L		1.41			4.97	20	
Matrix Spike (B21L029-MS1)		**Source: 21K2403-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	116	0.0080	0.0160	mg/L	100.0	15.8	100	80-120			
Matrix Spike (B21L029-MS2)		**Source: 21K3001-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	99.6	0.0080	0.0160	mg/L	100.0	0.0448	99.6	80-120			
Matrix Spike (B21L029-MS3)		**Source: 21K3001-22**			Prepared & Analyzed: 09-Dec-2021						
Iron	100	0.0080	0.0160	mg/L	100.0	0.642	99.5	80-120			
Matrix Spike (B21L029-MS4)		**Source: 21L0201-01**			Prepared & Analyzed: 09-Dec-2021						
Iron	99.5	0.0080	0.0160	mg/L	100.0	1.41	98.1	80-120			
Batch B21L030 - Default Prep Metals											
Blank (B21L030-BLK1)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
Blank (B21L030-BLK2)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
Blank (B21L030-BLK3)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L030 - Default Prep Metals											
Blank (B21L030-BLK4)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
LCS (B21L030-BS1)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.0496	0.0002	0.0010	mg/L	0.05000		99.3	80-120			
LCS (B21L030-BS2)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.0494	0.0002	0.0010	mg/L	0.05000		98.8	80-120			
LCS (B21L030-BS3)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.0492	0.0002	0.0010	mg/L	0.05000		98.4	80-120			
LCS (B21L030-BS4)					Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.0493	0.0002	0.0010	mg/L	0.05000		98.6	80-120			
Duplicate (B21L030-DUP1)		**Source: 21K2403-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	1.43	0.0004	0.0020	mg/L		1.40			1.53	20	
Duplicate (B21L030-DUP2)		**Source: 21K3001-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.0025	0.0004	0.0020	mg/L		0.0024			2.70	20	
Duplicate (B21L030-DUP3)		**Source: 21K3001-22**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.195	0.0004	0.0020	mg/L		0.192			1.47	20	
Duplicate (B21L030-DUP4)		**Source: 21L0201-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.191	0.0004	0.0020	mg/L		0.191			0.0465	20	
Matrix Spike (B21L030-MS1)		**Source: 21K2403-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	1.53	0.0004	0.0020	mg/L	0.1000	1.40	123	80-120			QM-11

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	19-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L030 - Default Prep Metals											
Matrix Spike (B21L030-MS2)		**Source: 21K3001-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.104	0.0004	0.0020	mg/L	0.1000	0.0024	101	80-120			
Matrix Spike (B21L030-MS3)		**Source: 21K3001-22**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.297	0.0004	0.0020	mg/L	0.1000	0.192	105	80-120			
Matrix Spike (B21L030-MS4)		**Source: 21L0201-01**			Prepared & Analyzed: 07-Dec-2021						
Arsenic-75 [2]	0.289	0.0004	0.0020	mg/L	0.1000	0.191	97.8	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	1 of 2 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____ Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
MP-1L	11/22/2021	1045	G		1					1	
MP-6L	11/22/2021	1110	G		1					1	
MP-8L	11/22/2021	1155	G		1					1	
MW-53M	11/22/2021	1225	G		1					1	
MP-7L	11/22/2021	1300	G		1					1	
MP-2L	11/22/2021	1350	G		1					1	
GW DUP-1	11/22/2021	-	G		1					1	
WP 2400 B	11/23/2021	0937	G		1					1	
WP 2400 C	11/23/2021	0935	G		1					1	
WP 2400 D	11/23/2021	0952	G		1					1	
WP 2275 B	11/23/2021	1021	G		1					1	
WP 2275 C	11/23/2021	1022	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/23/21 / 1500	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time: 11/24/2021 1141
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Summer Nash	Company: 2.9C	Date/Time:

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	2 of 2 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____ Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
WP 2275 D	11/23/2021	1055	G		1					1	
WP 2200 B	11/23/2021	1120	G		1					1	
WP 2200 C	11/23/2021	1121	G		1					1	
WP 2200 D	11/23/2021	1143	G		1					1	
WP 2100 B	11/23/2021	1210	G		1					1	
WP 2100 C	11/23/2021	1211	G		1					1	
WP 2100 D	11/23/2021	1230	G		1					1	
WP DUP-1	11/23/2021	-	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		11/23/21 / 1500	Summer Nash		11/24/2021 1147
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

2.9C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No:
1 of 2 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
MP-4L	11/24/2021	0845	G		1					1	
MP-3L	11/24/2021	0905	G		1					1	
MP-9L	11/24/2021	0945	G		1					1	
MP-5L	11/24/2021	1005	G		1					1	
PZ-12	11/24/2021	1035	G		1					1	
MW-52S	11/24/2021	1120	G		1					1	
GW DUP-2	11/24/2021	-	G		1					1	
WP 2025 C	11/29/2021	0942	G		1					1	
WP 2025 D	11/29/2021	0955	G		1					1	
WP 1950 B	11/29/2021	1038	G		1					1	
WP 1950 C	11/29/2021	1022	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/29/21 / 1600	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/30/2021 1125
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4.5C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	2 of 2 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____ Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
WP 1950 D	11/29/2021	1020	G		1					1	
WP 1875 B	11/29/2021	1123	G		1					1	
WP 1875 C	11/29/2021	1105	G		1					1	
WP 1875 D	11/29/2021	1106	G		1					1	
WP 1825 B	11/29/2021	1148	G		1					1	
WP 1825 C	11/29/2021	1147	G		1					1	
WP 1825 D	11/29/2021	1205	G		1					1	
WP 1025 B	11/29/2021	1247	G		1					1	
WP 1025 C	11/29/2021	1243	G		1					1	
WP 1025 D	11/29/2021	1240	G		1					1	
WP DUP-2	11/29/2021	-	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: 4.5C Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/29/21 / 1600	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/30/2021 1125
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4.5C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No:
____1____ of ___3___ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
PD2P1	11/30/2021	0940	G		1					1	
PD2P2	11/30/2021	1025	G		1					1	
PD2P3	11/30/2021	1115	G		1					1	
PZ-11	11/30/2021	1200	G		1					1	
PZ-9	11/30/2021	1240	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 12/2/21 / 1600	Received by:	Company: ERDC	Date/Time: 12/2/2021 1300
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4.8C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____ Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No:
__2__ of __3__ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:
Sample Specific Notes:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe
WP 800 B	12/1/2021	0950	G		1					1
WP 800 C	12/1/2021	0925	G		1					1
WP 800 D	12/1/2021	0930	G		1					1
WP 450 B	12/1/2021	1015	G		1					1
WP 450 C	12/1/2021	1012	G		1					1
WP 450 D	12/1/2021	1030	G		1					1
WP 350 B	12/1/2021	1051	G		1					1
WP 350 C	12/1/2021	1049	G		1					1
WP 350 D	12/1/2021	1110	G		1					1
WP 225 B	12/1/2021	1151	G		1					1
WP 225 C	12/1/2021	1131	G		1					1
WP 225 D	12/1/2021	1134	G		1					1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		12/2/21 / 1600	[illegible]	ERDC	12/2/2021 1300
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4.5C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____ Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No:
___3___ of ___3___ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
WP 125 B	12/1/2021	1228	G		1					1	
WP 125 C	12/1/2021	1210	G		1					1	
WP 125 D	12/1/2021	1212	G		1					1	
WP DUP-3	12/1/2021	-	G		1					1	
MW-41M	12/2/2021	0940	G		1					1	
MW-31M	12/2/2021	1050	G		1					1	
MW-75S	12/2/2021	1130	G		1					1	
MW-73M	12/2/2021	1220	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		12/2/21 /1600	[signature]	ERDC	12/2/2021 1300
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4.8C

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

20 January 2022

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 18-Nov-2021-18-Nov-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Pond 1	21K1801-01	Water	15-Nov-2021	18-Nov-2021
Pond 2	21K1801-02	Water	15-Nov-2021	18-Nov-2021
Pond 3A	21K1801-03	Water	15-Nov-2021	18-Nov-2021
Pond 3B	21K1801-04	Water	15-Nov-2021	18-Nov-2021
P2D1	21K1801-05	Water	15-Nov-2021	18-Nov-2021
P2D2	21K1801-06	Water	15-Nov-2021	18-Nov-2021
P3D1	21K1801-07	Water	15-Nov-2021	18-Nov-2021
SW 2875 N	21K1801-08	Water	16-Nov-2021	18-Nov-2021
SW 2875 S	21K1801-09	Water	16-Nov-2021	18-Nov-2021
SW 2625 N	21K1801-10	Water	16-Nov-2021	18-Nov-2021
SW 2625 S	21K1801-11	Water	16-Nov-2021	18-Nov-2021
SW 2400 N	21K1801-12	Water	16-Nov-2021	18-Nov-2021
SW 2400 S	21K1801-13	Water	16-Nov-2021	18-Nov-2021
SW 2275 N	21K1801-14	Water	16-Nov-2021	18-Nov-2021
SW 2275 S	21K1801-15	Water	16-Nov-2021	18-Nov-2021
SW 2200 N	21K1801-16	Water	16-Nov-2021	18-Nov-2021
SW 2200 S	21K1801-17	Water	16-Nov-2021	18-Nov-2021
SW 2100 N	21K1801-18	Water	16-Nov-2021	18-Nov-2021
SW 2100 S	21K1801-19	Water	16-Nov-2021	18-Nov-2021
SW 2025 N	21K1801-20	Water	16-Nov-2021	18-Nov-2021
SW 2025 S	21K1801-21	Water	16-Nov-2021	18-Nov-2021
SW 1950 N	21K1801-22	Water	16-Nov-2021	18-Nov-2021
SW 1950 S	21K1801-23	Water	16-Nov-2021	18-Nov-2021
SW 1875 N	21K1801-24	Water	16-Nov-2021	18-Nov-2021
SW 1875 S	21K1801-25	Water	16-Nov-2021	18-Nov-2021
SW 1825 N	21K1801-26	Water	16-Nov-2021	18-Nov-2021
SW 1825 S	21K1801-27	Water	16-Nov-2021	18-Nov-2021
SW 1700 N	21K1801-28	Water	16-Nov-2021	18-Nov-2021
SW 1700 S	21K1801-29	Water	16-Nov-2021	18-Nov-2021
SW 1550 N	21K1801-30	Water	16-Nov-2021	18-Nov-2021
SW 1550 S	21K1801-31	Water	16-Nov-2021	18-Nov-2021

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
SW SG5 N	21K1801-32	Water	16-Nov-2021	18-Nov-2021
SW SG5 S	21K1801-33	Water	16-Nov-2021	18-Nov-2021
SW 1200 N	21K1801-34	Water	16-Nov-2021	18-Nov-2021
SW 1200 S	21K1801-35	Water	16-Nov-2021	18-Nov-2021
SW 1025 N	21K1801-36	Water	16-Nov-2021	18-Nov-2021
SW 1025 S	21K1801-37	Water	16-Nov-2021	18-Nov-2021
SW 800 N	21K1801-38	Water	16-Nov-2021	18-Nov-2021
SW 800 S	21K1801-39	Water	16-Nov-2021	18-Nov-2021
SW SG6 N	21K1801-40	Water	16-Nov-2021	18-Nov-2021
SW SG6 S	21K1801-41	Water	16-Nov-2021	18-Nov-2021
SW 450 N	21K1801-42	Water	16-Nov-2021	18-Nov-2021
SW 450 S	21K1801-43	Water	16-Nov-2021	18-Nov-2021
SW 350 N	21K1801-44	Water	16-Nov-2021	18-Nov-2021
SW 350 S	21K1801-45	Water	16-Nov-2021	18-Nov-2021
SW 225 N	21K1803-01	Water	16-Nov-2021	18-Nov-2021
SW 225 S	21K1803-02	Water	16-Nov-2021	18-Nov-2021
SW 125 N	21K1803-03	Water	16-Nov-2021	18-Nov-2021
SW 125 S	21K1803-04	Water	16-Nov-2021	18-Nov-2021
SW DUP-1	21K1803-05	Water	16-Nov-2021	18-Nov-2021
SW DUP-2	21K1803-06	Water	16-Nov-2021	18-Nov-2021
SW DUP-3	21K1803-07	Water	16-Nov-2021	18-Nov-2021
SW DUP-4	21K1803-08	Water	16-Nov-2021	18-Nov-2021
SW DUP-5	21K1803-09	Water	16-Nov-2021	18-Nov-2021
WP 2875 B	21K1803-27	Water	16-Nov-2021	18-Nov-2021
WP 2875 C	21K1803-28	Water	16-Nov-2021	18-Nov-2021
WP 2875 D	21K1803-29	Water	16-Nov-2021	18-Nov-2021
WP 2775 B	21K1803-30	Water	16-Nov-2021	18-Nov-2021
WP 2775 D	21K1803-31	Water	16-Nov-2021	18-Nov-2021
WP 2625 B	21K1803-32	Water	16-Nov-2021	18-Nov-2021
WP 2625 C	21K1803-33	Water	16-Nov-2021	18-Nov-2021
WP 2625 D	21K1803-34	Water	16-Nov-2021	18-Nov-2021
Sed 2625 N	21K1804-01	Soil/Sediment	16-Nov-2021	18-Nov-2021

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Sed 2400 N	21K1804-02	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 2200 N	21K1804-03	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 2150 N	21K1804-04	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 1950 S	21K1804-05	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 1825 N	21K1804-06	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 1700 N	21K1804-07	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 1550 S	21K1804-08	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 1025 S	21K1804-09	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed SG5 S	21K1804-10	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 800 S	21K1804-11	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed SG6 N	21K1804-12	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 450 S	21K1804-13	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 350 N	21K1804-14	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed 225 S	21K1804-15	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed DUP-1	21K1804-16	Soil/Sediment	16-Nov-2021	18-Nov-2021
Sed DUP-2	21K1804-17	Soil/Sediment	16-Nov-2021	18-Nov-2021

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Case Narrative

Case Narrative

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Notes and Definitions

U	Analyte included in the analysis, but not detected
J	Result is an estimated concentration. It is detected but below the Reporting Limit (Limit of Quantitation) or the supporting QC does not meet the acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Pond 1

21K1801-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0124**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Pond 2

21K1801-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0439**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Pond 3A

21K1801-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00820**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Pond 3B

21K1801-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00802**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

P2D1

21K1801-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00503**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

P2D2

21K1801-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.0411**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

P3D1

21K1801-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00182**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2875 N

21K1801-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2875 S

21K1801-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2625 N

21K1801-10 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2625 S

21K1801-11 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2400 N

21K1801-12 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2400 S

21K1801-13 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2275 N

21K1801-14 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00188**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2275 S

21K1801-15 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2200 N

21K1801-16 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2200 S

21K1801-17 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2100 N

21K1801-18 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2100 S

21K1801-19 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2025 N

21K1801-20 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 2025 S

21K1801-21 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1950 N

21K1801-22 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00134**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1950 S

21K1801-23 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1875 N

21K1801-24 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1875 S

21K1801-25 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1825 N

21K1801-26 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1825 S

21K1801-27 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1700 N

21K1801-28 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1700 S

21K1801-29 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1550 N

21K1801-30 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1550 S

21K1801-31 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW SG5 N

21K1801-32 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW SG5 S

21K1801-33 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1200 N

21K1801-34 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00112**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1200 S

21K1801-35 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00101**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1025 N

21K1801-36 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00119**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 1025 S

21K1801-37 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00140**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 800 N

21K1801-38 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00101**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 800 S

21K1801-39 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00129**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW SG6 N

21K1801-40 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00110**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW SG6 S

21K1801-41 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00467**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 450 N

21K1801-42 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 450 S

21K1801-43 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00128**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 350 N

21K1801-44 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00209**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 350 S

21K1801-45 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00160**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 225 N

21K1803-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Arsenic-75 [2]	**0.0011**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	J
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00114**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 225 S

21K1803-02 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00129**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 125 N

21K1803-03 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00146**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW 125 S

21K1803-04 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00148**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW DUP-1

21K1803-05 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00153**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW DUP-2

21K1803-06 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00146**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW DUP-3

21K1803-07 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00112**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW DUP-4

21K1803-08 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	ND	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	U

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

SW DUP-5

21K1803-09 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**0.00128**	0.00100	0.00200	mg/L	22-Nov-2021	22-Nov-2021	EPA 6020	J

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2875 B

21K1803-27 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**3.84**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.329**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2875 C

21K1803-28 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**8.45**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.375**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2875 D

21K1803-29 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**4.32**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.112**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2775 B

21K1803-30 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.53**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.233**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2775 D

21K1803-31 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**1.64**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.103**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2625 B

21K1803-32 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.129**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.0196**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2625 C

21K1803-33 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.973**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.0066**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WP 2625 D

21K1803-34 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**0.221**	0.0080	0.0400	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6010	
Arsenic-75 [2]	**0.0345**	0.0004	0.0020	mg/L	22-Nov-2021	22-Nov-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 2625 N

21K1804-01 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**564**	1.90	9.52	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**1.34**	0.0952	0.476	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 2400 N

21K1804-02 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**516**	1.84	9.19	mg/kg	01-Dec-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**1.77**	0.0919	0.460	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 2200 N

21K1804-03 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**498**	1.94	9.71	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**4.98**	0.0971	0.486	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 2150 N

21K1804-04 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**602**	1.95	9.73	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.32**	0.0973	0.486	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 1950 S

21K1804-05 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**454**	1.85	9.25	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.05**	0.0925	0.462	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 1825 N

21K1804-06 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**387**	1.89	9.47	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.81**	0.0947	0.473	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 1700 N

21K1804-07 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**142**	1.83	9.15	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.20**	0.0915	0.457	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 1550 S

21K1804-08 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**509**	1.87	9.37	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**8.68**	0.0937	0.468	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 1025 S

21K1804-09 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**473**	1.90	9.48	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**2.65**	0.0948	0.474	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed SG5 S

21K1804-10 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**714**	1.96	9.80	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**0.787**	0.0980	0.490	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 800 S

21K1804-11 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**874**	1.76	8.81	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.03**	0.0881	0.440	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed SG6 N

21K1804-12 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**631**	1.77	8.83	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**3.81**	0.0883	0.441	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 450 S

21K1804-13 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**401**	1.81	9.07	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**2.41**	0.0907	0.453	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 350 N

21K1804-14 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**865**	1.85	9.25	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**4.09**	0.0925	0.462	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed 225 S

21K1804-15 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**677**	1.88	9.39	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**1.86**	0.0939	0.469	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
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Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed DUP-1

21K1804-16 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**473**	1.77	8.85	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**2.33**	0.0885	0.442	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Sed DUP-2

21K1804-17 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Iron	**540**	1.98	9.90	mg/kg	24-Nov-2021	10-Dec-2021	SW 846/6010	
Arsenic-75 [1]	**5.09**	0.0990	0.495	mg/kg	24-Nov-2021	07-Dec-2021	SW 846/6020	

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L035 - Default Prep Metals											
Blank (B21L035-BLK1)					Prepared & Analyzed: 22-Nov-2021						
Iron	ND	0.0040	0.0200	mg/L							U
LCS (B21L035-BS1)					Prepared & Analyzed: 22-Nov-2021						
Iron	48.6	0.0040	0.0200	mg/L	50.00		97.3	80-120			
Duplicate (B21L035-DUP1)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Iron	0.652	0.0080	0.0400	mg/L		0.628			3.85	20	
Matrix Spike (B21L035-MS1)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Iron	96.0	0.0080	0.0400	mg/L	100.0	0.628	95.4	80-120			
Batch B22A012 - Default Prep Metals											
Blank (B22A012-BLK1)					Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
LCS (B22A012-BS1)					Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	0.0497	0.0002	0.0010	mg/L	0.05000		99.4	80-120			
Calibration Check (B22A012-CCV1)					Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	0.0509	0.0002	0.0010	mg/L	0.05000		102	90-110			
Calibration Check (B22A012-CCV2)					Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	0.0502	0.0002	0.0010	mg/L	0.05000		100	90-110			
Duplicate (B22A012-DUP1)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	0.0011	0.0004	0.0020	mg/L		0.0011			3.91	20	J

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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A012 - Default Prep Metals											
Matrix Spike (B22A012-MS1)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic-75 [2]	0.107	0.0004	0.0020	mg/L	0.1000	0.0011	106	80-120			

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USACE ERDC-EP-C
3909 Halls Ferry Road
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Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B21L005 - Default Prep Metals											
Blank (B21L005-BLK1)					Prepared: 24-Nov-2021 Analyzed: 10-Dec-2021						
Iron	ND	2.00	10.0	mg/kg							U
LCS (B21L005-BS1)					Prepared: 24-Nov-2021 Analyzed: 10-Dec-2021						
Iron	2520	2.00	10.0	mg/kg	2500		101	80-120			
Duplicate (B21L005-DUP1)		**Source: 21K1804-01**			Prepared: 24-Nov-2021 Analyzed: 10-Dec-2021						
Iron	543	1.91	9.55	mg/kg		564			3.64	20	
Matrix Spike (B21L005-MS1)		**Source: 21K1804-01**			Prepared: 24-Nov-2021 Analyzed: 10-Dec-2021						
Iron	2800	1.92	9.61	mg/kg	2402	564	93.2	80-120			
Batch B21L031 - Default Prep Metals											
Blank (B21L031-BLK1)					Prepared: 24-Nov-2021 Analyzed: 07-Dec-2021						
Arsenic-75 [1]	ND	0.100	0.500	mg/kg							U
LCS (B21L031-BS1)					Prepared: 24-Nov-2021 Analyzed: 07-Dec-2021						
Arsenic-75 [1]	22.3	0.100	0.500	mg/kg	25.00		89.1	80-120			
Duplicate (B21L031-DUP1)		**Source: 21K1804-01**			Prepared: 24-Nov-2021 Analyzed: 07-Dec-2021						
Arsenic-75 [1]	1.32	0.0955	0.478	mg/kg		1.34			0.993	20	
Matrix Spike (B21L031-MS1)		**Source: 21K1804-01**			Prepared: 24-Nov-2021 Analyzed: 07-Dec-2021						
Arsenic-75 [1]	21.2	0.0961	0.480	mg/kg	24.02	1.34	82.7	80-120			
Batch B22A013 - Default Prep Metals											
Blank (B22A013-BLK1)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	ND	5.00E-4	0.00100	mg/L							U

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A013 - Default Prep Metals											
Blank (B22A013-BLK2)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	ND	5.00E-4	0.00100	mg/L							U
Blank (B22A013-BLK3)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	ND	5.00E-4	0.00100	mg/L							U
LCS (B22A013-BS1)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.0500	5.00E-4	0.00100	mg/L	0.05000		100	80-120			
LCS (B22A013-BS2)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.0507	5.00E-4	0.00100	mg/L	0.05000		101	80-120			
LCS (B22A013-BS3)					Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.0497	5.00E-4	0.00100	mg/L	0.05000		99.4	80-120			
Duplicate (B22A013-DUP1)		**Source: 21K1801-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.0125	0.00100	0.00200	mg/L		0.0124			0.677	20	
Duplicate (B22A013-DUP2)		**Source: 21K1801-45**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.00153	0.00100	0.00200	mg/L		0.00160			4.95	20	J
Duplicate (B22A013-DUP3)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.00110	0.00100	0.00200	mg/L		0.00114			3.91	20	J
Matrix Spike (B22A013-MS1)		**Source: 21K1801-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.118	0.00100	0.00200	mg/L	0.1000	0.0124	106	80-120			
Matrix Spike (B22A013-MS2)		**Source: 21K1801-45**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.108	0.00100	0.00200	mg/L	0.1000	0.00160	106	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A013 - Default Prep Metals											
Matrix Spike (B22A013-MS3)		**Source: 21K1803-01**			Prepared & Analyzed: 22-Nov-2021						
Arsenic	0.107	0.00100	0.00200	mg/L	0.1000	0.00114	106	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	1 of 7 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
Pond 1	11/15/2021	1100	G		1			1			
Pond 2	11/15/2021	1105	G		1			1			
Pond 3A	11/15/2021	1120	G		1			1			
Pond 3B	11/15/2021	1122	G		1			1			
P2D1	11/15/2021	1130	G		1			1			
P2D2	11/15/2021	1131	G		1			1			
P3D1	11/15/2021	1140	G		1			1			
SW 2875 N	11/16/2021	1000	G		1			1			
SW 2875 S	11/16/2021	1001	G		1			1			
SW 2625 N	11/16/2021	1004	G		1			1			
SW 2625 S	11/16/2021	1005	G		1			1			
SW 2400 N	11/16/2021	1010	G		1			1			

Preservation Used: 1= Ice, 2= HCl; 3= H_2SO_4; 4=HNO_3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		11/17/21 / 1700			
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Form No. CA-C-WI-002, Rev. 4.18, dated 9/5/2018

7.6C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	2 of 7 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
SW 2400 S	11/16/2021	1011	G		1			1			
SW 2275 N	11/16/2021	1014	G		1			1			
SW 2275 S	11/16/2021	1015	G		1			1			
SW 2200 N	11/16/2021	1018	G		1			1			
SW 2200 S	11/16/2021	1019	G		1			1			
SW 2100 N	11/16/2021	1021	G		1			1			
SW 2100 S	11/16/2021	1022	G		1			1			
SW 2025 N	11/16/2021	1023	G		1			1			
SW 2025 S	11/16/2021	1024	G		1			1			
SW 1950 N	11/16/2021	1027	G		1			1			
SW 1950 S	11/16/2021	1028	G		1			1			
SW 1875 N	11/16/2021	1030	G		1			1			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/17/21 / 1700	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

7.6C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	3 of 7 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____ Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
SW 1875 S	11/16/2021	1031	G		1			1			
SW 1825 N	11/16/2021	1034	G		1			1			
SW 1825 S	11/16/2021	1035	G		1			1			
SW 1700 N	11/16/2021	1037	G		1			1			
SW 1700 S	11/16/2021	1038	G		1			1			
SW 1550 N	11/16/2021	1040	G		1			1			
SW 1550 S	11/16/2021	1041	G		1			1			
SW SG5 N	11/16/2021	1044	G		1			1			
SW SG5 S	11/16/2021	4045	G		1			1			
SW 1200 N	11/16/2021	1048	G		1			1			
SW 1200 S	11/16/2021	1049	G		1			1			
SW 1025 N	11/16/2021	1050	G		1			1			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/17/21 / 1700	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by: [signature]	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

7.6L

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____ Standard TAT ____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No: 4 of 7 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
SW 1025 S	11/16/2021	1051	G		1			1			
SW 800 N	11/16/2021	1054	G		1			1			
SW 800 S	11/16/2021	1055	G		1			1			
SW SG6 N	11/16/2021	1100	G		1			1			
SW SG6 S	11/16/2021	1101	G		1			1			
SW 450 N	11/16/2021	1104	G		1			1			
SW 450 S	11/16/2021	1105	G		1			1			
SW 350 N	11/16/2021	1108	G		1			1			
SW 350 S	11/16/2021	1109	G		1			1			
SW 225 N	11/16/2021	1111	G		1			1			
SW 225 S	11/16/2021	1112	G		1			1			
SW 125 N	11/16/2021	1114	G		1			1			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		11/17/21 / 1700			
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

7.6(

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	5 of 7 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____ Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
SW 125 S	11/16/2021	1115	G		1			1			
SW DUP-1	11/16/2021	-	G		1			1			
SW DUP-2	11/16/2021	-	G		1			1			
SW DUP-3	11/16/2021	-	G		1			1			
SW DUP-4	11/16/2021	-	G		1			1			
SW DUP-5	11/16/2021	-	G		1			1			
Sed 2625 N	11/16/2021	1130	G		1				1		
Sed 2400 N	11/16/2021	1135	G		1				1		
Sed 2200 N	11/16/2021	1138	G		1				1		
Sed 2150 S	11/16/2021	1140	G		1				1		
Sed 1950 S	11/16/2021	1144	G		1				1		
Sed 1825 N	11/16/2021	1149	G		1				1		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		11/17/21 / 1700			
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

7.6C

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____ Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No: 6 of 7 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
Sed 1700 N	11/16/2021	1155	G		1				1		
Sed 1550 S	11/16/2021	1159	G		1				1		
Sed 1025 S	11/16/2021	1204	G		1				1		
Sed SG5 S	11/16/2021	1210	G		1				1		
Sed 800 S	11/16/2021	1214	G		1				1		
Sed SG6 N	11/16/2021	1219	G		1				1		
Sed 450 S	11/16/2021	1225	G		1				1		
Sed 350 N	11/16/2021	1231	G		1				1		
Sed 225 S	11/16/2021	1236	G		1				1		
Sed DUP-1	11/16/2021	-	G		1				1		
Sed DUP-2	11/16/2021	-	G		1				1		

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/17/21 / 1700	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913

Project Name: Vineland Chemical Superfund Site
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360
P O #

Project Manager: Emily Movsesian
Tel/Fax: 215-900-7156

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ____ Standard TAT____
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

Site Contact: Bailey Calvitti
Lab Contact: Tony Bednar

Date:
Carrier: Fed Ex

COC No: 7 of 7 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
WP 2875 B	11/17/2021	1050	G		1					1	
WP 2875 C	11/17/2021	1033	G		1					1	
WP 2875 D	11/17/2021	1005	G		1					1	
WP 2775 B	11/17/2021	1133	G		1					1	
WP 2775 D	11/17/2021	1116	G		1					1	
WP 2625 B	11/17/2021	1235	G		1					1	
WP 2625 C	11/17/2021	1218	G		1					1	
WP 2625 D	11/17/2021	1157	G		1					1	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Retur ☐ Dispos ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by: Bailey Calvitti	Company:	Date/Time: 11/17/21 / 1700	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company: ERDC	Date/Time: 11/18/2021 1115
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

7.6C

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

20 January 2022

Joe Loeper
Philadelphia District
Wanamaker Building, 100 Penn Square East
Philadelphia, PA 19107-3390

RE: Vineland

Enclosed are the results of analyses for samples received by the laboratory on 10-Dec-2021-10-Dec-2021. The samples associated with this report will be held for 90 days from the date of this report. The raw data associated with this report will be held for 5 years from the date of this report. If you need us to hold onto the samples or the data longer then these specified times, you will need to notify us in writing at least 30 days before the expiration dates. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Allyson Wooley For Jenifer Milam Netchaev
Database Manager

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

WORK ORDER SUMMARY

Sample ID	Laboratory ID	Matrix	Date Sampled	Date of Work Order
Seep 2370 N	21L1004-01	Water	09-Dec-2021	10-Dec-2021
Seep 2370 N	21L1005-01	Soil/Sediment	09-Dec-2021	10-Dec-2021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Case Narrative

Case Narrative

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Notes and Definitions

U	Analyte included in the analysis, but not detected
RPD-06	RPD between duplicate samples or spikes exceeds acceptance limit.
QM-11	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to inherent analyte concentration greater than the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
J	Result is an estimated concentration. It is detected but below the Reporting Limit (Limit of Quantitation) or the supporting QC does not meet the acceptance criteria.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Seep 2370 N

21L1004-01 (Water)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals (Dissolved) by EPA 6000/7000 Series Methods								
Iron	**12.0**	0.0040	0.0200	mg/L	03-Jan-2022	03-Jan-2022	SW 846/6010	
Arsenic-75 [2]	**0.140**	0.0004	0.0020	mg/L	28-Dec-2021	28-Dec-2021	SW 846/6020	
Metals by EPA 6000/7000 Series Methods								
Iron	**18.2**	0.0040	0.0200	mg/L	03-Jan-2022	03-Jan-2022	EPA 6010	
Arsenic-75 [2]	**0.260**	0.0004	0.0020	mg/L	28-Dec-2021	28-Dec-2021	EPA 6020	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Seep 2370 N

21L1005-01 (Soil/Sediment)

Analyte	Result	Detection Limit	Reporting Limit	Units	Prepared	Analyzed	Method	Notes
ERDC-EL-EP-C								
Metals by EPA 6000/7000 Series Methods								
Arsenic	**14.2**	0.757	3.79	mg/kg	29-Dec-2021	11-Jan-2022	SW 846/6010	
Iron	**946**	0.757	3.79	mg/kg	29-Dec-2021	11-Jan-2022	SW 846/6010	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A010 - Default Prep Metals											
Blank (B22A010-BLK1)					Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
LCS (B22A010-BS1)					Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.0471	0.0002	0.0010	mg/L	0.05000		94.2	80-120			
Duplicate (B22A010-DUP1)		**Source: 21L1004-01**			Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.138	0.0004	0.0020	mg/L		0.140			1.21	20	
Matrix Spike (B22A010-MS1)		**Source: 21L1004-01**			Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.235	0.0004	0.0020	mg/L	0.1000	0.140	95.4	80-120			
Batch B22A016 - Default Prep Metals											
Blank (B22A016-BLK1)					Prepared & Analyzed: 03-Jan-2022						
Iron	ND	0.0040	0.0200	mg/L							U
LCS (B22A016-BS1)					Prepared & Analyzed: 03-Jan-2022						
Iron	50.0	0.0040	0.0200	mg/L	50.00		100	80-120			
Duplicate (B22A016-DUP1)		**Source: 21L1004-01**			Prepared & Analyzed: 03-Jan-2022						
Iron	12.4	0.0040	0.0200	mg/L		12.0			2.77	20	
Matrix Spike (B22A016-MS1)		**Source: 21L1004-01**			Prepared & Analyzed: 03-Jan-2022						
Iron	61.1	0.0040	0.0200	mg/L	50.00	12.0	98.2	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A011 - Default Prep Metals											
Blank (B22A011-BLK1)					Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	ND	0.0002	0.0010	mg/L							U
LCS (B22A011-BS1)					Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.0460	0.0002	0.0010	mg/L	0.05000		91.9	80-120			
Duplicate (B22A011-DUP1)		**Source: 21L1004-01**			Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.236	0.0004	0.0020	mg/L		0.260			9.78	20	
Matrix Spike (B22A011-MS1)		**Source: 21L1004-01**			Prepared & Analyzed: 28-Dec-2021						
Arsenic-75 [2]	0.333	0.0004	0.0020	mg/L	0.1000	0.260	73.0	80-120			QM-11
Batch B22A015 - Default Prep Metals											
Blank (B22A015-BLK1)					Prepared & Analyzed: 03-Jan-2022						
Iron	ND	0.0040	0.0200	mg/L							U
LCS (B22A015-BS1)					Prepared & Analyzed: 03-Jan-2022						
Iron	50.7	0.0040	0.0200	mg/L	50.00		101	80-120			
Duplicate (B22A015-DUP1)		**Source: 21L1004-01**			Prepared & Analyzed: 03-Jan-2022						
Iron	17.9	0.0040	0.0200	mg/L		18.2			1.81	20	
Matrix Spike (B22A015-MS1)		**Source: 21L1004-01**			Prepared & Analyzed: 03-Jan-2022						
Iron	66.0	0.0040	0.0200	mg/L	50.00	18.2	95.7	80-120			
Batch B22A046 - Default Prep Metals											
Blank (B22A046-BLK1)					Prepared: 29-Dec-2021 Analyzed: 11-Jan-2022						
Arsenic	ND	0.800	4.00	mg/kg							U
Iron	1.36	0.800	4.00	mg/kg							J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

USACE ERDC-EP-C
3909 Halls Ferry Road
Vicksburg, MS 39180-6199

Philadelphia District	Project: Vineland	
Wanamaker Building, 100 Penn Square East		**Reported:**
Philadelphia PA, 19107-3390	Project Manager: Joe Loeper	20-Jan-2022

Metals by EPA 6000/7000 Series Methods - Quality Control

ERDC-EL-EP-C

Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B22A046 - Default Prep Metals											
LCS (B22A046-BS1)					Prepared: 29-Dec-2021 Analyzed: 11-Jan-2022						
Arsenic	26.5	0.800	4.00	mg/kg	25.00		106	80-120			
Iron	2690	0.800	4.00	mg/kg	2500		107	80-120			
Duplicate (B22A046-DUP1)		**Source: 21L1005-01**			Prepared: 29-Dec-2021 Analyzed: 11-Jan-2022						
Arsenic	17.5	0.747	3.73	mg/kg		14.2			20.9	20	RPD-06
Iron	1090	0.747	3.73	mg/kg		946			14.2	20	
Matrix Spike (B22A046-MS1)		**Source: 21L1005-01**			Prepared: 29-Dec-2021 Analyzed: 11-Jan-2022						
Arsenic	40.5	0.781	3.91	mg/kg	24.41	14.2	108	80-120			
Iron	3460	0.781	3.91	mg/kg	2441	946	103	80-120			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Tony Bednar
USACE ERDC
3909 Halls Ferry Rd.
Vicksburg, MS 39180

Chain of Custody Record

Regulatory Program: ☐ DW ☐ NP DE ☐ RC RA ☐ Oth er:

TestAmerica Laboratories, Inc.

Philadelphia USACE Contacts	Project Manager: Emily Movsesian	Site Contact: Bailey Calvitti	Date:	COC No:
Bailey Calvitti: bailey.l.calvitti@usace.army.mil, 216-633-8707	Tel/Fax: 215-900-7156	Lab Contact: Tony Bednar	Carrier: Fed Ex	1 of 1 COCs
Joe Loeper: joseph.m.loeper@usace.army.mil, 610-329-1307	Analysis Turnaround Time			Sampler:
Skip Harris: william.e.harris@usace.army.mil, 609-781-2913	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
	TAT if different from Below ____Standard TAT____			Walk-in Client:
Project Name: Vineland Chemical Superfund Site	☐ 2 weeks			Lab Sampling:
Site Address: 1405 N. Mill Rd. Vineland, NJ 08360	☐ 1 week			
P O #	☐ 2 days			Job / SDG No.:
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	Total As	Total As, Fe	Dissolved As, Fe	Sample Specific Notes:
Seep 2370 N	12/9/2021	1030	G		3				2	1	1 sediment (Tot. As, Fe), 1 surface water (Tot. As, Fe), 1 surface water (Diss. As, Fe)

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ R ☐ D ☐ Archive

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Bailey Calvitti		12/9/21 /1600	[signature]	ERDC	12/10/2021 1330
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

3.6C

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception

Attachment D

Validation EDDs
(electronic format)

Appendix C
Well Purge Records

Spring/Summer 2021 Sampling Event
Well Purge Records
14 June 2021 - 17 June 2021

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW53M
SAMPLE I.D.: MW53M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Pump Depth:
Sampling Method: Low Flow Method

initial DTW = 2.87

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0750	14.38	3.78	360	0.027	61.1	0.00					clear	none
0755	14.79	3.78	370	0.027	44.6	0.00						
0800	14.80	3.78	374	0.026	39.0	0.00						
0805	14.76	3.78	379	0.026	24.6	0.00						
			F Sampled @				0815					

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DiSS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0735

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Salvitti, Harris, Cleaver, Master

WELL I.D.: MP-7L
SAMPLE I.D.: MP-7L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

initial DTW = 3.09

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/l or % saturation +/-10%	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0815											orange	none
0820	14.60	6.82	96	0.055	2.4	0.00					clear	
0825	14.55	6.85	82	0.055	0.9	0.00						
0830	14.53	6.89	73	0.055	0.3	0.00						
0835	14.51	6.90	70	0.055	0.4	0.00						
				Sampled @			0840					

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0805

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-8L
SAMPLE I.D.: MP-8L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method
Pump Depth:

initial DTW = 3.18

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0850	14.31	6.44	90	0.045	27.7	0.00					clear	none
0855	14.28	6.48	87	0.046	11.9	0.00						
0900	14.27	6.50	85	0.046	13.9	0.00						
0905	14.25	6.51	83	0.046	7.5	0.00						

|— Sampled @ 0910 —|

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0835

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21

PROJECT: Vineland Chemical Superfund Site

LOCATION: Vineland, NJ

Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-1L

SAMPLE I.D.: MP-1L

WELL SERIAL NUMBER:

Screen Interval (ft):

Well Depth sounding (ft):

Well Casing Diameter (in):

Well Condition:

Weather Conditions:

Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity

= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump

Purge Rate:

Pump Depth:

Sampling Method: Low Flow Method

initial DTW = 3.76

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0920	13.95	6.81	34	0.053	42.6	0.00						
0925	13.92	6.84	56	0.053	29.4	0.00						
0930	13.92	6.86	53	0.053	28.6	0.00						
0935	13.90	6.87	51	0.053	16.6	0.00						

Sampled @ 0940

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:

Comments: Began purging @ 0905

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-6L
SAMPLE I.D.: MP-6L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Pump Depth:
Sampling Method: Low Flow Method

initial DTW = 2.70

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/L or % saturation +/-10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0950	14.55	4.63	301	0.022	0.0	6.52					clear	none
0955	14.59	4.64	307	0.022	0.0	6.79						
1000	14.60	4.71	310	0.021	0.0	6.67						
1005	14.64	4.68	312	0.021	0.0	6.42						
			Sampled @ 1010									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, FE				HNO3

Method of Water Disposal:
Comments: Began purging @ 0935

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21	WELL I.D.: PZ-11
PROJECT: Vineland Chemical Superfund Site	SAMPLE I.D.: PZ-11
LOCATION: Vineland, NJ	
Sampling Team: Calvitti, Harris, Cleaver, Master	

WELL SERIAL NUMBER:

Screen Interval (ft):

Well Depth sounding (ft):

Well Casing Diameter (in):

Well Condition:

Weather Conditions:

Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity

= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump

Purge Rate:

Pump Depth:

Sampling Method: Low Flow Method

initial DTW =

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1025	14.76	6.71	191	0.095	4.9	0.00						
1030	14.72	6.73	186	0.095	4.8	0.00						
1035	14.72	6.73	184	0.095	4.5	0.00						
1040	14.73	6.73	181	0.094	4.6	0.00						
1045												
			Sampled @ 1045									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, FE				

Method of Water Disposal:

Comments: Began purging @ 1010

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PZ-9
SAMPLE I.D.: PZ-9

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Pump Depth:
Sampling Method: Low Flow Method

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1100	14.16	5.06	247	0.024	2.4	0.00						
1105	14.21	5.18	239	0.024	0.5	0.00						
1110	14.23	5.25	233	0.024	0.1	0.00						
1115	14.22	5.28	229	0.024	0.0	0.00						
				Sampled @ 1120								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe,				HNO3

Method of Water Disposal:
Comments: Began purge @ 1040

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: WIN25M
SAMPLE I.D.: WIN25M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Pump Depth:
Sampling Method: Low Flow Method

initial DTW = 4.29

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1130	14.08	5.34	219	0.029	93.4	0.00						
1135	14.10	5.38	215	0.029	66.3	0.00						
1140	14.10	5.37	214	0.029	58.1	0.00						
				Sampled @ 1145								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Started purge 1105

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/14/21

PROJECT: Vineland Chemical Superfund Site

LOCATION: Vineland, NJ

Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PZ-17

SAMPLE I.D.: PZ-17

WELL SERIAL NUMBER:

Screen Interval (ft):

Well Depth sounding (ft):

Well Casing Diameter (in):

Well Condition:

Weather Conditions:

Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump

Purge Rate:

Pump Depth:

Sampling Method: Low Flow Method

initial DTW = 4.04

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1200	16.30	7.00	87	0.056	5.7	0.00						
1205	16.29	6.99	76	0.057	6.5	0.00						
1210	16.24	6.99	73	0.057	4.8	0.00						
			Sampled @				1215					

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:

Comments: Began purge 1135

* DUP-1 collected here *

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW52S
SAMPLE I.D.: MW52S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

initial DTW = 2.20

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0745	14.44	5.91	219	0.050	51.6	0.18						
0750	14.42	5.89	215	0.052	30.2	0.34						
0755	14.42	5.88	212	0.053	14.5	0.70						
0800	14.42	5.92	208	0.053	10.2	1.09						
0805	14.44	5.93	206	0.053	9.1	1.31						
0810	14.41	5.94	203	0.053	7.8	1.39						
0815	14.42	5.97	202	0.053	7.4	1.41						
			← Sampled @ 0820 →									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0730

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PD2P3
SAMPLE I.D.: PD2P3

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
initial DTW = 1.01 in
1.37 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0815											clear	none
0820	16.62	5.91	255	0.059	2.3	0.00						
0825	16.80	5.86	270	0.059	2.8	0.00						
0830	16.77	5.86	276	0.059	2.6	0.00						
0835	16.81	5.86	281	0.059	2.2	0.00						

Sampled @ 0840

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss-As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0755

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21

PROJECT: Vineland Chemical Superfund Site

LOCATION: Vineland, NJ

Sampling Team: (Calvitti) (Harris), Cleaver, (Master)

WELL I.D.: PD2P2

SAMPLE I.D.: PD2P2

WELL SERIAL NUMBER:

Screen Interval (ft):

Well Depth sounding (ft):

Well Casing Diameter (in):

Well Condition:

Weather Conditions:

Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity

= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump

Purge Rate:

Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.31 in 1.76 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or (mS/cm)) +/- 3%	TURB (NTUs) +/- 10%	DO (circle (mg/L) or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0845												
0850	15.04	6.63	119	0.087	2.9	0.00						
0855	15.06	6.64	115	0.088	2.6	0.00						
0900	15.07	6.66	112	0.088	2.7	0.00						

Sampled @ 0905

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:

Comments: Began purge @ 0830

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PD2P1
SAMPLE I.D.: PD2P1

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.35 in 1.91 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/l or % saturation) +/-10%	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0915	15.43	6.78	100	0.089	4.5	0.00						
0920	15.37	6.80	98	0.089	4.3	0.00						
0925	15.45	6.79	98	0.090	4.7	0.00						
0930	15.48	6.81	96	0.090	4.9	0.00						
sampled @ 0935												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0850

MONITORING WELL PURGING AND SAMPLING RECORD

DATE:	6/15/21	WELL I.D.:	PZ-12
PROJECT:	Vineland Chemical Superfund Site	SAMPLE I.D.:	PZ-12
LOCATION:	Vineland, NJ		
Sampling Team:	Calvitti, Harris, Cleaver, Master		

WELL SERIAL NUMBER:

Screen Interval (ft):

Well Depth sounding (ft):

Well Casing Diameter (in):

Well Condition:

Weather Conditions:

Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity

= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump

Purge Rate:

Pump Depth:

Sampling Method: Low Flow Method

DTW = 2.50

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0950	14.92	7.12	64	0.060	2.2	0.00					clear	none
0955	14.09	7.12	62	0.060	2.1	0.00						
1000	14.90	7.10	61	0.061	2.3	0.00						
				Sampled @ 1005								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:

Comments: Began purging @ 0930

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-9L
SAMPLE I.D.: MP-9L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.06

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1005	14.92	5.80	178	0.025	11.3	7.85						
1010	14.97	5.83	205	0.025	7.5	7.62						
1015	14.99	5.87	214	0.025	7.8	7.34						
1020	15.02	5.87	221	0.025	8.0	7.37						
Sampled @ 1025												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0945

* Dupe - 2 collected here *

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-5L
SAMPLE I.D.: MP-5L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.95

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1035	15.05	4.63	337	0.025	5.1	0.70						
1040	15.04	4.64	344	0.025	5.5	0.80						
1045	15.04	4.64	350	0.025	2.7	0.80						
1050	15.04	4.63	354	0.025	3.0	0.85						
	Sampled @ 1055											

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe,				HNO3

Method of Water Disposal:
Comments: Began purge @ 1015

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-4L
SAMPLE I.D.: MP-4L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method
Pump Depth:

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/L or % saturation +/-10%	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1100	15.17	4.62	376	0.024	5.0	5.98						
1105	15.15	4.65	379	0.024	5.0	5.99						
1110	15.16	4.70	380	0.024	7.1	5.83						
1115	15.36	4.64	384	0.024	7.9	6.61						
Sampled @ 1130												

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe,				HNO3

Method of Water Disposal:
Comments: Began purge @ 1045

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-3L
SAMPLE I.D.: MP-3L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.08

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/L or % saturation) +/-10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1130	14.88	5.87	277	0.027	13.3	8.95						
1135	14.77	5.91	276	0.026	7.5	9.13						
1140	14.65	5.91	276	0.026	7.1	9.33						
1145	14.87	5.92	275	0.026	6.9	9.36						
Sampled @ 1150												

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1110

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MP-2L
SAMPLE I.D.: MP-2L

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.63

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1155	15.23	5.71	274	0.025	10.6	5.01						
1200	14.64	5.69	297	0.024	20.2	7.62						
1205	14.62	5.69	281	0.024	5.4	6.94						
1210	14.63	5.70	279	0.024	5.3	7.03						
Sampled @			1215									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1135

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/15/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PZ-10
SAMPLE I.D.: PZ-10

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.42

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/l or % saturation +/-10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1230	14.45	5.24	351	0.028	18.7	10.59						
1235	14.41	5.41	338	0.028	16.4	10.79						
1240	14.50	5.46	333	0.027	17.9	10.51						
1245	14.46	5.49	329	0.027	17.3	10.29						
Sampled @			1250									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1210

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW57S
SAMPLE I.D.: MW57S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.87

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0750	14.62	4.35	456	0.040	3.9	0.00						
0755	14.63	4.32	469	0.041	3.5	0.00						
0800	14.64	4.33	474	0.042	3.0	0.00						
0805	14.63	4.34	480	0.043	3.2	0.00						
0810	14.63	4.33	482	0.043	3.0	0.00						
Sampled @ 0815												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0735

* DUP-3 collected here *

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW57M
SAMPLE I.D.: MW57M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW = 1.93

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0820	14.79	4.43	421	0.033	6.7	0.00						
0825	14.80	4.45	418	0.032	6.0	0.00						
0830	14.82	4.48	415	0.032	5.2	0.00						
0835	14.81	4.48	414	0.032	4.7	0.00						
Sampled @ 0840												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0800

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW41M
SAMPLE I.D.: MW41M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW = 5.23

	Time (24 hr)	TEMP (°C)	pH (Std. Units)	ORP (mV)	COND. (umhos/c or mS/cm)	TURB (NTUs)	DO (circle mg/L or % saturation)	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
		N/A	+/- 0.1	+/- 10 mV	+/- 3%	+/- 10%	+/- 10 %						
910	~~0920~~	15.60	6.52	156	0.078	551	0.00					orange/	
915	~~0925~~											turbid	
920	~~0930~~	15.36	6.39	1616	0.070	333	0.00						
925	~~0935~~	15.38	6.37	1168	0.067	239	0.00						
	0930	15.38	6.37	169	0.067	206	0.00					T	
	0935	15.40	6.34	172	0.063	139	0.00					clearing	
	0940	15.43	6.31	174	0.061	121	0.00						
	0945	15.47	6.33	173	0.061	99	0.00					clear	
	0950	15.45	6.34	175	0.062	79	0.00					up	
												↓	
	Sampled @		0955										

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0850

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: (Calvitti), (Harris), Cleaver, (Master)

WELL I.D.: MW31M
SAMPLE I.D.: MW31M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW= 4.44

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/-0.1	ORP (mV) +/-10 mV	COND. (umhos/c or mS/cm) +/-3%	TURB (NTUs) +/-10%	DO (circle mg/L or % saturation +/-10%	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1000	14.51	7.32	81	0.058	246	0.00						
1005	14.27	7.27	71	0.058	174	0.00						
1010	14.29	7.29	63	0.058	157	0.00						
1015	14.28	7.27	59	0.058	120	0.00						
1020	14.27	7.28	56	0.058	105	0.00						
1025	14.23	7.25	54	0.058	88	0.00						
1030	14.22	7.25	53	0.058	77	0.00						
1035	14.21	7.23	52	0.058	61	0.00						
1040	14.21	7.23	52	0.058	51	0.00						
Sampled @ 10:45												

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 0940

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW75S
SAMPLE I.D.: MW75S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW = 2.59

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1110	13.61	6.72	95	0.044	10.5	0.00						
1115	13.58	6.74	94	0.044	9.5	0.00						
1120	13.57	6.77	92	0.044	9.8	0.00						
1125	13.58	6.79	91	0.044	8.6	0.00						
Sampled @			1130									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1050

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW73S
SAMPLE I.D.: MW73S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.60

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1200	14.66	5.21	310	0.111	9.1	4.89						
1205	14.76	5.22	317	0.111	6.3	4.86						
1210	14.81	5.21	322	0.111	5.9	4.87						
1215	14.86	5.22	327	0.111	7.0	4.89						
Sampled @ 1220												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1140

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW 73M
SAMPLE I.D.: MW 73M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.65

Time (24 hr)	TEMP (°C)	pH (Std. Units)	ORP (mV)	COND. (umhos/c or mS/cm)	TURB (NTUs)	DO (circle mg/L or % saturation	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
	N/A	+/- 0.1	+/- 10 mV	+/- 3%	+/- 10%	+/- 10 %						
1225	14.89	6.11	203	0.090	15.5	0.26						
1230	14.88	6.11	200	0.092	11.3	0.25						
1235	14.87	6.11	199	0.090	8.8	0.24						
1240	14.83	6.09	199	0.090	8.8	0.23						
Sampled @ 1245												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1205

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/16/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: EW08S
SAMPLE I.D.: EW08S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW = 16.85

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1320	15.32	7.30	161	0.130	93.2	1.04					turbid	
1325	15.37	7.30	165	0.130	110	1.13						
1330	15.40	7.31	167	0.131	53.2	1.11						
1335	15.39	7.32	169	0.127	52.3	1.33						
Sampled @			1340									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss, As, Fe				HNO3

Method of Water Disposal:
Comments: Began purge @ 1300

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/16
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW6LS
SAMPLE I.D.:

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.40

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0815	13.21	5.09	406	0.057	21.1	1.42						
0820	13.22	5.09	408	0.057	17.1	1.37						
0825	13.25	5.10	409	0.057	12.7	1.33						
0830	13.26	5.11	410	0.057	11.2	1.30						
Sampled @ 0835												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: 0750

*Area flooded

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW01M
SAMPLE I.D.:

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 1.40

Time (24 hr)	TEMP (°C)	pH (Std. Units)	ORP (mV)	COND. (umhos/c or mS/cm)	TURB (NTUs)	DO (circle mg/L or % saturation	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
	N/A	+/- 0.1	+/- 10 mV	+/- 3%	+/- 10%	+/- 10 %						
0830												
0835	14.09	5.05	412	0.031	15.1	0.39						
0840	14.09	5.09	412	0.031	13.3	0.39						
0845	14.10	5.03	416	0.031	14.2	0.38						
Sampled @ 0850												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: 0800

* Area flooded

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PZ-3
SAMPLE I.D.: PZ-3

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 2.44

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0905	13.67	4.86	439	0.070	6.4	5.46						
0910	13.64	4.88	441	0.070	6.7	5.45						
0915	13.65	4.89	443	0.070	6.4	5.53						
Sampled @ 0920												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: 0840

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW28M
SAMPLE I.D.: MW28M

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW = 9.14

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1005	14.71	6.64	128	0.145	95	0.00						
1010	14.70	6.62	131	0.142	61.5	0.00						
1015	14.73	6.62	131	0.142	47.1	0.00						
1020	14.75	6.62	131	0.141	430	0.00						
	(Ran for another 15 min to bring down turbidity)											
Sampled @ 1035												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: 0945, *poison ivy*

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: MW28S
SAMPLE I.D.: MW28S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW =

Time (24 hr)	TEMP (°C)	pH (Std. Units)	ORP (mV)	COND. (umhos/c or mS/cm)	TURB (NTUs)	DO (circle mg/l or % saturation	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
	N/A	+/- 0.1	+/- 10 mV	+/- 3%	+/- 10%	+/- 10 %						
1020												
1025	15.31	6.48	179	0.106	36.8	0.56						
1030	15.36	6.53	192	0.111	36.1	0.62						
1035	15.33	6.54	202	0.113	34.8	0.47						
1040	15.34	6.55	208	0.115	34.2	0.38						
1045	15.33	6.55	211	0.116	34.8	0.42						
Sampled @			1050									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: 0950 * Poison ivy *

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/21
PROJECT: Vineland Chemical Superfund Site
LOCATION: Vineland, NJ
Sampling Team: Salvitti, Harris, Cleaver, Master

WELL I.D.: EW07S
SAMPLE I.D.: EW07S

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:

DTW = 11.48

Time (24 hr)	TEMP (°C)	pH (Std. Units)	ORP (mV)	COND. (umhos/c or mS/cm)	TURB (NTUs)	DO (circle mg/L or % saturation	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
	N/A	+/- 0.1	+/- 10 mV	+/- 3%	+/- 10%	+/- 10 %						
1135	13.57	6.56	217	0.044	98.3	0.03						
1140	13.55	6.56	222	0.043	76.3	0.03						
1145	13.54	6.55	226	0.043	68.2	0.00						
1150	13.50	6.56	227	0.043	67.1	0.00						
Sampled @ 1155												

SAMPLING RECORD

Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: 1110

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 6/17/24
PROJECT: ~~[illegible]~~ Vineland
LOCATION:
Sampling Team: Calvitti, Harris, Cleaver, Master

WELL I.D.: PZ-15
SAMPLE I.D.: PZ-15

WELL SERIAL NUMBER:
Screen Interval (ft):
Well Depth sounding (ft):
Well Casing Diameter (in):

Well Condition:
Weather Conditions:
Reference point:

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Puring Method/Device: Grundfos Pump
Purge Rate:
Sampling Method: Low Flow Method

Pump Depth:
DTW=

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1250	15.54	6.25	158	0.036	12.0	0.00						
1255	15.52	6.21	161	0.036	9.7	0.00						
~~[illegible]~~												
1300	15.50	6.14	164	0.036	10.1	0.00						
1305	15.49	6.13	165	0.036	9.8	0.00						
	Sampled @			1310								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: 1230

Fall 2021 Sampling Event
Well Purge Records
22 November 2021 - 02 December 2021

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~[illegible]~~/S. Harris/B. Calvitti

WELL I.D.: MP-1L
SAMPLE I.D.: MP-1L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Sampling Method:
Pump Depth: ft
DTW = 4.10

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/l or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1015	13.97	5.97	57	0.053	70.7	6.77					none	none
1020	13.98	6.00	30	0.052	44.7	5.25						
1025	13.98	6.05	13	0.052	34.9	4.08						
1030	14.01	6.09	-1	0.052	23.4	2.84						
1035	14.01	6.12	-8	0.052	16.1	2.02						
1040	14.02	6.15	-12	0.052	13.2	1.52						
1045												
		Sampled @			1045							

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1000

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~B. Scanlan~~/S. Harris / B. Calvitti

WELL I.D.: MP-6L
SAMPLE I.D.: MP-6L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 4.02

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1045												
1050	13.82	4.04	255	0.026	0.0	10.61						
1055	13.78	4.05	275	0.026	28.4	10.62						
1100	13.79	4.01	294	0.026	1.9	10.60						
1105	13.79	4.05	300	0.027	0.0	10.59						
	Sampled @ 1110											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1030

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris / B. Calvitti

WELL I.D.: MP-8L
SAMPLE I.D.: MP-8L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.54

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1125	13.71	5.82	56	0.044	0.0	5.08						
1130	13.71	5.90	42	0.044	0.0	3.93						
1135	13.72	5.93	32	0.044	0.0	2.76						
1140	13.72	5.99	25	0.044	0.0	1.76						
1145	13.72	6.01	21	0.044	0.0	1.13						
1150	13.74	6.01	19	0.044	0.0	0.60						
	Sampled @		1155									

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1110

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MW-53M
SAMPLE I.D.: MW-53~~M~~M

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1205	13.08	5.58	91	0.031	3.7	0.00						
1210	13.07	5.57	91	0.031	0.9	0.00						
1215	13.08	5.60	88	0.032	0.0	0.00						
1220	13.08	5.58	90	0.031	0.0	0.00						
Sampled @ 1225												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1145

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MP-7L
SAMPLE I.D.: MP-7L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.34

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1240	13.46	6.29	-9	0.052	0.0	0.00						
1245	13.47	6.31	-21	0.052	0.0	0.00						
1250	13.47	6.36	-26	0.052	0.0	0.00						
1255	13.45	6.38	-31	0.052	0.0	0.00						
Sampled @ 1300												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal: GW
Comments: Began purging @ 1220 *DUP-1 collected here *

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MP-2L
SAMPLE I.D.: MP-2L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1335	13.50	5.59	146	0.028	18.1	5.17						
1340	13.52	5.56	150	0.028	0.0	5.10						
1345	13.54	5.56	151	0.028	0.0	5.15						
Sampled @				1350								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1315

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/22/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PZ-10
SAMPLE I.D.: PZ-10

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.37

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1310												
1315												
1320												
1325												

→ No sample collected - equipment issues? issues w/ the well itself. Equipment works on all other wells but water would not come up w/ any of our equipment sets - unclear what the issue is.

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1250

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: R. Scanlan/S. Harris

WELL I.D.: MP-4L
SAMPLE I.D.: MP-4L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.41

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0825	13.41	4.41	335	0.023	22.6	7.19						
0830	13.43	4.39	338	0.023	28.9	6.86						
0835	13.46	4.36	342	0.023	9.2	6.82						
0840	13.39	4.33	345	0.022	4.1	6.81						
	Sampled @ 0845											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. AS, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0810

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MP-3L
SAMPLE I.D.: MP-3L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 2.94

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/l or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
835												
840												
845												
850	13.51	5.43	256	0.028	2.1	8.91						
855	13.51	5.46	252	0.028	1.8	8.87						
900	13.54	5.43	249	0.028	4.3	8.85						
	Sampled @ 0905											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0815

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MP-9L
SAMPLE I.D.: MP-9L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 2.94

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0925	14.00	5.60	198	0.025	0.3	5.59						
0930	14.03	5.53	199	0.025	1.1	5.64						
0935	14.04	5.57	194	0.025	0.0	5.66						
0940	14.05	5.56	193	0.025	2.5	5.75						
	Sampled @ 0945											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0905

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MP-5L
SAMPLE I.D.: MP-5L

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 2.75

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0950	13.89	4.73	246	0.025	0.0	0.00						
0955	13.89	4.74	247	0.025	0.0	0.00						
1000	13.89	4.69	253	0.024	0.0	0.00						
	Sampled @ 1005											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0915

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R.Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PZ-12
SAMPLE I.D.: PZ-12

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.43

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1010	14.19	6.14	37	0.047	0.0	0.00						
1015	14.19	6.19	17	0.047	0.0	0.00						
1020	14.18	6.22	9	0.047	0.0	0.00						
1025	14.20	6.22	3	0.047	0.0	0.00						
1030	14.18	6.22	-1	0.047	0.0	0.00						
Sampled @ 1035												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO_3

Method of Water Disposal:
Comments: Began purging @ 0950

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/24/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MW-52S
SAMPLE I.D.: MW-52S

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.09

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1055												
1100	14.00	5.79	90	0.056	26.9	2.03						
1105	14.07	5.73	100	0.059	13.8	1.61						
1110	14.09	5.75	105	0.061	8.0	1.55						
1115	14.09	5.76	109	0.061	5.9	1.49						
	Sampled @ 1120											

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO_3

Method of Water Disposal:
Comments: Began purging @ 1035

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/30/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PD2P1
SAMPLE I.D.: PD2P1

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW=2.07 in 2.10 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0915	14.27	5.65	164	0.063	40.6	0.00						
0920	14.32	5.65	147	0.062	33.1	0.00						
0925	14.38	5.65	139	0.062	21.0	0.00						
0930	14.41	5.67	130	0.062	12.9	0.00						
0935	14.36	5.68	127	0.062	5.3	0.00						
Sampled @ 0940												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0855

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/30/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PD2P2
SAMPLE I.D.: PD2P2

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 2.03 in 2.09 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1005	14.10	6.08	29	0.071	18.1	0.00						
1010	14.18	6.11	17	0.072	19.7	0.00						
1015	14.12	6.13	10	0.072	9.6	0.00						
1020	14.17	6.14	7	0.073	7.7	0.00						
Sampled @				1025								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0945

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/30/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PD2P3
SAMPLE I.D.: PD2P3

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 1.78 in 2.70 out

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1050	11.88	5.45	145	0.055	0.0	2.66						
1055	11.95	5.43	154	0.055	0.0	2.66						
1100	11.99	5.43	164	0.055	0.0	2.59						
1105	11.99	5.43	172	0.055	0.0	2.67						
1110	11.98	5.42	176	0.056	0.0	2.64						
Sampled @ 1115												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1030

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/30/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: PZ-11
SAMPLE I.D.: PZ-11

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 5.50

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1140	15.65	5.71	173	0.095	13.3	0.00						
145												
150	15.65	5.71	167	0.094	11.3	0.00						
1155	15.67	5.71	165	0.094	0.0	0.00						
Sampled @ 1200												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative

Method of Water Disposal:
Comments: Began purging @ 1120

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 11/30/21
PROJECT: Vineland
LOCATION:
Sampling Team: R. Scanlan/S. Harris

WELL I.D.: PZ-9
SAMPLE I.D.: PZ-9

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 4.16

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1220	13.14	5.17	203	0.026	0.0	0.00						
1225	13.14	5.17	199	0.026	0.0	0.00						
1230	13.15	5.17	197	0.026	0.0	0.00						
1235	13.15	5.18	195	0.026	0.0	0.00						
Sampled @ 1240												

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1200

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 12/2/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MW-41M
SAMPLE I.D.: MW-41M

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 6.00

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
0905	16.00	5.72	214	0.055	49.4	5.30						
0910	16.00	5.72	194	0.054	45.2	4.41						
0915	15.97	5.73	178	0.053	39.4	3.66						
0920	15.96	5.72	168	0.052	35.2	3.04						
0925	15.96	5.72	159	0.051	33.1	2.46						
0930	15.96	5.72	152	0.050	34.3	2.03						
0935	15.94	5.72	149	0.049	15.2	1.56						
Sampled @					0940							

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0845

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 12/2/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MW-31M
SAMPLE I.D.: MW-31M

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 5.43

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1010	13.76	6.20	81	0.043	21.6	0.31						
1015	13.76	6.29	52	0.045	18.7	0.00						
1020	13.79	6.33	32	0.045	15.2	0.00						
1025	13.80	6.35	22	0.045	13.0	0.00						
1030	13.80	6.37	14	0.046	11.7	0.00						
1035	13.81	6.37	7	0.047	9.2	0.00						
1040	13.82	6.40	1	0.047	7.5	0.00						
1045	13.80	6.40	-3	0.047	6.9	0.00						
	Sampled @			1050								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 0950

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 12/2/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvetti

WELL I.D.: MW-75S
SAMPLE I.D.: MW-75S

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.60

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1110	12.92	6.22	27	0.041	12.0	0.95						
1115	12.92	6.22	20	0.041	2.2	0.21						
1120	12.93	6.23	16	0.040	0.0	0.00						
1125	12.94	6.22	14	0.040	0.0	0.00						
Sampled @				1130								

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
Diss. As, Fe				HNO3

Method of Water Disposal:
Comments: Began purging @ 1050

MONITORING WELL PURGING AND SAMPLING RECORD

DATE: 12/2/21
PROJECT: Vineland
LOCATION:
Sampling Team: ~~R. Scanlan~~/S. Harris/B. Calvitti

WELL I.D.: MW-73M
SAMPLE I.D.: MW-73M

WELL SERIAL NUMBER:
PID Reading:

Well Condition:
Weather Conditions:
Reference point:

Static Water Level (ft):
Well Depth sounding (ft):
Well Casing Diameter (in.):

Approx. volume of water in casing/hole:

well Dia.	1"	2"	4"	6"
gallons/ft	0.041	0.163	0.653	1.469

WELL VOLUME PURGE: 1 well Volume = (Total Well Depth-Static Depth to Water) x Well Capacity
= (feet- feet) x gallons/foot= gallons

Purging Method/Device:
Purge Rate:
Pump Depth: ft
Sampling Method:

DTW = 3.86

Time (24 hr)	TEMP (°C) N/A	pH (Std. Units) +/- 0.1	ORP (mV) +/- 10 mV	COND. (umhos/c or mS/cm) +/- 3%	TURB (NTUs) +/- 10%	DO (circle mg/L or % saturation) +/- 10 %	DEPTH TO WATER (ft)	Volume Purged (gal)	CUMUL. VOLUME PURGED (gal)	PURGE RATE (ml/min)	COLOR	ODOR
1200	1											
1205	12.65	5.49	119	0.068	1.9	0.92						
1210	12.67	5.48	123	0.068	0.7	0.62						
1215	12.67	5.49	124	0.069	0.0	0.57						
Sampled	@	1220										

SAMPLING RECORD				
Parameter	Method Number	Sample Number	QA/QC Sample No	Perservative
DISS. As, Fe				HNO3

Method of Water Disposal:
Comments: Regan purging @ 1140

Appendix D
2021 NJDEP Sampling Reports

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

May 2021

PREPARED FOR:

Erin Husta

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

401 EAST STATE STREET

MAIL CODE: 401-06H

P.O. BOX 420

TRENTON, NJ 08625

SAMPLING COMPLETED BY:

ENVIROTRAC LTD.

400 CORPORATE COURT, SUITE E

SOUTH PLAINFIELD, NJ 07080

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

1.0 Introduction

Envirotrac Ltd., between May 24th, 2021, and May 27th, 2021, sampled NJDEP Vineland Chemical, Vineland, of Cumberland County, New Jersey per the request of Erin Husta, NJDEP Operations Manager. Sampling was performed in accordance with the 2021 Groundwater Sampling Plan Scope of Work provided by the NJDEP. The system onsite was sampled by Sevenson Environmental Services between the groundwater sampling events.

2.0 Scope of the Sampling

The groundwater sampling event included EW-01, EW-01D, EW-04S, EW-04M, EW-04D, EW-07S, EW-07M, EW-07D, MW-51S, MW-51M, MW-51D, MW-54S, MW-54M, MW-54D, MW-56S, MW-56M, MW-56D, MW-57S, and MW-57M. One matrix spike/matrix spike duplicate sample (MW-54D) and one field duplicates (MW-54M) were collected during this sampling event in accordance with the Site-Specific Quality Assurance and Quality Control (QAPP) prepared in 2021 by Envirotrac.

3.0 Analytical Parameters

The groundwater samples were analyzed at the time of sampling for the field parameters Oxidation-Reduction Potential (ORP), Dissolved Oxygen (ppm), Turbidity (NTU), Temperature (^{0}C), Conductivity (ms/cm) and pH by the field technicians of Envirotrac Ltd. (NJ Lab Certification 12020), South Plainfield, New Jersey. The groundwater samples were then analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

The system samples were analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

4.0 Sampling Personnel on Site

The groundwater sampling was conducted by Kevin Mallon. The system sampling was conducted by Sevenson Environmental Services between the groundwater sampling events.

5.0 Methodology(ies)

All samples were collected by first purging the monitoring wells using a low-flow submersible pump and dedicated 3/8" poly tubing. The wells were purged until indicator parameters stabilized with three consecutive readings within ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10mv for Redox Potential; and 10% for Dissolved Oxygen and Turbidity. Once the indicator parameters have been stabilized, the sample is collected using a submersible pump. All purge water was containerized and brought back to the system to be treated.

The onsite System was active during the groundwater sampling event.

6.0 Non-conformance summary

All sampling was performed in compliance with the scope of work and the standard sampling methods. There were no unusual observations during the sampling event.

Tables

Table 1 May 2021 Groundwater Sampling Lab Results

Table 2 Summary of Groundwater Sampling Field Data

Attachments

Attachment A U.S.G.S. Topographic Map with Site Location

Attachment B Site Plan

Attachment C Groundwater Contaminant Map

TABLES

SGS Dayton, NJ

6/24/2021 10:37

Job Number:	JD25684
Account:	EnviroTrac Ltd.
Project:	NJDEP-Vineland Chemical, Vineland, NJ
Project Number:	

Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent). Legend: Hit | Exceed

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW-01M	EW-01M	EW-01D	EW-01D	EW-04S	EW-04S	EW-04M	EW-04M
Lab Sample ID:				JD25684-1	JD25684-1F	JD25684-2	JD25684-2F	JD25684-3	JD25684-3F	JD25684-4	JD25684-4F
Date Sampled:				5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/27/2021	5/27/2021	5/27/2021	5/27/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	<3.0	<3.0	**213**	**33.3**	**424**	**27.7**

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW-04S	EW-04S	EW-07M	EW-07M	EW-07D	EW-07D	MW-51S	MW-51S
Lab Sample ID:				JD25684-5	JD25684-5F	JD25684-6	JD25684-6F	JD25684-7	JD25684-7F	JD25684-8	JD25684-8F
Date Sampled:				5/27/2021	5/27/2021	5/26/2021	5/26/2021	5/26/2021	5/26/2021	5/25/2021	5/25/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	**318**	**62.4**	<3.0	<3.0	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW-51M	MW-51M	MW-51D	MW-51D	MW-54S	MW-54S	MW-54M	MW-54M
Lab Sample ID:				JD25684-9	JD25684-9F	JD25684-10	JD25684-10F	JD25684-11	JD25684-11F	JD25684-12	JD25684-12F
Date Sampled:				5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021	5/25/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	<3.0	<3.0	**727**	<15	**30.4**	**21.4**

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW-54D	MW-54D	MW-56S	MW-56S	MW-56M	MW-56M	MW-56D	MW-56D
Lab Sample ID:				JD25684-13	JD25684-13F	JD25684-14	JD25684-14F	JD25684-15	JD25684-15F	JD25684-16	JD25684-16F
Date Sampled:				5/25/2021	5/25/2021	5/24/2021	5/24/2021	5/24/2021	5/24/2021	5/24/2021	5/24/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	**10.3**	**4.3**	<3.0	<3.0	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW-57S	MW-57S	MW-57M	MW-57M	FIELD BLANK-1	FD-052521	FD-052521	EW-07S
Lab Sample ID:				JD25684-17	JD25684-17F	JD25684-18	JD25684-18F	JD25684-19	JD25684-20	JD25684-20F	JD25684-21
Date Sampled:				5/24/2021	5/24/2021	5/24/2021	5/24/2021	5/25/2021	5/25/2021	5/25/2021	5/26/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Field Blank Water	Ground Water	Groundwater Filtered	Ground Water
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	**14.7**	<3.0	<3.0	**38.7**	**17.6**	**489**

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW-07S	FIELD BLANK-2						
Lab Sample ID:				JD25684-21F	JD25684-22						
Date Sampled:				5/26/2021	5/26/2021						
Matrix:				Groundwater Filtered	Field Blank Water						
Metals Analysis											
Arsenic	ug/l	3	-	**365**	<3.0						

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

16 results exceeded regulatory criteria.

[1] NOTE: The above also includes "generic" criteria that cannot be evaluated using LabLink regulatory limits. They are as follows: "SOCs defined as carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 5 ug/l each 25 ug/l total. SOCs defined as non-carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 100 ug/l each 500 ug/l total."

[2] NOTE: This list represents Interim Specific and Interim Generic criteria ONLY. For Specific criteria refer to "NJ Groundwater Criteria".

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-1M	3/24/15		9.59	39.30					318	1.32	63.80	11.03	0.048	3.50
	3/24/16		10.20	39.25					424	0.00	0.00	18.72	0.035	4.39
	3/24/17		10.10	39.25					396	0.00	0.00	13.95	0.040	4.05
	3/20/18		9.74	39.25					408	0.00	0.00	17.15	0.041	4.07
	3/21/19		9.47	39.25					426	2.25	0.00	12.92	0.062	4.03
	3/18/20		10.37	39.25					454	0.59	0.30	13.76	0.042	4.30
	5/26/21		10.37	39.25					410	0.00	0.00	15.66	0.043	3.96
EW-1D	3/24/15		8.91	108.63					258	1.87	64.60	10.69	0.044	4.10
	3/24/16		9.80	104.00					347	0.00	0.00	20.50	0.026	4.79
	3/24/17		10.21	104.00					252	0.00	0.00	12.44	0.029	4.78
	3/20/18		9.10	104.00					331	0.00	3.30	12.27	0.031	4.24
	3/21/19		8.87	104.00					328	0.00	0.50	12.54	0.027	4.82
	3/18/20		10.02	104.20					400	0.49	1.40	14.22	0.031	4.69
	5/26/21		9.93	104.00					329	0.00	0.00	17.55	0.030	4.69
EW-4D	3/24/15		10.73	111.54					347	0.80	64.70	11.18	0.040	4.46
	3/24/16		11.50	113.00					387	5.76	0.00	16.88	0.021	4.99
	3/23/17		12.02	113.00					320	0.00	0.00	13.60	0.029	3.96
	3/23/18		11.50	113.00					300	7.15	0.00	12.82	0.035	5.17
	3/21/19		10.33	104.00					320	0.00	0.00	13.10	0.030	4.18
	3/18/20		11.79	110.09					317	0.00	1.20	14.13	0.032	4.58
	5/27/21		11.48	113.00					343	9.30	0.00	16.41	0.029	4.38
EW-4M	3/23/15		12.04	45.60					361	1.01	47.80	10.38	0.031	5.07
	3/24/16		12.77	42.20					343	0.72	9.00	18.42	0.020	5.02
	3/23/17		12.93	45.20					198	0.00	4.80	13.87	0.260	5.00
	3/23/18		12.14	45.20					277	0.00	8.60	18.41	0.022	4.91
	3/21/19		11.93	45.20					223	0.00	0.00	13.74	0.034	4.94
	3/18/20		12.94	45.20					269	0.78	10.60	14.33	0.027	5.01
	5/27/21		12.66	45.20					157	0.00	9.20	18.29	0.030	5.01
EW-4S	3/23/15		12.51	23.30					322	4.07	22.80	10.12	0.049	5.53
	3/24/16		13.30	23.25					174	0.52	40.00	19.98	0.053	6.96
	3/23/17		13.46	23.25					213	0.00	63.90	13.81	0.072	5.74
	3/23/18		12.80	23.25					207	0.00	12.80	14.65	0.090	5.72
	3/22/19		12.32	23.25					142	0.00	27.30	11.93	0.073	6.01
	3/17/20		13.51	23.25					126	58.00	47.20	14.51	0.640	6.11
	5/27/21		13.22	23.25					155	6.00	30.20	16.90	0.058	5.74

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-5M	6/24/15		10.00	51.40					340	2.57	27.30	16.78	0.299	4.05
	6/27/18		10.06	51.35					336	2.84	18.00	15.60	0.093	4.59
	8/1/19		10.68	51.35					285	3.80	2.80	18.72	0.082	4.65
	6/17/20		10.88	51.35					278	2.26	0.00	16.08	0.080	4.40
	6/4/21		10.18	51.35					309	2.45	0.00	16.98	0.089	4.61
EW-5D	4/29/16		9.36	128.05					361	7.33	0.00	14.21	0.450	4.73
	5/1/18		8.80	125.00					366	9.18	0.00	15.49	0.035	4.69
	4/16/20		9.20	130.00					306	0.00	1.80	12.89	0.037	4.39
EW-6S	6/25/15		13.81	23.60					149	2.63	2.10	20.46	0.015	4.97
	6/28/18		13.80	23.00					300	2.91	29.00	18.66	0.009	4.73
	8/1/19		14.66	15.11					**Not Enough Water to Sample**					
	6/18/20		15.05	24.40					229	6.67	45.90	18.70	0.009	4.69
	6/3/21		14.18	24.40					189	4.80	28.30	17.78	0.009	5.25
EW-6M	6/25/15		13.39	59.60					290	3.36	18.60	17.21	0.114	3.85
	6/28/18		13.31	58.00					346	3.30	4.80	19.11	0.101	4.58
	8/1/19		14.14	58.00					318	2.42	3.70	17.16	0.102	4.40
	6/18/20		14.58	58.00					287	2.43	4.90	18.78	0.084	4.31
	6/3/21		13.74	58.00					266	1.86	4.80	16.99	0.085	4.53
EW-7S	3/23/15		9.55	20.05					263	6.35	45.00	10.34	0.263	6.25
	3/24/16		12.51	22.40					241	1.47	5.00	20.15	0.093	6.17
	3/23/17		12.08	20.20					229	1.39	19.80	13.60	0.093	6.40
	3/23/18		10.93	20.20					196	0.00	12.20	16.62	0.086	6.14
	3/22/19		10.08	20.20					188	1.19	26.80	12.29	0.096	6.28
	3/17/20		12.45	20.25					229	5.16	47.40	13.97	0.082	6.23
	5/26/21		12.17	20.20					173	0.00	9.50	15.82	0.081	5.89
EW-7M	3/23/15		9.32	63.20					357	2.03	91.90	11.32	0.140	5.69
	3/24/16		13.10	63.00					264	0.00	0.00	17.02	0.105	6.25
	3/23/17		12.08	63.00					276	1.24	0.80	13.92	0.069	6.20
	3/23/18		11.80	63.00					234	0.66	0.00	12.97	0.154	5.84
	3/22/19		9.75	63.00					283	0.00	3.20	14.00	0.136	5.55
	3/17/20		12.52	63.15					313	4.10	42.40	13.58	0.800	5.85
	5/26/21		12.32	63.00					189	0.00	8.20	16.47	0.133	5.80

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-7D	3/23/15		8.08	112.98					357	0.70	62.50	12.13	0.040	4.67
	3/24/16		9.00	112.00					366	3.99	0.00	21.51	0.027	5.25
	3/24/17		9.58	112.00					335	0.00	0.00	12.49	0.300	4.72
	3/23/18		8.37	112.00					337	0.00	2.30	17.48	0.027	4.71
	3/22/19		7.41	112.00					350	0.00	0.00	12.38	0.031	4.70
	3/17/20		9.26	111.10					347	0.27	0.00	13.21	0.270	4.98
	5/26/21		8.98	112.00					358	4.21	0.00	19.21	0.032	4.39
EW-8S	6/25/15		17.60	24.03					160	5.42	15.40	16.41	0.284	5.96
	6/28/18		16.63	23.80					154	0.00	26.30	18.40	0.229	6.74
	7/31/19		18.34	23.80					136	0.00	6.00	16.97	0.243	6.53
	6/18/20		18.15	23.80					158	1.06	12.70	15.48	0.229	6.35
	6/3/21		17.29	23.80					121	0.72	49.80	14.98	0.107	6.95
EW-8M	6/25/15		17.40	75.57					280	5.58	0.00	16.51	0.103	4.14
	6/28/18		16.80	71.00					300	5.47	0.00	19.85	0.069	4.90
	7/31/19		18.57	71.00					292	6.00	0.00	16.89	0.059	4.68
	6/18/20		18.20	71.00					337	4.33	0.20	15.83	0.058	4.37
	6/3/21		17.21	71.00					293	5.16	2.80	15.64	0.065	4.55
EW-9S	4/28/16		17.22	26.35					188	4.04	31.10	14.15	0.090	6.09
	4/30/18		16.60	26.32					179	6.54	9.70	14.72	0.104	6.19
	4/16/20		16.53	26.32					240	6.71	21.30	14.68	0.064	6.08
EW-9M	4/27/16		17.95	77.15					206	4.23	4.20	14.29	0.106	4.23
	4/30/18		17.20	79.00					178	5.46	4.60	14.00	0.110	5.82
	4/16/20		17.16	79.00					215	6.15	1.40	14.62	0.114	6.40
EW-9D	4/27/16		16.45	125.90					-81	0.00	4.90	13.24	0.065	6.50
	4/30/18		16.09	130.00					-100	0.00	4.60	13.69	0.082	6.95
	4/16/20		16.33	130.00					-118	0.00	0.90	12.74	0.089	7.15
EW-10M	6/24/15		10.66	41.49					285	3.57	59.20	16.25	0.202	4.05
	6/27/18		10.71	41.30					298	3.58	7.50	15.75	0.068	4.64
	8/1/19		11.06	41.30					307	1.73	2.70	19.22	0.073	4.81
	6/17/20		11.32	41.30					320	3.33	0.00	15.68	0.066	4.53
	6/4/21		11.03	41.30					297	2.70	8.80	16.77	0.069	4.89
EW-10D	4/29/16		9.59	106.90					-60	0.00	3.90	12.89	0.090	6.15
	5/2/18		9.14	110.00					-31	0.00	2.60	14.67	0.066	6.10
	4/16/20		9.41	110.00					-88	0.00	3.20	13.00	0.069	6.05

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-11S	6/24/15		10.60	22.44					321	14.92	61.90	16.96	0.147	5.18
	6/27/18		10.44	22.46					256	0.00	0.00	17.93	0.020	5.28
	7/31/19		11.33	22.46					235	2.32	39.00	29.10	0.046	5.39
	6/17/20		11.54	22.46					225	3.99	13.70	15.53	0.048	4.13
	6/3/21		10.63	22.46					237	2.68	34.80	16.76	0.027	5.32
EW-11M	6/24/15		10.35	64.40					342	4.13	0.00	18.55	0.339	3.82
	6/27/18		10.30	63.00					204	10.27	0.00	18.60	0.088	5.47
	7/31/19		11.15	63.00					321	3.82	0.00	27.44	0.960	4.65
	6/17/20		11.39	63.00					261	1.55	0.00	15.78	0.154	3.49
	6/3/21		10.46	63.00					306	2.48	9.80	17.49	0.103	4.33
EW-12S	4/26/16		14.87	26.45					383	7.00	4.00	17.29	0.042	4.64
	5/1/18		12.10	27.00					360	8.70	0.00	14.89	0.031	4.26
	4/14/20		14.49	26.60					346	6.12	4.40	14.09	0.050	4.68
EW-12M	4/26/16		14.52	69.55					341	6.21	2.00	16.85	0.035	4.92
	5/1/18		13.79	70.00					343	8.01	0.00	14.39	0.026	4.98
	4/14/20		14.07	76.00					249	7.83	1.60	13.81	0.044	5.57
EW-13S	11/23/15		10.73	16.58					310	1.22	0.00	15.55	0.171	6.73
	10/20/16		10.73	14.40					100	0.00	3.00	20.72	0.095	6.01
	10/12/17		10.73	17.40					32	0.78	33.00	20.82	0.105	6.22
	9/29/18		9.37	17.40					25	0.00	15.00	21.18	0.058	6.01
	10/25/19		10.81	17.40					-69	0.00	38.00	18.77	0.154	6.43
	9/23/20		9.13	17.40					-53	0.00	5.80	21.00	0.109	5.94
EW-13M	11/23/15		10.65	51.00					387	1.34	0.00	14.62	0.126	5.76
	10/20/16		10.51	51.10					250	0.00	0.00	18.61	0.105	5.14
	10/12/17		10.64	53.00					266	1.34	1.00	17.81	0.104	5.25
	9/27/17		9.28	53.20					310	2.69	6.70	17.42	0.083	5.07
	10/25/19		10.68	53.00					267	0.00	0.00	15.97	0.090	5.55
	9/23/20		9.10	53.00					301	0.00	0.00	17.60	0.120	5.12
EW-14S	11/20/15		8.57	19.30					353	2.60	45.60	18.42	0.211	7.78
	10/20/16		9.40	20.00					5	1.70	40.00	22.77	0.285	6.85
	10/11/17		8.50	19.40					210	4.09	31.90	22.23	0.287	6.00
	9/26/18		6.87	19.40					177	2.10	43.10	24.80	0.127	6.45
	10/23/19		8.73	19.40					97	1.28	0.00	20.65	0.147	6.81
	9/23/20		6.65	19.40					197	3.67	32.50	22.31	0.297	6.29

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-14M	11/20/15		8.29	56.15					438	2.90	0.00	15.91	0.110	5.50
	10/20/16		8.21	56.00					235	1.18	3.00	19.11	0.104	4.90
	10/11/17		8.22	43.35					292	3.60	0.00	18.33	0.087	5.00
	9/27/18		6.70	43.35					304	1.24	0.00	19.26	0.081	4.63
	10/23/19		8.45	43.35					236	0.00	0.00	20.67	0.085	5.32
	9/23/20		6.39	43.35					275	2.94	0.00	20.58	0.124	5.20
EW-15D	4/27/16		8.40	111.95					326	3.94	0.00	12.64	0.055	5.07
	4/30/18		8.60	110.00					330	9.60	0.00	13.12	0.060	4.92
	4/15/20		8.26	120.00					289	2.87	2.20	13.71	0.057	5.05
EW-15M	11/18/15		9.90	70.86					349	1.52	0.00	15.01	0.106	6.49
	10/19/16		9.80	72.20					245	5.13	6.90	15.81	0.109	4.54
	10/12/17		11.10	68.00					249	0.00	0.00	15.40	0.103	5.62
	9/27/18		8.15	72.70					249	3.70	0.00	16.23	0.079	5.34
	10/24/19		10.20	72.60					312	2.86	0.00	13.72	0.086	5.34
	9/22/20		7.79	72.60					274	4.01	0.00	16.43	0.113	5.22
EW-16S	4/27/16		7.33	19.00					348	0.00	11.70	13.40	0.026	4.74
	5/1/18		7.41	19.00					334	2.14	15.20	14.85	0.036	4.64
	4/14/20		7.30	18.99					358	3.95	8.50	12.61	0.029	4.53
EW-16M	4/27/16		7.80	65.00					299	1.26	6.00	13.09	0.130	4.81
	5/1/18		7.01	65.00					312	3.70	0.00	15.20	0.139	5.20
	4/14/20		7.74	74.44					370	0.00	1.90	13.40	0.126	4.84
EW-17S	11/23/15		10.22	21.15					291	2.21	111.00	15.83	0.235	7.17
	10/19/15		10.10	21.10					74	1.20	0.00	29.12	0.098	6.76
	10/11/17		9.40	20.91					39	1.66	107.00	22.24	0.098	6.50
	9/26/18		8.30	20.70					160	1.45	42.70	21.48	0.185	6.50
	10/23/19		10.50	20.70					90	3.50	48.00	19.00	0.047	6.58
	9/22/20		7.84	20.70					-36	0.00	154.00	20.46	0.106	6.24
EW-17M	11/20/15		10.17	64.69					226	1.58	47.50	14.93	0.103	6.65
	10/19/16		10.02	65.00					136	1.05	47.00	17.59	0.078	5.23
	10/11/17		10.12	66.20					-56	0.49	49.60	17.40	0.088	6.33
	9/26/18		8.25	66.25					57	0.15	47.40	19.04	0.130	6.18
	10/23/19		10.34	66.20					64	4.75	47.00	18.03	0.025	7.16
	9/22/20		7.77	66.20					96	0.00	8.50	18.10	0.053	6.52

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-18S	11/23/15		7.46	19.21					310	2.09	5.60	18.53	0.199	7.45
	10/19/16		7.34	19.25					114	0.50	0.00	24.32	0.144	5.78
	10/11/17		7.50	19.10					100	0.62	0.00	22.45	0.314	6.50
	9/26/18		5.65	19.00					148	0.86	0.00	25.39	0.278	6.74
	10/23/19		7.56	19.00					-19	0.00	5.40	21.82	0.120	6.32
	9/23/20		5.37	19.00					79	0.00	9.50	22.75	0.164	6.07
EW-18M	11/23/15		7.28	55.38					389	3.23	20.60	14.09	0.100	5.94
	10/19/16		7.15	55.50					332	2.91	25.30	19.75	0.097	3.82
	10/11/17		7.30	56.50					339	1.94	7.40	17.00	0.107	4.79
	9/27/18		5.50	57.20					304	1.83	49.20	18.92	0.068	5.14
	10/23/19		7.34	57.20					348	3.42	19.60	17.19	0.067	4.45
	9/23/20		5.20	57.20					344	3.33	5.70	17.24	0.095	4.77
EW-19S	11/18/15		11.77	24.79					395	3.30	47.60	18.76	0.193	6.46
	10/20/16		11.66	21.50					181	0.80	10.00	17.33	0.101	6.11
	10/12/17		12.50	25.00					199	1.14	0.00	17.15	0.169	6.12
	9/28/18		10.43	24.75					204	0.33	9.70	17.33	0.170	5.93
	10/25/19		11.97	24.75					30	0.00	26.00	17.20	0.229	6.13
	9/23/20		10.18	24.75					191	2.24	16.30	18.44	0.099	6.13
EW-19M	11/18/15		11.74	48.54					435	7.83	0.00	15.61	0.092	5.65
	10/20/16		11.63	48.50					320	0.11	0.00	16.37	0.077	4.59
	10/12/17		12.15	36.50					364	0.87	0.00	16.01	0.101	4.58
	9/28/18		10.40	48.60					337	0.00	0.00	15.81	0.073	4.53
	10/25/19		11.85	48.60					327	2.79	0.00	16.52	0.064	4.71
	9/23/20		10.15	48.60					224	2.77	0.00	16.20	0.098	4.79
EW-20S	4/28/16		14.42	20.80					238	0.00	18.20	14.70	0.044	5.35
	5/1/18		13.95	15.10					**Unable to sample. Well Blocked.**					
	4/15/20		14.04	24.65					284	6.61	26.90	13.59	0.031	4.67
EW-20M	11/17/15		14.06	47.58					421	1.82	0.00	14.33	0.098	5.38
	10/19/16		14.00	47.55					308	0.00	0.00	20.42	0.092	4.29
	10/13/17		14.04	45.20					222	1.39	5.60	16.33	0.098	4.96
	9/28/18		13.21	45.20					341	0.00	0.00	16.06	0.080	4.73
	10/24/19		14.05	45.20					334	0.00	0.00	15.31	0.077	5.13
	9/22/20		13.11	45.26					320	2.29	1.70	16.09	0.101	4.70

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-21S	4/29/16		11.28	23.10					213	3.33	14.80	14.79	0.179	6.18
	5/1/18		10.98	22.40					201	1.97	21.70	18.61	0.095	6.14
	4/15/20		11.06	22.40					128	2.63	15.10	12.34	0.180	6.20
EW-21M	11/17/15		11.62	46.33					418	2.47	0.00	16.14	0.084	5.36
	10/19/16		11.56	46.36					265	0.43	4.20	19.42	0.087	4.88
	10/13/17		11.63	46.30					348	0.00	0.00	14.79	0.112	4.65
	9/28/18		10.92	46.33					336	0.00	0.00	17.19	0.068	4.76
	10/25/19		11.60	46.33					322	1.20	0.00	15.64	0.063	4.82
	9/22/20		10.81	46.33					318	2.39	3.10	16.97	0.090	4.80
EW-22S	11/17/15		16.25	28.00					415	6.94	0.00	20.12	0.022	5.60
	10/19/16		16.15	27.95					271	9.13	0.00	18.38	0.029	4.51
	10/13/17		16.36	28.20					308	9.91	3.80	19.70	0.019	4.69
	9/28/18		15.10	28.20					400	8.13	0.00	17.72	0.040	4.48
	10/24/19		16.26	28.20					332	7.51	0.00	18.43	0.014	4.54
	9/22/20		15.05	28.20					334	7.98	2.80	18.55	0.041	4.70
EW-22M	11/17/15		15.86	55.00					247	2.45	0.00	16.08	0.155	4.47
	10/19/16		15.79	55.05					304	1.90	0.00	18.51	0.082	4.38
	10/13/17		15.88	55.00					419	0.28	0.00	15.42	0.092	4.12
	9/28/18		14.75	56.00					372	1.75	0.00	16.01	0.086	4.45
	10/24/19		15.90	56.00					384	2.01	0.00	17.47	0.059	4.26
	9/22/20		14.70	56.00					310	2.62	2.90	17.36	0.078	4.57
EW-23S	11/17/15		5.63	16.90					121	0.72	1.50	15.79	0.078	5.26
	10/20/16		5.59	13.00					71	0.00	16.30	19.30	0.056	5.70
	10/13/17		5.65	13.00					196	0.00	0.00	17.65	0.058	5.66
	9/28/18		4.65	16.69					160	0.00	25.20	19.69	0.050	5.75
	10/24/19		5.55	16.69					187	7.21	14.70	20.58	0.038	5.74
	9/22/20		4.70	16.69					36	0.00	18.10	21.05	0.051	5.58
EW-23M	11/17/15		5.66	37.82					248	0.00	0.00	14.92	0.167	5.14
	10/20/16		5.59	37.85					283	0.00	0.90	18.50	0.086	4.29
	10/13/17		5.64	37.83					374	0.23	0.30	16.61	0.068	4.16
	9/28/18		4.60	37.83					452	0.00	0.00	18.39	0.090	4.09
	10/24/19		5.62	37.83					329	0.00	0.00	17.18	0.054	4.23
	9/22/20		4.66	37.83					310	0.00	0.00	18.85	0.076	3.96

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-28S	6/24/15		8.97	15.40					213	0.62	14.30	16.60	0.244	5.15
	6/28/18		8.91	16.40					194	0.00	45.60	19.16	0.239	6.50
	8/1/19		9.65	16.40					144	0.00	38.80	23.45	0.123	5.93
	6/18/20		10.08	16.40					142	0.84	38.20	16.68	0.087	5.39
	6/4/21		9.46	16.40					100	0.00	48.20	19.59	0.112	6.21
MW-28M	6/24/15		9.15	58.50					269	2.80	25.00	16.77	0.337	4.81
	6/28/18		8.99	58.00					215	5.45	12.30	18.50	0.077	6.15
	8/1/19		9.78	58.00					230	0.00	30.70	18.41	0.115	5.15
	6/18/20		10.30	58.00					52	0.64	48.30	14.91	0.106	5.33
	6/4/21		9.71	58.00					230	3.16	20.10	19.81	0.105	5.48
MW-29S	6/24/15		4.15	12.50					199	5.97	68.40	18.99	0.142	5.42
	6/27/18		4.26	12.60					250	5.70	8.30	20.61	0.067	5.69
	8/1/19		4.59	12.60					216	5.24	7.30	21.96	0.093	5.92
	6/17/20		4.72	12.60					215	1.65	0.00	18.02	0.075	5.86
	6/4/21		4.21	12.60					224	2.85	9.10	17.25	0.083	5.95
MW-29M	4/29/16		4.76	36.90					371	0.00	2.90	14.36	0.038	4.59
	5/2/18		4.38	36.79					396	0.00	1.40	14.35	0.024	4.39
	4/16/20		4.40	36.79					380	1.48	1.50	14.15	0.027	4.63
MW-30S	6/24/15		10.61	18.20					151	1.60	3.70	16.78	0.134	5.21
	6/27/18		10.62	18.10					131	4.81	0.00	15.49	0.016	5.41
	8/1/19		11.31	18.10					150	0.96	5.30	18.12	0.030	5.42
	6/17/20		11.24	18.10					249	0.00	7.30	15.44	0.052	5.39
	6/7/21		10.83	18.10					57	0.00	20.30	16.99	0.024	5.67
MW-31S	11/23/15		5.32	12.86					116	0.00	48.30	14.58	0.216	5.53
	10/19/16		5.29	12.85					87	0.00	50.80	20.20	0.102	5.53
	10/11/17		5.20	12.90					25	0.00	8.10	21.00	0.050	4.81
	9/26/18		4.45	12.90					75	0.00	27.70	23.12	0.077	5.65
	10/23/19		5.00	12.90					14	0.00	92.70	20.88	0.085	5.67
	9/23/20		3.43	12.80					58	0.00	29.40	22.57	0.138	5.58
MW-31M	11/23/15		5.29	32.00					30	3.35	0.00	13.92	0.154	6.22
	10/19/16		5.25	32.00					57	0.00	11.10	20.80	0.052	6.02
	10/11/17		5.35	32.10					29	0.00	0.00	17.25	0.059	6.01
	9/26/18		4.51	32.01					52	0.00	11.30	18.88	0.039	6.00
	10/23/19		5.06	32.01					14	1.33	48.70	19.85	0.046	6.37
	9/23/20		4.61	32.01					-10	0.89	177.00	16.84	0.064	6.28

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-32S	11/18/15		7.54	16.40					184	0.72	0.00	18.84	0.433	7.30
	10/19/16		7.52	16.35					-12	0.00	5.80	22.43	0.324	6.17
	10/12/17		7.40	16.30					11	0.33	5.70	21.55	0.300	6.19
	9/26/18		6.70	15.50					-31	2.99	5.70	21.67	0.417	6.09
	10/25/19		7.52	16.30					-78	0.00	3.40	18.49	0.351	6.29
	9/24/20		6.84	16.30					7	0.00	6.00	20.04	0.032	5.85
MW-32M	4/26/16		7.35	38.45					309	0.00	37.80	17.90	0.440	4.30
	5/1/18		7.07	38.51					395	3.39	23.80	14.29	0.034	4.23
	4/15/20		7.11	38.51					380	0.25	8.10	13.71	0.033	4.46
MW-33S	6/25/15		7.82	17.74					197	5.50	0.00	20.26	0.155	5.29
	6/28/18		7.98	17.70					243	4.58	5.30	16.41	0.062	5.60
	7/31/19		8.44	17.70					199	4.66	4.00	17.15	0.088	6.08
	6/18/20		8.66	17.70					209	0.00	8.20	15.58	0.105	5.76
	6/4/21		7.95	17.70					207	0.43	49.40	17.28	0.094	6.00
MW-33M	6/25/15		7.26	46.91					273	3.79	9.40	20.90	0.025	4.84
	6/28/18		7.97	46.00					315	4.52	0.00	17.44	0.082	5.09
	7/31/19		8.30	46.00					255	2.81	0.00	17.15	0.091	5.03
	6/18/20		8.94	46.00					313	1.68	2.40	15.75	0.088	4.62
	6/4/21		8.41	46.00					278	3.06	3.70	16.28	0.082	5.33
MW-34S	6/24/15		9.52	20.51					140	0.47	16.80	20.15	0.670	6.02
	6/27/18		9.60	20.45					219	2.39	48.70	17.03	0.174	6.30
	8/1/19		10.26	20.45					166	0.00	19.10	20.76	0.135	6.17
	6/17/20		10.49	20.45					180	0.00	16.40	16.83	0.174	5.16
	6/7/21		9.80	20.45					210	0.00	29.30	20.71	0.134	6.30
MW-34M	4/28/16		10.02	63.30					310	0.00	0.00	13.42	0.102	4.66
	4/30/18		9.37	65.00					331	0.70	0.00	15.26	0.092	4.74
	4/15/20		9.62	64.00					368	1.94	0.00	15.35	0.088	4.97
MW-35S	6/24/15		9.80	19.20					223	6.73	8.00	18.72	0.131	5.45
	6/27/18		9.85	19.20					167	6.86	19.90	16.18	0.037	6.66
	8/1/19		10.55	19.20					190	2.78	7.00	21.19	0.025	6.07
	6/17/20		10.84	19.20					209	7.12	5.10	15.72	0.044	4.87
	6/7/21		9.84	19.20					324	2.61	0.00	16.01	0.088	4.23

Table 2
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Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-35M	4/28/16		9.92	72.25					297	0.00	3.90	13.37	0.099	4.73
	4/30/18		9.27	75.00					332	1.40	0.50	14.14	0.087	4.68
	4/15/20		9.41	75.00					310	2.16	0.90	14.53	0.108	4.74
MW-37M	4/27/16		12.46	68.20					282	2.85	1.60	13.51	0.076	5.07
	4/30/18		11.70	68.00					230	8.35	0.00	14.10	0.076	6.12
	4/16/20		11.46	68.20					269	4.55	0.60	11.44	0.113	5.05
MW-38S	11/18/15		8.26	14.36					272	1.03	0.00	18.21	0.191	7.43
	10/20/16		8.19	14.30					134	1.01	29.30	24.73	0.153	6.27
	10/12/17		7.63	14.27					136	1.64	9.30	19.55	0.196	6.38
	9/27/18		7.25	14.27					163	0.00	1.30	20.89	0.167	6.34
	10/24/19		8.18	14.27					118	0.00	14.60	18.13	0.140	6.57
	9/24/20		7.04	14.27					170	2.18	6.10	22.34	0.215	6.20
MW-38M	11/18/15		8.38	58.40					320	0.60	15.60	17.54	0.038	7.22
	10/20/16		8.19	55.00					36	0.00	4.70	24.70	0.049	6.31
	10/12/17		7.71	55.00					-23	0.32	13.40	17.87	0.047	6.53
	9/27/18		7.36	60.00					-66	0.00	3.80	16.61	0.062	6.03
	10/24/19		8.30	60.00					61	0.00	1.10	13.49	0.059	5.91
	9/24/20		7.09	60.00					290	0.00	7.60	18.36	0.102	5.01
MW-39S	11/5/14		12.08	19.00					315	0.76	26.50	20.00	0.161	6.00
	12/10/15		11.69	18.70					300	1.07	20.80	19.43	0.183	7.84
	11/17/16		11.72	18.85					108	0.00	16.80	22.06	0.056	6.58
	10/25/17		11.86	18.95					137	7.10	12.00	20.60	0.118	6.21
	10/22/18		10.50	18.95					314	3.05	0.00	17.91	0.264	6.82
	11/20/19		11.67	18.95					220	0.00	6.50	17.89	0.209	6.60
	10/21/20		10.65	18.95					81	0.77	9.00	20.56	0.176	6.61
MW-39M	11/5/14		12.09	58.20					340	2.40	9.30	17.58	0.155	5.41
	12/10/15		12.04	58.00					358	0.62	7.30	16.75	0.109	5.99
	11/17/16		12.15	58.30					287	0.00	0.00	19.19	0.102	5.43
	10/25/17		12.26	58.20					230	0.00	0.00	17.75	0.105	5.36
	10/22/18		10.90	58.20					358	0.00	0.00	16.04	0.077	5.42
	11/20/19		12.04	58.20					388	0.00	0.80	15.83	0.085	5.10
	10/21/20		11.04	58.20					232	1.42	0.00	17.33	0.078	5.64

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-40S	11/5/14		6.71	15.55					261	4.94	51.70	20.00	0.283	6.36
	12/9/15		6.35	15.55					152	2.24	43.90	17.15	0.235	8.05
	11/17/16		6.55	15.60					78	0.09	37.20	19.14	0.198	6.61
	10/25/17		6.57	15.40					110	0.64	10.40	21.34	0.239	6.58
	10/22/18		5.34	15.70					250	0.84	6.20	18.13	0.191	6.47
	11/20/19		6.48	15.70					259	3.32	9.50	17.98	0.248	6.59
	10/21/20		5.49	15.70					117	1.44	0.00	20.79	0.173	6.63
MW-40M	4/29/16		6.28	38.70					356	4.90	0.44	14.51	0.033	4.34
	5/2/18		5.90	38.70					389	0.00	0.00	14.80	0.027	4.11
	4/16/20		5.93	38.70					380	0.00	1.20	14.09	0.032	4.20
MW-41S	4/27/16		5.62	14.75					212	2.81	12.50	14.60	0.109	6.32
	5/1/18		5.29	14.74					185	5.70	2.20	14.68	0.303	6.32
	4/15/20		5.28	14.74					162	4.47	11.30	14.12	0.153	6.51
MW-41M	11/5/14		6.04	32.50					71	0.82	71.10	17.03	0.110	5.72
	12/9/15		5.84	32.50					-53	0.21	64.50	16.24	0.029	7.98
	11/16/16		6.00	32.60					99	0.00	69.10	17.99	0.127	4.06
	10/26/17		5.97	32.50					52	0.00	47.20	19.37	0.095	5.97
	10/18/18		5.51	32.50					27	0.00	88.10	19.19	0.090	6.32
	11/21/19		6.00	32.50					116	0.00	19.00	18.13	0.093	5.66
	10/20/20		5.11	32.50					70	0.00	22.40	20.37	0.076	5.95
MW-42S	4/26/16		13.33	22.10					220	1.57	38.10	19.68	0.065	5.92
	5/1/18		13.00	22.11					243	3.60	3.50	14.74	0.068	5.59
	4/14/20		13.08	22.11					290	3.05	6.20	14.44	0.049	5.60
MW-42M	4/26/16		13.17	41.20					297	0.00	24.80	17.42	0.093	4.76
	5/1/18		12.80	41.30					351	1.12	5.40	16.37	0.068	4.83
	4/14/20		12.99	41.30					366	2.41	6.60	16.01	0.078	4.72
MW-43S	4/29/16		9.86	17.70					227	1.05	6.90	14.41	0.099	5.69
	5/1/18		9.00	18.10					216	8.08	10.00	17.73	0.120	5.97
	4/14/20		9.48	17.10					186	1.99	14.70	14.41	0.135	6.08
MW-43M	4/29/16		9.80	40.90					271	0.00	45.40	14.31	0.105	4.95
	5/1/18		9.65	40.00					313	2.00	22.90	16.19	0.098	4.86
	4/14/20		9.32	41.00					297	1.67	10.70	15.07	0.111	5.04

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-45S	11/5/14		9.72	17.35					401	5.35	35.60	21.10	0.140	5.76
	12/9/15		9.56	17.40					113	4.87	33.30	17.65	0.307	5.94
	11/16/16		9.80	17.40					243	0.00	22.10	19.77	0.060	5.56
	10/25/17		9.72	17.40					226	4.40	4.70	23.97	0.570	5.50
	10/18/18		7.98	17.40					362	5.15	0.10	20.19	0.130	6.19
	11/20/19		9.74	17.40					315	4.23	9.60	19.29	0.066	5.64
	10/20/20		8.24	17.40					185	4.08	14.00	22.36	0.066	5.92
MW-45M	11/5/14		9.69	46.95					274	13.20	34.00	16.96	0.125	4.44
	12/9/15		9.10	47.00					168	2.70	35.00	14.92	0.019	4.42
	11/16/16		9.73	47.00					328	0.00	2.00	17.22	0.093	4.56
	10/25/17		9.64	47.00					323	0.99	1.70	17.63	0.110	4.62
	10/18/18		7.87	39.30					405	2.12	0.00	16.65	0.088	4.85
	11/20/19		9.65	39.30					411	0.00	3.60	16.46	0.096	4.58
	10/20/20		8.19	46.95					325	2.85	4.70	19.37	0.090	4.76
MW-46S	4/27/16		7.27	15.40					-18	0.00	13.20	15.46	0.073	6.10
	5/2/18		6.76	18.35					69	0.00	0.30	13.91	0.203	5.84
	4/15/20		7.05	8.75					31	0.75	2.00	13.69	0.030	5.93
MW-46M	4/27/16		7.26	49.20					338	0.00	3.90	14.45	0.089	4.63
	5/2/18		6.75	49.00					431	0.00	0.00	15.86	0.072	4.15
	4/15/20		7.04	47.00					422	2.07	0.00	14.88	0.071	4.30
MW-47S	4/29/16		12.13	17.50					298	3.02	0.00	14.03	0.017	5.03
	4/30/18		12.10	18.00					342	7.96	0.00	15.12	0.024	4.73
	4/16/20		11.62	17.50					219	3.87	10.30	14.71	0.024	4.79
MW-47M	11/5/14		12.68	42.15					354	2.74	82.60	17.08	0.098	4.65
	12/10/15		12.46	42.00					344	1.24	32.60	16.25	0.064	5.88
	11/17/16		12.63	42.20					345	0.00	25.90	15.89	0.063	4.84
	10/25/17		12.62	42.25					336	0.75	21.40	18.41	0.073	4.46
	10/19/18		11.12	42.25					272	0.75	28.70	17.55	0.093	5.26
	11/20/19		12.57	42.25					404	0.00	9.90	15.82	0.076	4.57
	10/21/20		11.36	42.25					299	2.70	12.40	17.13	0.079	4.94

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-48M	11/5/14		11.23	66.65					409	4.06	118.00	16.84	0.097	4.58
	12/10/15		11.20	66.50					297	3.60	55.00	16.07	0.124	4.43
	11/17/16		11.18	60.00					340	3.23	5.30	15.92	0.066	4.76
	10/25/17		11.80	65.00					291	4.56	0.00	16.70	0.069	4.91
	10/22/18		8.98	66.50					404	3.12	0.00	16.20	0.056	5.05
	11/20/19		11.29	65.00					391	4.33	9.70	14.76	0.072	4.62
	10/20/20		8.81	66.50					311	4.11	68.30	19.10	0.060	5.00
MW-49M	11/5/14		16.20	73.35					423	4.49	58.70	16.42	0.097	4.39
	12/10/15		16.17	73.00					300	5.16	26.30	14.69	0.111	4.21
	11/16/16		16.14	73.35					368	0.00	0.00	16.53	0.070	4.56
	10/25/17		15.14	73.40					299	3.35	0.00	15.07	0.840	4.65
	10/18/18		14.46	73.40					446	4.51	0.00	14.56	0.065	4.81
	11/20/19		16.28	73.40					386	3.79	4.80	13.59	0.057	4.66
	10/20/20		13.74	73.40					294	4.65	1.60	16.28	0.048	4.61
MW-50M	4/28/16		14.87	72.35					270	0.10	0.00	13.38	0.081	4.85
	4/30/18		11.35	75.00					282	7.84	0.00	15.54	0.081	5.56
	4/16/20		13.62	75.00					299	3.64	1.70	13.13	0.078	4.83
MW-51D	3/23/15		7.49	91.32					344	6.27	10.20	10.22	0.063	4.89
	3/24/16		8.10	90.00					373	0.00	0.00	13.92	0.037	4.39
	3/24/17		8.80	85.00					243	0.00	0.60	13.44	0.040	4.32
	3/20/18		7.76	91.20					270	0.00	14.40	12.49	0.044	3.95
	3/20/19		7.17	91.20					262	0.00	31.80	13.54	0.052	4.16
	3/18/20		8.57	91.20					337	0.00	2.30	12.95	0.052	4.33
	5/25/21		8.43	91.20					418	0.00	0.00	15.97	0.040	3.88
MW-51M	3/23/15		9.53	46.75					438	1.27	88.40	9.77	0.116	3.75
	3/24/16		9.81	46.80					381	0.27	4.40	13.44	0.075	4.62
	3/24/17		10.00	46.80					391	0.00	0.00	14.30	0.099	4.31
	3/20/18		9.65	46.80					382	0.00	0.00	17.47	0.089	4.27
	3/20/19		9.55	46.80					379	0.00	0.00	14.32	0.080	4.70
	3/18/20		9.90	46.80					430	1.27	3.30	12.39	0.104	4.69
	5/25/21		9.98	46.80					380	2.21	0.00	15.23	0.080	4.29

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-51S	3/23/15		9.52	31.70					332	3.02	69.50	10.72	0.062	4.53
	3/24/16		9.81	31.70					376	9.46	2.00	13.38	0.035	4.59
	3/24/17		10.00	31.70					389	0.00	0.00	13.63	0.071	4.44
	3/20/18		9.65	31.70					368	0.00	0.00	16.98	0.072	4.41
	3/20/19		9.48	31.70					392	3.23	0.40	14.09	0.024	4.56
	3/18/20		9.91	31.70					413	2.64	3.60	12.00	0.056	4.89
	5/25/21		9.95	31.70					306	1.83	6.10	14.88	0.052	4.91
MW-52S	11/5/14		3.05	25.30					154	3.83	50.90	16.37	0.161	5.79
	12/9/15		2.91	25.00					235	2.71	38.60	14.17	0.120	7.63
	11/17/16		3.07	24.90					106	0.00	18.70	16.07	0.078	6.50
	10/26/17		3.01	25.20					180	0.96	39.00	15.47	0.052	5.37
	10/19/18		2.34	23.50					146	0.00	19.80	17.11	0.062	5.99
	11/21/19		3.01	23.50					289	2.39	5.70	14.83	0.061	5.80
	10/19/20		2.35	25.20					104	1.14	104.00	19.41	0.047	5.39
MW-52M	11/5/14		3.71	44.10					174	2.81	57.40	16.19	0.070	5.41
	12/9/15		3.60	44.00					252	0.78	44.40	14.65	0.063	6.06
	11/17/16		3.71	44.00					248	0.00	22.30	16.95	0.062	5.26
	10/26/17		3.64	43.70					264	0.00	9.20	15.57	0.059	4.85
	10/19/18		2.89	43.70					345	0.00	4.20	17.90	0.051	5.06
	11/21/19		3.67	43.70					402	0.00	6.80	15.38	0.056	4.64
	10/19/20		3.00	43.70					290	1.17	28.10	17.34	0.062	4.15
MW-53S	11/5/14		3.96	27.10					266	1.45	0.00	18.57	0.088	5.57
	12/9/15		3.64	27.10					292	2.88	8.00	14.90	0.078	6.47
	11/17/16		3.95	27.15					277	0.00	35.80	16.64	0.043	4.91
	10/25/17		3.89	27.10					251	0.00	0.00	16.47	0.044	5.27
	10/19/18		3.18	27.10					255	0.00	11.50	15.61	0.029	5.47
	11/21/19		3.87	27.10					336	0.00	9.10	13.33	0.058	4.99
	10/19/20		3.32	27.10					224	0.00	19.70	17.18	0.030	4.54
MW-53M	11/5/14		3.31	46.50					324	0.31	41.50	16.53	0.045	4.35
	12/9/15		2.96	46.50					139	0.48	6.40	14.66	0.045	6.61
	11/17/16		3.28	46.35					35	0.00	30.30	16.72	0.062	5.99
	10/25/17		3.22	46.40					217	0	13.5	15.77	0.032	4.69
	10/19/18		2.50	46.40					296	0	0	15.09	0.031	4.61
	11/21/19		3.23	46.40					134	0	49.4	13.06	0.046	5.63
	10/19/20		2.54	46.40					298	0	74.3	15.75	0.032	3.49

Table 2
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Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-54S	3/24/15		12.04	31.86					132	2.56	129.00	10.22	0.111	5.63
	3/23/16		12.75	31.46					266	0.00	20.00	22.02	0.115	4.82
	3/23/17		13.06	31.95					207	2.82	124.00	14.49	0.095	5.33
	3/23/18		12.02	31.95					273	0.00	39.00	14.65	0.108	4.77
	3/22/19		11.63	31.95					210	0.00	46.30	12.87	0.074	5.37
	3/18/20		12.90	31.98					317	2.80	47.70	13.90	121.000	5.10
	5/25/21		12.92	31.95					261	1.89	171.00	16.25	0.156	5.02
MW-54M	3/23/15		11.80	46.72					324	4.24	51.00	11.27	0.136	5.05
	3/23/16		13.40	46.75					307	1.70	24.50	17.32	0.138	5.11
	3/23/17		12.79	46.75					295	0.84	4.50	14.12	0.102	5.41
	3/23/18		11.78	46.75					261	0.00	42.20	18.69	0.109	5.50
	3/22/19		11.38	46.75					311	3.34	0.00	11.49	0.171	5.17
	5/25/21		12.63	46.75					272	3.49	22.50	16.40	0.125	5.19
MW-54D	3/23/15		10.79	84.20					445	2.73	19.60	10.33	0.141	3.75
	3/23/16		11.65	83.65					426	1.57	0.00	22.75	0.113	4.02
	3/23/17		12.24	83.65					434	0.00	0.00	12.63	0.145	3.42
	3/23/18		10.95	83.65					468	0.00	2.10	17.48	0.147	3.77
	3/22/19		10.45	83.65					501	1.95	0.00	13.12	0.178	3.30
	5/25/21		11.89	83.65					446	2.72	0.00	15.73	0.133	3.64
MW-55S	11/5/14		10.32	24.90					357	0.88	9.90	18.11	0.025	5.49
	12/10/15		10.21	25.00					228	0.53	0.00	18.50	0.036	5.16
	11/17/16		10.47	24.95					-3	0.00	0.00	19.29	0.085	6.79
	10/25/17		10.24	24.90					146	4.74	7.60	22.27	0.440	6.76
	10/19/18		9.81	24.90					-79	3.58	8.70	16.01	0.517	6.66
	11/22/19		10.40	24.90					-41	0.00	0.00	17.88	0.435	6.33
	10/20/20		9.09	24.90					-90	0.39	5.10	19.28	0.335	6.55
MW-55M	11/5/14		9.93	39.70					394	1.05	16.80	15.53	0.048	4.10
	12/10/15		9.82	40.00					303	1.24	40.60	17.08	0.064	3.79
	11/17/16		10.07	39.80					340	0.00	0.00	17.88	0.038	4.50
	10/25/17		9.84	38.00					354	0.00	4.20	19.13	0.047	4.38
	10/19/18		8.53	35.00					205	0.00	0.00	18.02	0.039	5.46
	11/22/19		10.02	39.60					387	0.00	0.00	16.47	0.034	4.22
	10/20/20		8.68	39.60					317	0.53	8.70	17.64	0.037	4.36

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-56D	3/23/15		0.44	77.87					328	5.91	12.30	11.21	0.049	5.42
	3/23/16		1.28	77.95					191	0.00	47.90	16.68	0.038	5.55
	3/23/17		1.84	77.95					89	0.00	31.60	10.39	0.037	5.71
	3/20/18		0.72	77.95					163	0.00	48.80	16.33	0.055	5.19
	3/20/19		0.17	77.95					165	0.00	5.20	13.70	0.048	5.04
	5/24/21		1.51	77.95					174	0.00	31.80	15.98	0.039	5.06
MW-56M	3/23/15		1.83	39.64					336	2.12	8.60	12.71	0.035	4.30
	3/23/16		2.03	40.50					392	0.00	10.50	16.48	0.033	4.29
	3/23/17		2.19	40.50					408	0.00	0.40	12.33	0.034	3.79
	3/20/18		1.89	40.50					435	0.00	6.90	12.35	0.039	3.93
	3/20/19		1.79	40.50					446	0.00	0.00	14.15	0.035	4.08
	5/24/21		2.16	40.50					493	0.00	0.00	16.59	0.039	3.76
MW-56S	3/23/15		2.31	24.62					365	1.08	84.40	12.74	0.048	4.88
	3/23/16		2.44	27.75					346	0.00	0.00	17.44	0.031	5.83
	3/23/17		2.61	27.75					266	0.00	0.00	12.19	0.030	4.94
	3/20/18		2.27	29.75					329	0.00	20.80	10.98	0.033	4.73
	3/20/19		2.22	27.75					299	0.00	2.20	13.68	0.026	4.81
	5/24/21		2.54	27.75					373	1.38	4.50	15.84	0.094	4.41
MW-57S	3/23/15		2.01	26.59					378	1.48	74.20	11.61	0.051	4.29
	3/23/16		2.19	26.20					343	0.00	0.00	15.77	0.045	4.73
	3/23/17		2.40	26.60					339	0.00	0.00	12.66	0.077	4.04
	3/20/18		2.07	26.60					379	0.00	0.00	16.66	0.057	4.18
	3/20/19		1.94	26.60					354	0.00	0.00	13.41	0.036	4.39
	5/24/21		2.47	26.60					334	0.00	0.00	15.15	0.051	4.05
MW-57M	3/23/15		2.08	36.86					391	0.20	26.60	11.67	0.067	4.10
	3/23/16		2.26	30.00					463	0.00	0.00	15.28	0.052	4.29
	3/23/17		2.47	36.80					385	0.00	0.00	11.50	0.053	4.28
	3/20/18		2.15	36.80					466	0.00	7.30	11.57	0.058	3.79
	3/20/19		2.06	36.80					415	0.00	0.00	13.92	0.061	4.11
	5/24/21		2.41	36.80					317	0.00	8.10	16.96	0.043	4.12
MW-58S	12/3/14		3.28	38.20					303	7.68	703.00	14.60	0.104	8.23
	5/18/15		3.39	38.20					129	5.54	223.00	15.99	0.240	7.99
	6/8/17		3.14	38.10					401	2.30	0.00	16.17	0.068	4.78
	6/5/18		2.93	38.20					346	4.31	0.00	21.50	0.040	4.63
	7/11/19		3.27	38.20					299	4.11	31.60	21.26	0.077	4.78

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-58M	12/3/14		3.13	52.50					326	2.12	58.00	13.46	0.035	4.90
	5/18/15		3.12	52.57					291	4.88	127.00	17.74	0.066	3.77
	6/8/17		2.95	52.60					399	0.00	0.00	16.73	0.029	4.30
	6/5/18		2.73	52.57					263	0.00	0.00	15.55	0.018	4.12
	7/11/19		3.08	52.57					183	0.00	0.00	20.01	0.031	4.38
	5/22/20		3.24	52.57					193	0.00	0.00	15.06	0.024	4.10
MW-59S	12/5/14		3.94	35.30					194	1.48	788.00	11.36	0.039	4.97
	5/18/15		3.86	35.30					357	0.07	203.00	16.66	0.113	3.80
	6/8/17		3.61	35.40					299	0.00	1.90	17.31	0.037	4.42
	6/4/18		3.34	35.30					417	0.00	0.00	16.70	0.032	3.89
	7/11/19		3.92	35.30					308	0.00	0.00	22.02	0.042	4.25
	5/19/20		4.02	35.30					453	0.00	0.00	15.32	0.038	3.18
MW-59M	12/5/14		4.15	48.00					317	1.04	30.50	12.76	0.058	3.39
	5/18/15		3.45	48.10					289	6.35	150.00	15.88	0.109	4.40
	6/8/17		3.14	48.10					327	0.00	25.40	18.69	0.037	4.35
	6/4/18		2.80	48.10					408	0.00	0.00	15.36	0.035	3.78
	7/11/19		3.46	48.10					346	0.00	0.00	19.41	0.049	4.07
	5/19/20		3.89	48.10					416	0.00	0.00	16.39	0.037	3.30
MW-60S	12/4/14		4.35	18.00					431	7.44	30.00	139.97	0.055	3.81
	5/18/15		2.50	24.50					315	6.26	129.00	15.00	0.141	3.80
	6/7/17		4.20	23.25					420	4.56	0.00	14.80	0.033	4.64
	6/4/18		3.80	23.50					475	7.46	0.00	12.98	0.040	4.29
	7/10/19		4.46	24.50					404	6.55	7.30	16.47	0.049	4.22
	5/19/20		4.59	24.50					304	7.01	2.10	13.07	0.024	3.96
MW-60M	12/4/14		43.00	53.10					164	2.87	800+	12.22	0.032	4.78
	5/18/15		4.25	53.20					441	2.31	490.00	15.96	0.046	3.56
	6/7/17		3.91	53.10					339	0.00	0.00	14.61	0.029	4.46
	6/4/18		3.97	53.10					424	0.00	0.00	14.85	0.028	4.30
	7/10/19		4.18	53.20					387	0.00	6.20	15.28	0.037	3.47
	5/19/20		4.31	53.20					305	0.00	9.70	13.87	0.026	3.83
MW-61S	12/4/14		1.90	32.00					270	2.36	808.00	14.21	0.101	4.76
	5/18/15		2.12	31.95					369	3.29	661.00	17.43	0.091	4.05
	6/7/17		1.75	32.00					343	0.42	17.70	14.42	0.069	5.21
	6/4/18		2.34	32.00					403	2.93	0.00	13.71	0.070	4.75
	7/10/19		1.88	31.95					322	1.46	104.00	17.40	0.076	4.71
	5/19/20		2.55	31.95					356	0.00	45.70	13.22	0.089	4.00

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-61M	12/4/14		2.00	55.80					140	2.49	280.00	11.96	0.061	7.52
	5/18/15		2.18	56.11					230	4.49	200.00	16.75	0.152	4.96
	6/7/17		1.87	55.85					295	0.00	4.70	14.61	0.044	5.43
	6/1/18		2.35	55.00					363	0.00	0.00	14.26	0.038	4.86
	7/10/19		2.02	56.11					237	0.97	36.00	18.15	0.060	5.44
	5/19/20		2.86	56.11					345	0.00	0.00	14.61	0.035	3.74
MW-62S	12/8/14		3.25	23.20					364	0.05	73.60	9.03	0.045	4.25
	5/18/15		3.38	23.22					289	3.55	182.00	20.44	0.120	4.19
	6/8/17		3.10	20.00					344	0.00	0.00	15.12	0.046	4.24
	6/5/18		3.02	22.00					340	0.00	0.00	13.84	0.032	4.18
	7/12/19		3.03	23.22					297	0.00	0.00	19.06	0.041	4.05
	5/21/20		3.53	23.22					358	0.00	0.00	15.30	0.034	4.05
MW-62M	12/8/14		2.73	35.00					301	3.16	390.00	11.79	0.055	4.24
	5/18/15		2.68	46.21					447	4.19	1000+	17.29	0.052	3.91
	6/8/17		2.40	55.00					264	0.00	0.00	15.78	0.050	4.73
	6/5/18		2.25	46.00					298	0.00	0.00	14.80	0.030	4.68
	7/12/19		2.43	46.21					243	0.00	21.80	16.80	0.043	4.57
	5/21/20		2.89	46.21					243	0.00	1.20	16.45	0.030	4.57
MW-63S	12/9/14		3.70	23.15					351	5.79	26.50	10.43	0.097	4.62
	5/18/15		4.13	23.15					521	6.43	163.00	15.08	0.144	3.29
	6/8/17		3.90	23.15					315	3.31	0.00	15.55	0.086	4.56
	6/1/18		3.65	23.15					435	3.74	0.00	14.84	0.089	4.47
	7/12/19		3.80	23.15					390	3.86	0.00	15.54	0.082	4.29
	5/22/20		4.35	23.15					373	5.67	0.00	13.89	0.068	4.65
MW-63M	12/9/14		2.81	45.00					427	3.23	128.00	11.58	0.049	402.00
	5/18/15		2.87	57.92					494	5.18	173.00	14.82	0.050	3.73
	6/8/17		2.65	57.70					364	0.52	0.00	15.12	0.033	4.62
	6/1/18		2.26	57.92					406	1.88	0.00	15.02	0.029	4.42
	7/12/19		2.69	57.92					347	2.76	0.00	14.86	0.036	4.28
	5/22/20		3.29	57.92					348	2.19	2.20	14.59	0.031	4.70
MW-64S	12/5/14		3.90	23.10					178	0.20	38.10	13.44	0.138	6.19
	5/18/15		4.01	23.08					-	-	-	-	-	-
	6/6/17		3.53	23.15					171	0.00	0.00	15.59	0.088	6.06
	6/1/18		4.05	23.00					259	0.00	0.00	15.76	0.093	5.76
	7/11/19		4.18	23.08					217	1.18	0.00	17.07	0.123	5.58
	5/21/20		4.43	23.08					198	0.00	0.00	14.73	0.079	5.72

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-64M	12/5/14		3.05	61.10					415	3.78	126.00	13.47	0.117	3.83
	5/18/15		2.74	61.20					-	-	-	-	-	-
	6/6/17		2.42	61.20					356	1.92	0.00	15.38	0.089	4.55
	6/1/18		2.11	61.20					347	6.37	0.00	17.12	0.069	4.89
	7/11/19		2.82	61.20					389	2.97	7.80	16.77	0.076	4.07
	5/21/20		3.08	57.10					304	0.00	8.00	14.50	0.072	4.93
MW-65S	12/8/14		4.72	23.10					164	4.99	138.00	12.00	0.136	5.89
	5/18/15		5.11	22.90					503	6.19	151.00	16.49	0.132	3.87
	6/6/17		4.62	23.15					128	1.65	74.80	16.60	0.155	5.71
	6/1/18		4.20	22.90					259	4.10	41.20	15.19	0.116	5.10
	7/9/19		5.27	22.90					230	2.97	61.40	18.33	0.088	5.09
	5/21/20		5.27	22.90					181	2.49	0.00	14.53	0.111	6.20
MW-65M	12/9/14		4.05	63.10					451	3.94	115.00	13.07	0.119	4.33
	5/18/15		4.36	63.14					531	4.62	149.00	14.87	0.108	3.20
	6/6/17		4.03	63.10					299	1.18	0.00	15.25	0.089	4.79
	6/1/18		3.61	63.14					377	4.30	0.00	15.91	0.064	4.60
	7/9/19		4.49	63.14					315	2.73	0.00	18.49	0.073	4.79
	5/21/20		4.66	63.14					349	1.90	0.00	13.63	0.071	4.73
MW-66S	12/3/14		6.17	23.00					326	7.19	724.00	13.82	0.090	4.92
	5/18/15		5.90	23.04					442	7.04	742.00	15.48	0.077	3.54
	6/6/17		5.65	23.65					360	7.62	28.00	15.30	0.063	4.62
	6/5/18		5.10	23.04					440	6.20	0.00	16.53	0.056	4.09
	7/9/19		6.05	20.00					298	5.06	7.10	17.16	0.065	4.69
	5/20/20		6.62	20.00					366	3.04	15.70	13.50	0.056	3.88
MW-67S	12/4/14		8.85	33.00					366	5.96	230.00	13.42	0.048	4.62
	5/18/15		8.58	32.90					-31	0.26	153.00	12.23	0.172	6.05
	6/6/17		8.22	32.10					47	0.26	29.50	15.63	0.050	5.69
	6/5/18		7.72	32.90					445	3.09	0.00	14.69	0.033	3.83
	7/9/19		8.83	32.90					-2	-	6.80	17.75	0.069	5.86
	5/20/20		3.76	32.90					310	0.00	17.20	13.10	0.037	3.79
MW-68S	12/3/14		11.54	28.30					216	0.00	117.00	13.81	0.098	6.09
	5/18/15		10.59	28.27					214	3.06	159.00	14.39	0.205	5.42
	6/6/17		11.60	28.25					178	0.00	0.00	14.48	0.042	5.35
	6/5/18		10.05	29.10					328	0.00	0.00	15.80	0.024	5.15
	7/9/19		10.73	28.27					386	4.71	7.70	14.93	0.028	4.20
	5/20/20		11.22	28.27					360	0.00	5.90	12.77	0.020	4.09

Table 2
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Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-69S	12/3/14		3.60	30.70					243	6.67	800+	11.15	0.066	5.21
	5/18/15		3.80	30.68					302	6.45	238.00	14.47	0.234	4.50
	6/7/17		3.41	30.70					347	5.59	37.60	16.49	0.080	4.86
	7/10/19		3.71	30.70					338	6.28	0.00	15.90	0.084	4.55
	5/20/20		3.98	36.95					378	3.69	0.00	13.52	0.098	3.94

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Summary of Groundwater Sampling Field Data
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-69M	12/3/14		3.53	50.70					436	3.53	420.00	13.04	0.130	3.81
	5/18/15		3.70	50.80					454	3.11	425.00	16.28	0.101	3.39
	6/7/17		3.35	50.65					394	0.82	44.40	16.21	0.062	4.43
	7/10/19		3.68	50.55					396	1.41	3.20	15.47	0.067	3.91
	5/20/20		4.10	50.80					430	0.00	0.00	14.08	0.058	3.54
MW-70S	12/4/14		2.80	29.40					431	6.70	194.00	13.28	0.149	3.97
	5/18/15		2.78	29.60					252	6.16	800+	15.48	0.296	3.86
	6/7/17		2.46	29.60					395	3.38	25.30	16.37	0.079	4.74
	6/4/18		2.08	29.60					422	6.43	0.00	13.84	0.065	4.38
	7/10/19		2.76	29.60					322	5.90	32.90	19.25	0.120	4.61
	5/19/20		2.90	29.60					337	5.22	27.10	15.28	0.084	4.31
MW-70M	12/4/14		2.10	56.40					291	1.29	65.20	12.28	0.027	4.73
	5/18/15		1.90	56.50					236	2.23	212.00	13.57	0.075	4.62
	6/7/17		1.59	56.60					343	0.00	41.90	16.57	0.016	4.78
	6/4/18		1.20	56.50					392	0.77	0.00	14.34	0.018	4.50
	7/10/19		2.91	56.50					357	0.63	0.00	15.09	0.020	4.32
	5/19/20		2.14	56.50					307	0.00	0.00	13.72	0.018	4.31
MW-71S	12/3/14		3.40	21.30					311	6.04	297.00	11.47	0.037	4.68
	5/18/15		3.61	22.21					462	6.15	265.00	14.50	0.100	3.60
	6/7/17		3.21	22.35					380	6.24	40.70	15.21	0.026	4.39
	7/10/19		3.43	22.21					379	6.35	1.80	16.96	0.082	4.06
	5/20/20		3.52	22.21					373	5.04	8.90	13.71	0.043	4.28
MW-71M	12/3/14		3.45	56.95					321	4.66	922.00	12.55	0.053	4.11
	5/18/15		3.57	57.19					317	0.63	800+	14.24	0.095	3.76
	6/7/17		3.21	56.95					378	0.00	43.70	14.75	0.039	4.19
	7/10/19		3.41	57.19					346	0.00	3.60	21.24	0.029	4.15
	5/20/20		3.55	57.19					356	0.00	33.70	13.43	0.048	4.14
MW-72S	12/8/14		2.63	27.20					290	6.60	1000+	13.19	0.146	4.30
	5/18/15		2.90	27.10					542	7.06	300.00	15.19	0.108	2.96
	6/6/17		2.48	27.30					373	370.00	79.00	14.73	0.121	4.48
	6/1/18		2.12	27.10					409	6.40	0.00	14.46	0.077	4.45
	7/11/19		2.96	27.10					350	6.42	22.80	16.12	0.064	4.20
	5/20/20		2.96	27.10					362	4.69	9.30	12.90	0.083	4.43

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Vineland Chemical
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Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-72M	12/8/14		2.43	62.25					433	3.36	33.70	11.99	0.089	4.52
	5/18/15		2.68	62.50					484	7.20	333.00	14.80	0.083	3.83
	-		2.25	62.20					327	0.00	0.00	14.81	0.054	4.93
	6/1/18		2.14	62.20					403	0.92	0.00	14.97	0.055	4.72
	7/11/19		2.74	62.50					349	1.90	0.00	15.11	0.052	4.37
	5/20/20		2.76	62.50					359	0.66	0.00	13.14	0.054	4.41
MW-73S	12/5/14		3.50	27.60					193	5.02	53.40	12.61	0.078	5.64
	5/18/15		3.59	27.60					-	-	-	-	-	-
	6/8/17		3.29	27.65					317	1.50	0.00	15.39	0.160	5.00
	6/1/18		3.06	27.60					352	0.74	0.00	17.07	0.069	4.80
	7/11/19		3.63	27.60					350	2.59	0.00	18.22	0.112	4.60
	5/22/20		3.83	27.60					280	5.30	0.00	16.44	0.090	5.13
MW-73M	12/5/14		3.52	52.35					370	3.55	3.51	13.20	0.061	4.71
	5/18/15		3.60	52.29					-	-	-	-	-	-
	6/8/17		3.35	52.50					147	0.00	47.80	15.33	0.090	5.51
	6/1/18		3.08	52.29					125	0.00	41.70	15.96	0.083	5.32
	7/11/19		3.68	52.29					27	0.00	9.00	17.44	0.283	5.59
	5/22/20		3.87	52.29					62	0.00	2.10	14.52	0.087	5.97
MW-74S	12/9/14		2.24	32.70					221	6.35	682.00	11.75	0.030	4.92
	5/18/15		2.70	32.43					-	-	-	-	-	-
	6/8/17		2.34	32.40					257	0.00	0.00	14.61	0.032	4.78
	6/5/18		2.18	32.43					244	0.00	0.00	16.13	0.022	4.71
	7/12/19		2.40	32.43					206	0.00	0.00	16.12	0.023	4.61
	5/22/20		2.89	32.43					265	0.00	7.60	14.69	0.022	4.47
MW-74M	12/9/14		1.83	56.60					375	3.13	1000+	12.38	0.043	3.78
	5/18/15		2.09	57.10					-	-	-	-	-	-
	6/8/17		1.84	56.75					376	0.00	26.00	14.51	0.025	4.34
	6/5/18		1.49	57.10					402	0.00	0.00	14.81	0.017	4.02
	7/12/19		1.83	57.10					367	0.00	0.00	14.53	0.026	4.09
	5/22/20		2.32	57.10					373	0.00	10.30	14.49	0.023	4.13
MW-75S	12/4/14		3.21	30.30					129	1.76	350.00	12.24	0.051	5.74
	5/18/15		3.23	30.30					326	1.69	230.00	14.69	0.072	5.04
	6/8/17		3.60	28.75					22	0.00	49.50	15.43	0.052	6.15
	6/5/18		4.25	27.00					32	0.00	0.00	15.27	0.044	6.19
	7/12/19		2.90	30.30					-24	4.55	49.00	19.98	0.059	6.12
	5/21/20		3.41	30.30					-12	0.00	0.00	15.38	0.042	6.41

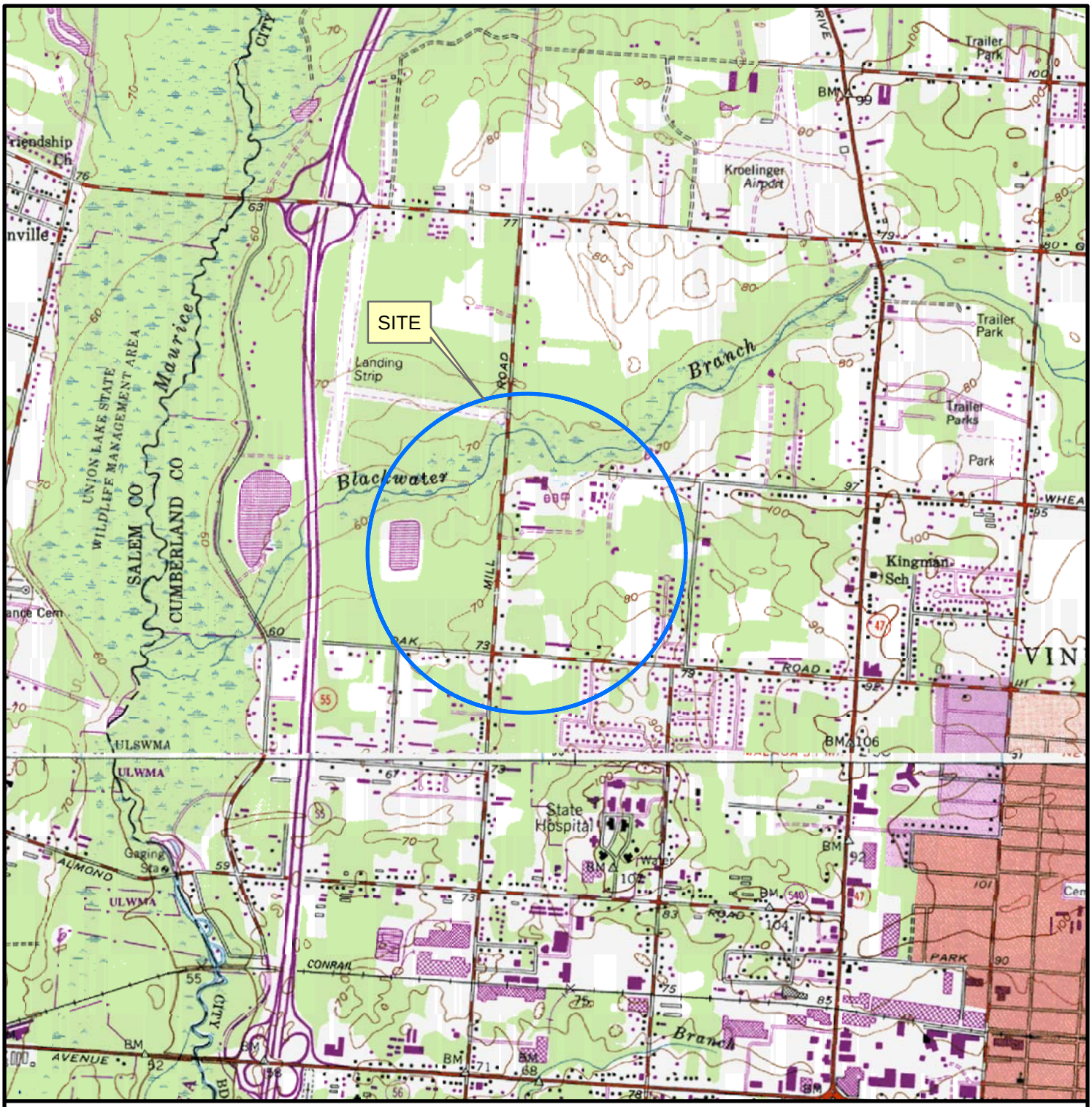
Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

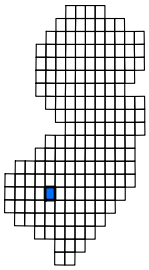
		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-75M	12/4/14		3.45	41.60					227	4.41	641.00	11.41	0.037	4.83
	5/18/15		3.38	41.59					311	3.23	708.00	14.71	0.052	3.24
	6/8/17		3.87	42.00					311	0.00	0.00	15.19	0.040	4.35
	6/5/18		3.54	40.00					379	0.00	0.00	18.50	0.032	4.18
	7/12/19		3.10	41.59					209	0.00	0.00	18.92	0.041	4.28
	5/21/20		3.58	41.59					274	0.00	0.00	14.96	0.034	4.16
MW-75D	12/4/14		2.34	71.20					308	1.09	>800	12.70	0.034	4.34
	5/18/15		2.12	71.80					414	2.52	757.00	14.54	0.048	2.83
	6/8/17		1.90	72.00					313	1.93	0.00	14.95	0.034	4.51
	6/5/18		4.12	70.00					438	0.00	0.00	15.25	0.028	4.18
	7/12/19		1.93	71.80					331	0.00	0.00	15.20	0.029	3.95
	5/21/20		2.44	71.80					313	0.00	72.40	15.16	0.030	4.12
WW-24S	11/5/14		12.35	15.50					234	2.29	38.60	20.35	0.121	6.20
	12/10/15		11.62	15.50					315	1.84	51.40	18.87	0.097	7.29
	11/16/16		12.45	15.80					217	0.00	35.30	19.15	0.124	4.36
	10/25/17		12.30	15.80					198	3.40	13.30	20.50	0.150	6.17
	10/19/18		11.25	15.80					217	3.96	0.00	18.76	0.140	6.41
	11/22/19		12.38	15.80					285	2.84	0.00	17.16	0.112	6.03
	10/20/20		11.36	15.80					185	4.60	5.10	19.10	0.153	6.38
WW-24M	4/26/16		11.27	54.00					271	2.41	88.10	12.78	0.100	4.90
	5/1/18		10.92	55.00					333	7.13	99.10	15.70	0.076	4.87
	4/15/20		11.05	55.00					258	6.50	70.70	13.67	0.085	4.75
WW-25S	11/5/14		4.68	16.80					190	0.62	11.50	19.68	0.100	5.91
	12/9/15		4.55	16.80					75	0.00	73.00	15.25	0.208	6.04
	11/17/16		7.79	16.85					137	0.00	0.00	19.06	0.098	6.01
	10/26/17		4.65	15.50					155	0.00	0.00	17.07	0.098	5.65
	10/19/18		3.92	16.83					193	0.00	0.00	17.94	0.105	5.89
	11/21/19		4.60	16.83					187	1.59	0.00	16.45	0.048	5.72
	10/19/20		4.00	16.83					230	1.68	0.00	20.12	0.091	7.00
WW-25M	11/5/14		4.48	42.20					118	0.00	12.30	16.16	0.041	5.26
	12/9/15		4.58	42.00					174	0.00	71.70	13.82	0.051	4.40
	11/17/17		4.70	42.50					134	0.00	14.30	16.08	0.036	5.20
	10/26/17		4.65	42.40					183	0.00	7.70	16.08	0.035	4.90
	10/19/18		3.91	42.40					7	0.00	0.00	17.67	0.053	6.06
	11/21/19		3.59	42.40					271	0.00	0.00	15.25	0.033	5.80
	10/19/20		3.93	42.40					182	5.42	0.00	19.20	0.045	6.08

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-26S	11/5/14		7.73	13.60					58	1.21	72.90	18.78	0.161	6.64
	12/10/15		7.65	13.50					110	3.05	73.00	14.43	0.262	6.46
	11/16/16		7.79	13.70					50	0.00	51.50	21.87	0.127	6.71
	10/25/17		7.67	13.65					-31	0.00	12.20	20.79	0.180	6.49
	10/19/18		6.25	13.86					36	0.00	15.20	20.43	0.100	6.68
	11/21/19		7.80	13.65					66	2.35	0.00	16.74	0.133	6.95
	10/19/20		6.96	13.65					121	3.37	0.00	20.24	0.122	6.40
WW-26M	11/5/14		12.98	40.00					274	3.82	28.70	17.22	0.156	5.50
	12/10/15		7.65	40.50					225	3.92	36.20	13.65	0.283	5.14
	11/16/16		7.82	40.60					269	0.00	24.00	19.03	0.157	5.49
	10/25/17		7.68	40.50					245	3.32	0.00	16.93	0.180	5.24
	10/19/18		6.85	40.30					256	4.43	0.00	18.52	0.160	5.60
	11/21/19		7.72	40.50					251	7.20	0.00	16.73	0.104	5.86
	10/19/20		6.97	40.50					236	5.36	0.00	20.05	0.156	5.36
WW-27S	11/5/14		13.08	20.00					357	6.37	32.40	17.42	0.043	4.98
	12/10/15		12.90	20.00					400	4.34	4.20	15.95	0.020	5.63
	11/16/16		13.13	19.95					278	0.57	7.40	18.15	0.038	5.16
	10/25/17		12.94	19.90					229	5.57	2.70	20.61	0.051	4.82
	10/19/18		12.00	18.50					386	6.75	21.90	18.47	0.101	6.22
	11/22/19		13.10	19.90					363	4.49	0.00	17.27	0.234	4.97
	10/20/20		12.11	19.90					271	4.42	12.10	19.88	0.209	5.60
WW-27M	11/5/14		11.76	43.00					327	8.92	19.90	16.50	0.111	5.24
	12/10/15		13.02	44.50					369	0.98	7.70	15.29	0.070	6.16
	11/16/16		13.22	44.65					291	0.00	3.80	18.29	0.077	4.90
	10/25/17		13.03	44.57					295	0.50	2.10	19.82	0.110	4.68
	10/19/18		12.10	44.57					341	0.00	0.00	17.80	0.063	4.84
	11/22/19		13.18	44.57					464	0.00	0.00	16.76	0.072	4.40
	10/20/20		12.17	44.57					246	0.00	4.30	18.54	0.080	5.41

ATTACHMENTS





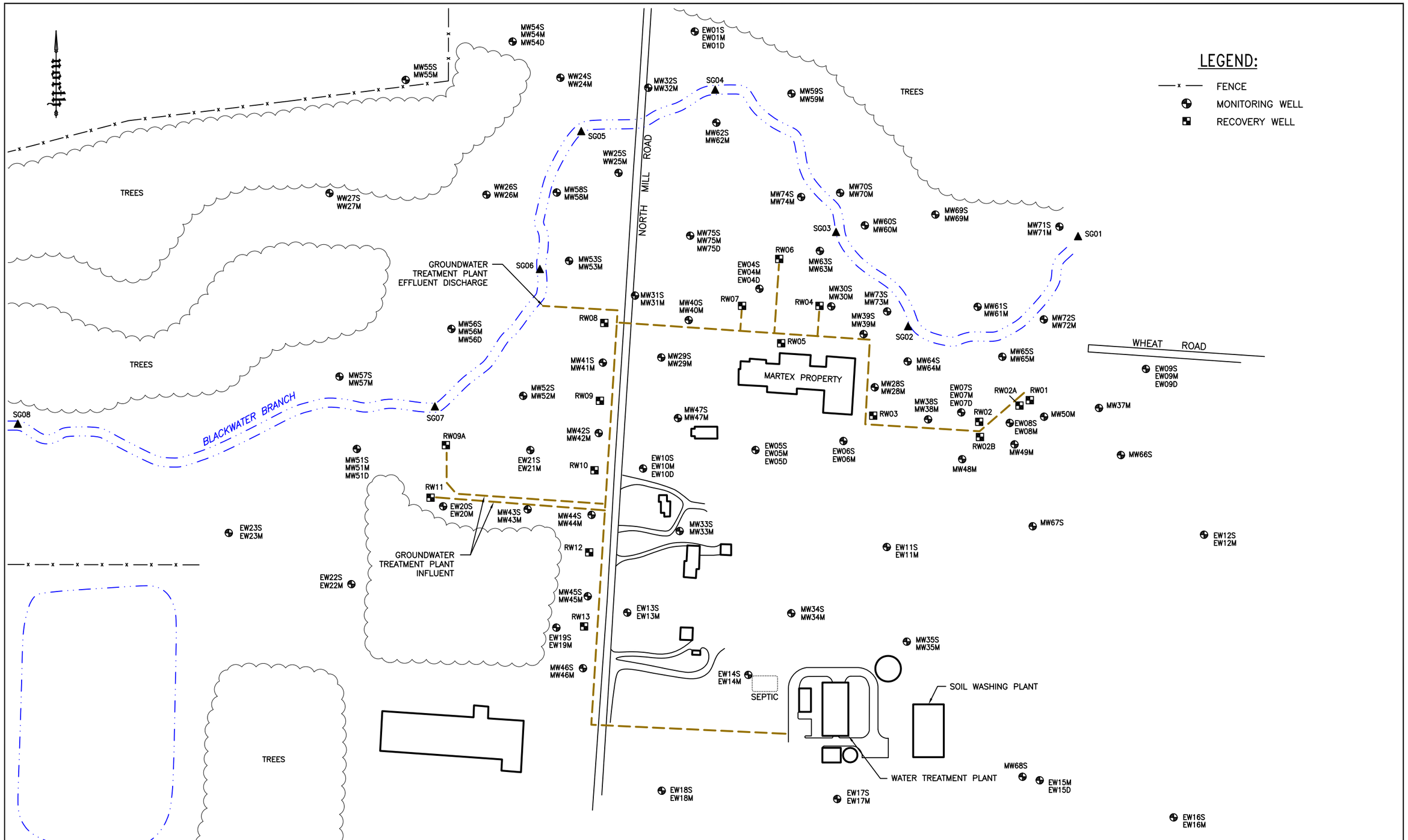
QUADRANGLE LOCATION:
NEWFIELD, NEW JERSEY

SOURCE: USGS 7.5 MINUTE SERIES
REVISED/INSPECTED: 1994
CONTOUR INTERVAL: 10 FEET

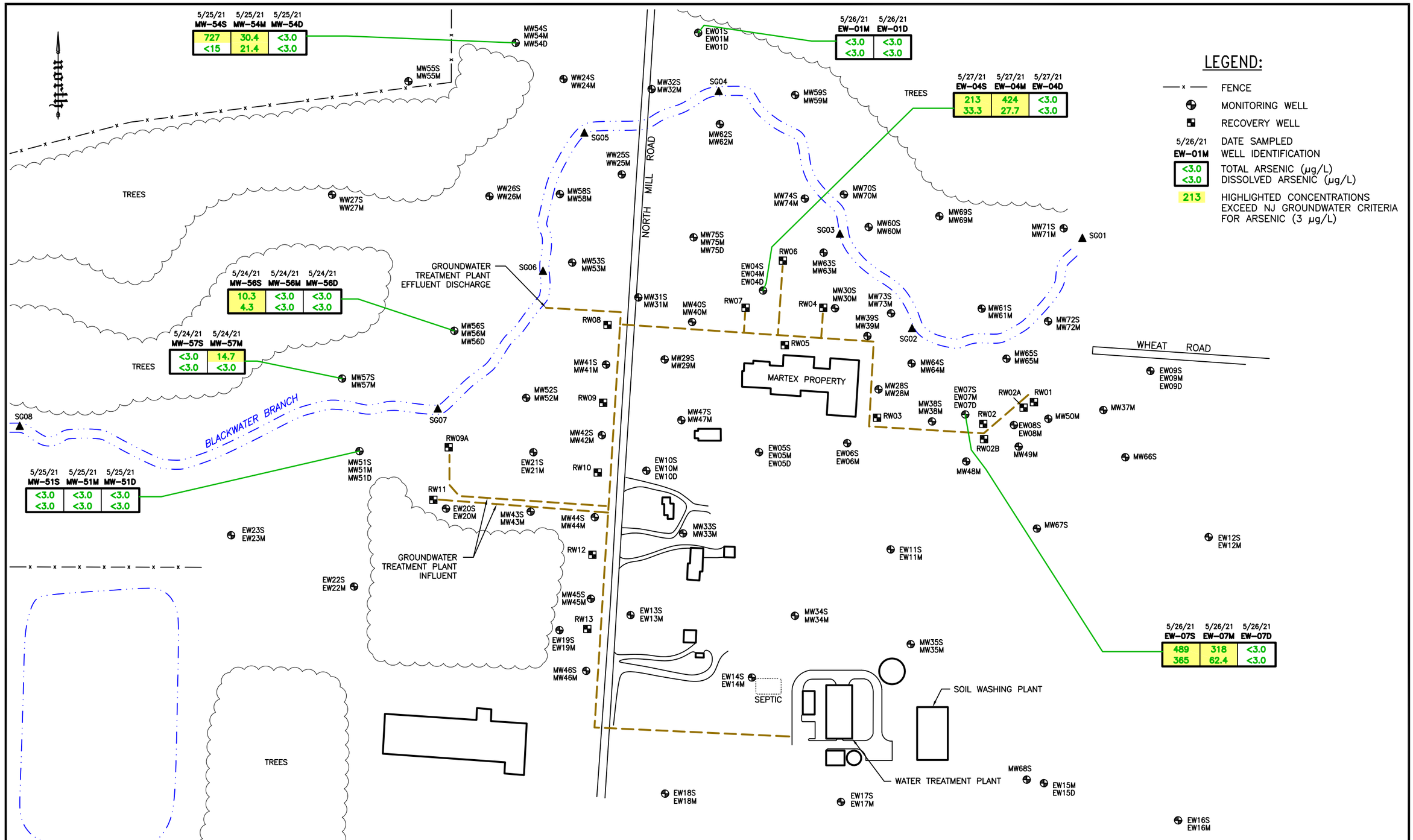
0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

ATTACHMENT	U.S.G.S. TOPOGRAPHIC MAP	DRAWN BY: B.S.	EnviroTrac ENVIRONMENTAL SERVICES
A	NJDEP - VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	DATE: 11/21/2014	400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017



ATTACHMENT B	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	SITE PLAN	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
		DRAWN BY: B.S. / REVISION DATE: 11/21/2014		



ATTACHMENT	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	GROUNDWATER CONTAMINANT MAP MAY 2021	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
D		DRAWN BY: B.S. / REVISION DATE: 7/15/2021		

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

June 2021

PREPARED FOR:

Erin Husta

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

401 EAST STATE STREET

MAIL CODE: 401-06H

P.O. BOX 420

TRENTON, NJ 08625

SAMPLING COMPLETED BY:

ENVIROTRAC LTD.

400 CORPORATE COURT, SUITE E

SOUTH PLAINFIELD, NJ 07080

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

1.0 Introduction

Envirotrac Ltd., between June 4th, 2021, and June 7th, 2021, sampled NJDEP Vineland Chemical, Vineland, of Cumberland County, New Jersey per the request of Erin Husta, NJDEP Operations Manager. Sampling was performed in accordance with the 2021 Groundwater Sampling Plan Scope of Work provided by the NJDEP. The system onsite was sampled by Sevenson Environmental Services between the groundwater sampling events.

2.0 Scope of the Sampling

The groundwater sampling event included EW-05M, EW-06S, EW-06M, EW-08S, EW-08M, EW-10M, EW-11S, EW-11M, MW-28S, MW-28M, MW-29S, MW-30S, MW-33S, MW-33M, MW-34S, and MW-35S. One matrix spike/matrix spike duplicate sample (EW-5M) and one field duplicates (MW-29S) were collected during this sampling event in accordance with the Site-Specific Quality Assurance and Quality Control (QAPP) prepared in 2021 by Envirotrac.

3.0 Analytical Parameters

The groundwater samples were analyzed at the time of sampling for the field parameters Oxidation-Reduction Potential (ORP), Dissolved Oxygen (ppm), Turbidity (NTU), Temperature (^{0}C), Conductivity (ms/cm) and pH by the field technicians of Envirotrac Ltd. (NJ Lab Certification 12020), South Plainfield, New Jersey. The groundwater samples were then analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

The system samples were analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

4.0 Sampling Personnel on Site

The groundwater sampling was conducted by Kevin Mallon. The system sampling was conducted by Sevenson Environmental Services between the groundwater sampling events.

5.0 Methodology(ies)

All samples were collected by first purging the monitoring wells using a low-flow submersible pump and dedicated 3/8" poly tubing. The wells were purged until indicator parameters stabilized with three consecutive readings within ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10mv for Redox Potential; and 10% for Dissolved Oxygen and Turbidity. Once the indicator parameters have been stabilized, the sample is collected using a submersible pump. All purge water was containerized and brought back to the system to be treated.

The onsite System was active during the groundwater sampling event.

6.0 Non-conformance summary

All sampling was performed in compliance with the scope of work and the standard sampling methods. There were no unusual observations during the sampling event.

Tables

Table 1 June 2021 Groundwater Sampling Lab Results

Table 2 Summary of Groundwater Sampling Field Data

Attachments

Attachment A U.S.G.S. Topographic Map with Site Location

Attachment B Site Plan

Attachment C Groundwater Contaminant Map

TABLES

SGS Dayton, NJ

6/24/2021 10:38

Job Number:	JD26224
Account:	EnviroTrac Ltd.
Project:	NJDEP-Vineland Chemical, Vineland, NJ
Project Number:	

Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent). Legend: Hit | Exceed

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW-05M	EW-05M	EW-06S	EW-06S	EW-06M	EW-06M	EW-08S	EW-08S
Lab Sample ID:				JD26224-1	JD26224-1F	JD26224-2	JD26224-2F	JD26224-3	JD26224-3F	JD26224-4	JD26224-4F
Date Sampled:				6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	6.4	<3.0	82.4	14.6	44.2	<3.0	941	651

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW-08M	EW-08M	EW-10M	EW-10M	EW-11S	EW-11S	EW-11M	EW-11M
Lab Sample ID:				JD26224-5	JD26224-5F	JD26224-6	JD26224-6F	JD26224-7	JD26224-7F	JD26224-8	JD26224-8F
Date Sampled:				6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	3.6	<3.0	19.7	3.1	44.8	4.6	138	14.3

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW-28S	MW-28S	MW-28M	MW-28M	MW-29S	MW-29S	MW-30S	MW-30S
Lab Sample ID:				JD26224-9	JD26224-9F	JD26224-10	JD26224-10F	JD26224-11	JD26224-11F	JD26224-12	JD26224-12F
Date Sampled:				6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	142	40.6	256	41.6	11.7	9.4	106	23.7

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW-33S	MW-33S	MW-33M	MW-33M	MW-34S	MW-34S	MW-35S	MW-35S
Lab Sample ID:				JD26224-13	JD26224-13F	JD26224-14	JD26224-14F	JD26224-15	JD26224-15F	JD26224-16	JD26224-16F
Date Sampled:				6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021	6/4/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	132	10.7	<3.0	<3.0	286	254	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	FIELD BLANK-1	FIELD BLANK-2	DUPLICATE	DUPLICATE				
Lab Sample ID:				JD26224-17	JD26224-18	JD26224-19	JD26224-19F				
Date Sampled:				6/4/2021	6/4/2021	6/4/2021	6/4/2021				
Matrix:				Field Blank Water	Field Blank Water	Ground Water	Groundwater Filtered				
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	11.1	9.8				

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

27 results exceeded regulatory criteria.

[1] NOTE: The above also includes "generic" criteria that cannot be evaluated using LabLink regulatory limits. They are as follows: "SOCs defined as carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 5 ug/l each 25 ug/l total. SOCs defined as non-carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 100 ug/l each 500 ug/l total."

[2] NOTE: This list represents Interim Specific and Interim Generic criteria ONLY. For Specific criteria refer to "NJ Groundwater Criteria".

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-1M	3/24/15		9.59	39.30					318	1.32	63.80	11.03	0.048	3.50
	3/24/16		10.20	39.25					424	0.00	0.00	18.72	0.035	4.39
	3/24/17		10.10	39.25					396	0.00	0.00	13.95	0.040	4.05
	3/20/18		9.74	39.25					408	0.00	0.00	17.15	0.041	4.07
	3/21/19		9.47	39.25					426	2.25	0.00	12.92	0.062	4.03
	3/18/20		10.37	39.25					454	0.59	0.30	13.76	0.042	4.30
	5/26/21		10.37	39.25					410	0.00	0.00	15.66	0.043	3.96
EW-1D	3/24/15		8.91	108.63					258	1.87	64.60	10.69	0.044	4.10
	3/24/16		9.80	104.00					347	0.00	0.00	20.50	0.026	4.79
	3/24/17		10.21	104.00					252	0.00	0.00	12.44	0.029	4.78
	3/20/18		9.10	104.00					331	0.00	3.30	12.27	0.031	4.24
	3/21/19		8.87	104.00					328	0.00	0.50	12.54	0.027	4.82
	3/18/20		10.02	104.20					400	0.49	1.40	14.22	0.031	4.69
	5/26/21		9.93	104.00					329	0.00	0.00	17.55	0.030	4.69
EW-4D	3/24/15		10.73	111.54					347	0.80	64.70	11.18	0.040	4.46
	3/24/16		11.50	113.00					387	5.76	0.00	16.88	0.021	4.99
	3/23/17		12.02	113.00					320	0.00	0.00	13.60	0.029	3.96
	3/23/18		11.50	113.00					300	7.15	0.00	12.82	0.035	5.17
	3/21/19		10.33	104.00					320	0.00	0.00	13.10	0.030	4.18
	3/18/20		11.79	110.09					317	0.00	1.20	14.13	0.032	4.58
	5/27/21		11.48	113.00					343	9.30	0.00	16.41	0.029	4.38
EW-4M	3/23/15		12.04	45.60					361	1.01	47.80	10.38	0.031	5.07
	3/24/16		12.77	42.20					343	0.72	9.00	18.42	0.020	5.02
	3/23/17		12.93	45.20					198	0.00	4.80	13.87	0.260	5.00
	3/23/18		12.14	45.20					277	0.00	8.60	18.41	0.022	4.91
	3/21/19		11.93	45.20					223	0.00	0.00	13.74	0.034	4.94
	3/18/20		12.94	45.20					269	0.78	10.60	14.33	0.027	5.01
	5/27/21		12.66	45.20					157	0.00	9.20	18.29	0.030	5.01
EW-4S	3/23/15		12.51	23.30					322	4.07	22.80	10.12	0.049	5.53
	3/24/16		13.30	23.25					174	0.52	40.00	19.98	0.053	6.96
	3/23/17		13.46	23.25					213	0.00	63.90	13.81	0.072	5.74
	3/23/18		12.80	23.25					207	0.00	12.80	14.65	0.090	5.72
	3/22/19		12.32	23.25					142	0.00	27.30	11.93	0.073	6.01
	3/17/20		13.51	23.25					126	58.00	47.20	14.51	0.640	6.11
	5/27/21		13.22	23.25					155	6.00	30.20	16.90	0.058	5.74

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-5M	6/24/15		10.00	51.40					340	2.57	27.30	16.78	0.299	4.05
	6/27/18		10.06	51.35					336	2.84	18.00	15.60	0.093	4.59
	8/1/19		10.68	51.35					285	3.80	2.80	18.72	0.082	4.65
	6/17/20		10.88	51.35					278	2.26	0.00	16.08	0.080	4.40
	6/4/21		10.18	51.35					309	2.45	0.00	16.98	0.089	4.61
EW-5D	4/29/16		9.36	128.05					361	7.33	0.00	14.21	0.450	4.73
	5/1/18		8.80	125.00					366	9.18	0.00	15.49	0.035	4.69
	4/16/20		9.20	130.00					306	0.00	1.80	12.89	0.037	4.39
EW-6S	6/25/15		13.81	23.60					149	2.63	2.10	20.46	0.015	4.97
	6/28/18		13.80	23.00					300	2.91	29.00	18.66	0.009	4.73
	8/1/19		14.66	15.11					**Not Enough Water to Sample**					
	6/18/20		15.05	24.40					229	6.67	45.90	18.70	0.009	4.69
	6/3/21		14.18	24.40					189	4.80	28.30	17.78	0.009	5.25
EW-6M	6/25/15		13.39	59.60					290	3.36	18.60	17.21	0.114	3.85
	6/28/18		13.31	58.00					346	3.30	4.80	19.11	0.101	4.58
	8/1/19		14.14	58.00					318	2.42	3.70	17.16	0.102	4.40
	6/18/20		14.58	58.00					287	2.43	4.90	18.78	0.084	4.31
	6/3/21		13.74	58.00					266	1.86	4.80	16.99	0.085	4.53
EW-7S	3/23/15		9.55	20.05					263	6.35	45.00	10.34	0.263	6.25
	3/24/16		12.51	22.40					241	1.47	5.00	20.15	0.093	6.17
	3/23/17		12.08	20.20					229	1.39	19.80	13.60	0.093	6.40
	3/23/18		10.93	20.20					196	0.00	12.20	16.62	0.086	6.14
	3/22/19		10.08	20.20					188	1.19	26.80	12.29	0.096	6.28
	3/17/20		12.45	20.25					229	5.16	47.40	13.97	0.082	6.23
	5/26/21		12.17	20.20					173	0.00	9.50	15.82	0.081	5.89
EW-7M	3/23/15		9.32	63.20					357	2.03	91.90	11.32	0.140	5.69
	3/24/16		13.10	63.00					264	0.00	0.00	17.02	0.105	6.25
	3/23/17		12.08	63.00					276	1.24	0.80	13.92	0.069	6.20
	3/23/18		11.80	63.00					234	0.66	0.00	12.97	0.154	5.84
	3/22/19		9.75	63.00					283	0.00	3.20	14.00	0.136	5.55
	3/17/20		12.52	63.15					313	4.10	42.40	13.58	0.800	5.85
	5/26/21		12.32	63.00					189	0.00	8.20	16.47	0.133	5.80

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-7D	3/23/15		8.08	112.98					357	0.70	62.50	12.13	0.040	4.67
	3/24/16		9.00	112.00					366	3.99	0.00	21.51	0.027	5.25
	3/24/17		9.58	112.00					335	0.00	0.00	12.49	0.300	4.72
	3/23/18		8.37	112.00					337	0.00	2.30	17.48	0.027	4.71
	3/22/19		7.41	112.00					350	0.00	0.00	12.38	0.031	4.70
	3/17/20		9.26	111.10					347	0.27	0.00	13.21	0.270	4.98
	5/26/21		8.98	112.00					358	4.21	0.00	19.21	0.032	4.39
EW-8S	6/25/15		17.60	24.03					160	5.42	15.40	16.41	0.284	5.96
	6/28/18		16.63	23.80					154	0.00	26.30	18.40	0.229	6.74
	7/31/19		18.34	23.80					136	0.00	6.00	16.97	0.243	6.53
	6/18/20		18.15	23.80					158	1.06	12.70	15.48	0.229	6.35
	6/3/21		17.29	23.80					121	0.72	49.80	14.98	0.107	6.95
EW-8M	6/25/15		17.40	75.57					280	5.58	0.00	16.51	0.103	4.14
	6/28/18		16.80	71.00					300	5.47	0.00	19.85	0.069	4.90
	7/31/19		18.57	71.00					292	6.00	0.00	16.89	0.059	4.68
	6/18/20		18.20	71.00					337	4.33	0.20	15.83	0.058	4.37
	6/3/21		17.21	71.00					293	5.16	2.80	15.64	0.065	4.55
EW-9S	4/28/16		17.22	26.35					188	4.04	31.10	14.15	0.090	6.09
	4/30/18		16.60	26.32					179	6.54	9.70	14.72	0.104	6.19
	4/16/20		16.53	26.32					240	6.71	21.30	14.68	0.064	6.08
EW-9M	4/27/16		17.95	77.15					206	4.23	4.20	14.29	0.106	4.23
	4/30/18		17.20	79.00					178	5.46	4.60	14.00	0.110	5.82
	4/16/20		17.16	79.00					215	6.15	1.40	14.62	0.114	6.40
EW-9D	4/27/16		16.45	125.90					-81	0.00	4.90	13.24	0.065	6.50
	4/30/18		16.09	130.00					-100	0.00	4.60	13.69	0.082	6.95
	4/16/20		16.33	130.00					-118	0.00	0.90	12.74	0.089	7.15
EW-10M	6/24/15		10.66	41.49					285	3.57	59.20	16.25	0.202	4.05
	6/27/18		10.71	41.30					298	3.58	7.50	15.75	0.068	4.64
	8/1/19		11.06	41.30					307	1.73	2.70	19.22	0.073	4.81
	6/17/20		11.32	41.30					320	3.33	0.00	15.68	0.066	4.53
	6/4/21		11.03	41.30					297	2.70	8.80	16.77	0.069	4.89
EW-10D	4/29/16		9.59	106.90					-60	0.00	3.90	12.89	0.090	6.15
	5/2/18		9.14	110.00					-31	0.00	2.60	14.67	0.066	6.10
	4/16/20		9.41	110.00					-88	0.00	3.20	13.00	0.069	6.05

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-11S	6/24/15		10.60	22.44					321	14.92	61.90	16.96	0.147	5.18
	6/27/18		10.44	22.46					256	0.00	0.00	17.93	0.020	5.28
	7/31/19		11.33	22.46					235	2.32	39.00	29.10	0.046	5.39
	6/17/20		11.54	22.46					225	3.99	13.70	15.53	0.048	4.13
	6/3/21		10.63	22.46					237	2.68	34.80	16.76	0.027	5.32
EW-11M	6/24/15		10.35	64.40					342	4.13	0.00	18.55	0.339	3.82
	6/27/18		10.30	63.00					204	10.27	0.00	18.60	0.088	5.47
	7/31/19		11.15	63.00					321	3.82	0.00	27.44	0.960	4.65
	6/17/20		11.39	63.00					261	1.55	0.00	15.78	0.154	3.49
	6/3/21		10.46	63.00					306	2.48	9.80	17.49	0.103	4.33
EW-12S	4/26/16		14.87	26.45					383	7.00	4.00	17.29	0.042	4.64
	5/1/18		12.10	27.00					360	8.70	0.00	14.89	0.031	4.26
	4/14/20		14.49	26.60					346	6.12	4.40	14.09	0.050	4.68
EW-12M	4/26/16		14.52	69.55					341	6.21	2.00	16.85	0.035	4.92
	5/1/18		13.79	70.00					343	8.01	0.00	14.39	0.026	4.98
	4/14/20		14.07	76.00					249	7.83	1.60	13.81	0.044	5.57
EW-13S	11/23/15		10.73	16.58					310	1.22	0.00	15.55	0.171	6.73
	10/20/16		10.73	14.40					100	0.00	3.00	20.72	0.095	6.01
	10/12/17		10.73	17.40					32	0.78	33.00	20.82	0.105	6.22
	9/29/18		9.37	17.40					25	0.00	15.00	21.18	0.058	6.01
	10/25/19		10.81	17.40					-69	0.00	38.00	18.77	0.154	6.43
	9/23/20		9.13	17.40					-53	0.00	5.80	21.00	0.109	5.94
EW-13M	11/23/15		10.65	51.00					387	1.34	0.00	14.62	0.126	5.76
	10/20/16		10.51	51.10					250	0.00	0.00	18.61	0.105	5.14
	10/12/17		10.64	53.00					266	1.34	1.00	17.81	0.104	5.25
	9/27/17		9.28	53.20					310	2.69	6.70	17.42	0.083	5.07
	10/25/19		10.68	53.00					267	0.00	0.00	15.97	0.090	5.55
	9/23/20		9.10	53.00					301	0.00	0.00	17.60	0.120	5.12
EW-14S	11/20/15		8.57	19.30					353	2.60	45.60	18.42	0.211	7.78
	10/20/16		9.40	20.00					5	1.70	40.00	22.77	0.285	6.85
	10/11/17		8.50	19.40					210	4.09	31.90	22.23	0.287	6.00
	9/26/18		6.87	19.40					177	2.10	43.10	24.80	0.127	6.45
	10/23/19		8.73	19.40					97	1.28	0.00	20.65	0.147	6.81
	9/23/20		6.65	19.40					197	3.67	32.50	22.31	0.297	6.29

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-14M	11/20/15		8.29	56.15					438	2.90	0.00	15.91	0.110	5.50
	10/20/16		8.21	56.00					235	1.18	3.00	19.11	0.104	4.90
	10/11/17		8.22	43.35					292	3.60	0.00	18.33	0.087	5.00
	9/27/18		6.70	43.35					304	1.24	0.00	19.26	0.081	4.63
	10/23/19		8.45	43.35					236	0.00	0.00	20.67	0.085	5.32
	9/23/20		6.39	43.35					275	2.94	0.00	20.58	0.124	5.20
EW-15D	4/27/16		8.40	111.95					326	3.94	0.00	12.64	0.055	5.07
	4/30/18		8.60	110.00					330	9.60	0.00	13.12	0.060	4.92
	4/15/20		8.26	120.00					289	2.87	2.20	13.71	0.057	5.05
EW-15M	11/18/15		9.90	70.86					349	1.52	0.00	15.01	0.106	6.49
	10/19/16		9.80	72.20					245	5.13	6.90	15.81	0.109	4.54
	10/12/17		11.10	68.00					249	0.00	0.00	15.40	0.103	5.62
	9/27/18		8.15	72.70					249	3.70	0.00	16.23	0.079	5.34
	10/24/19		10.20	72.60					312	2.86	0.00	13.72	0.086	5.34
	9/22/20		7.79	72.60					274	4.01	0.00	16.43	0.113	5.22
EW-16S	4/27/16		7.33	19.00					348	0.00	11.70	13.40	0.026	4.74
	5/1/18		7.41	19.00					334	2.14	15.20	14.85	0.036	4.64
	4/14/20		7.30	18.99					358	3.95	8.50	12.61	0.029	4.53
EW-16M	4/27/16		7.80	65.00					299	1.26	6.00	13.09	0.130	4.81
	5/1/18		7.01	65.00					312	3.70	0.00	15.20	0.139	5.20
	4/14/20		7.74	74.44					370	0.00	1.90	13.40	0.126	4.84
EW-17S	11/23/15		10.22	21.15					291	2.21	111.00	15.83	0.235	7.17
	10/19/15		10.10	21.10					74	1.20	0.00	29.12	0.098	6.76
	10/11/17		9.40	20.91					39	1.66	107.00	22.24	0.098	6.50
	9/26/18		8.30	20.70					160	1.45	42.70	21.48	0.185	6.50
	10/23/19		10.50	20.70					90	3.50	48.00	19.00	0.047	6.58
	9/22/20		7.84	20.70					-36	0.00	154.00	20.46	0.106	6.24
EW-17M	11/20/15		10.17	64.69					226	1.58	47.50	14.93	0.103	6.65
	10/19/16		10.02	65.00					136	1.05	47.00	17.59	0.078	5.23
	10/11/17		10.12	66.20					-56	0.49	49.60	17.40	0.088	6.33
	9/26/18		8.25	66.25					57	0.15	47.40	19.04	0.130	6.18
	10/23/19		10.34	66.20					64	4.75	47.00	18.03	0.025	7.16
	9/22/20		7.77	66.20					96	0.00	8.50	18.10	0.053	6.52

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-18S	11/23/15		7.46	19.21					310	2.09	5.60	18.53	0.199	7.45
	10/19/16		7.34	19.25					114	0.50	0.00	24.32	0.144	5.78
	10/11/17		7.50	19.10					100	0.62	0.00	22.45	0.314	6.50
	9/26/18		5.65	19.00					148	0.86	0.00	25.39	0.278	6.74
	10/23/19		7.56	19.00					-19	0.00	5.40	21.82	0.120	6.32
	9/23/20		5.37	19.00					79	0.00	9.50	22.75	0.164	6.07
EW-18M	11/23/15		7.28	55.38					389	3.23	20.60	14.09	0.100	5.94
	10/19/16		7.15	55.50					332	2.91	25.30	19.75	0.097	3.82
	10/11/17		7.30	56.50					339	1.94	7.40	17.00	0.107	4.79
	9/27/18		5.50	57.20					304	1.83	49.20	18.92	0.068	5.14
	10/23/19		7.34	57.20					348	3.42	19.60	17.19	0.067	4.45
	9/23/20		5.20	57.20					344	3.33	5.70	17.24	0.095	4.77
EW-19S	11/18/15		11.77	24.79					395	3.30	47.60	18.76	0.193	6.46
	10/20/16		11.66	21.50					181	0.80	10.00	17.33	0.101	6.11
	10/12/17		12.50	25.00					199	1.14	0.00	17.15	0.169	6.12
	9/28/18		10.43	24.75					204	0.33	9.70	17.33	0.170	5.93
	10/25/19		11.97	24.75					30	0.00	26.00	17.20	0.229	6.13
	9/23/20		10.18	24.75					191	2.24	16.30	18.44	0.099	6.13
EW-19M	11/18/15		11.74	48.54					435	7.83	0.00	15.61	0.092	5.65
	10/20/16		11.63	48.50					320	0.11	0.00	16.37	0.077	4.59
	10/12/17		12.15	36.50					364	0.87	0.00	16.01	0.101	4.58
	9/28/18		10.40	48.60					337	0.00	0.00	15.81	0.073	4.53
	10/25/19		11.85	48.60					327	2.79	0.00	16.52	0.064	4.71
	9/23/20		10.15	48.60					224	2.77	0.00	16.20	0.098	4.79
EW-20S	4/28/16		14.42	20.80					238	0.00	18.20	14.70	0.044	5.35
	5/1/18		13.95	15.10					**Unable to sample. Well Blocked.**					
	4/15/20		14.04	24.65					284	6.61	26.90	13.59	0.031	4.67
EW-20M	11/17/15		14.06	47.58					421	1.82	0.00	14.33	0.098	5.38
	10/19/16		14.00	47.55					308	0.00	0.00	20.42	0.092	4.29
	10/13/17		14.04	45.20					222	1.39	5.60	16.33	0.098	4.96
	9/28/18		13.21	45.20					341	0.00	0.00	16.06	0.080	4.73
	10/24/19		14.05	45.20					334	0.00	0.00	15.31	0.077	5.13
	9/22/20		13.11	45.26					320	2.29	1.70	16.09	0.101	4.70

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-21S	4/29/16		11.28	23.10					213	3.33	14.80	14.79	0.179	6.18
	5/1/18		10.98	22.40					201	1.97	21.70	18.61	0.095	6.14
	4/15/20		11.06	22.40					128	2.63	15.10	12.34	0.180	6.20
EW-21M	11/17/15		11.62	46.33					418	2.47	0.00	16.14	0.084	5.36
	10/19/16		11.56	46.36					265	0.43	4.20	19.42	0.087	4.88
	10/13/17		11.63	46.30					348	0.00	0.00	14.79	0.112	4.65
	9/28/18		10.92	46.33					336	0.00	0.00	17.19	0.068	4.76
	10/25/19		11.60	46.33					322	1.20	0.00	15.64	0.063	4.82
	9/22/20		10.81	46.33					318	2.39	3.10	16.97	0.090	4.80
EW-22S	11/17/15		16.25	28.00					415	6.94	0.00	20.12	0.022	5.60
	10/19/16		16.15	27.95					271	9.13	0.00	18.38	0.029	4.51
	10/13/17		16.36	28.20					308	9.91	3.80	19.70	0.019	4.69
	9/28/18		15.10	28.20					400	8.13	0.00	17.72	0.040	4.48
	10/24/19		16.26	28.20					332	7.51	0.00	18.43	0.014	4.54
	9/22/20		15.05	28.20					334	7.98	2.80	18.55	0.041	4.70
EW-22M	11/17/15		15.86	55.00					247	2.45	0.00	16.08	0.155	4.47
	10/19/16		15.79	55.05					304	1.90	0.00	18.51	0.082	4.38
	10/13/17		15.88	55.00					419	0.28	0.00	15.42	0.092	4.12
	9/28/18		14.75	56.00					372	1.75	0.00	16.01	0.086	4.45
	10/24/19		15.90	56.00					384	2.01	0.00	17.47	0.059	4.26
	9/22/20		14.70	56.00					310	2.62	2.90	17.36	0.078	4.57
EW-23S	11/17/15		5.63	16.90					121	0.72	1.50	15.79	0.078	5.26
	10/20/16		5.59	13.00					71	0.00	16.30	19.30	0.056	5.70
	10/13/17		5.65	13.00					196	0.00	0.00	17.65	0.058	5.66
	9/28/18		4.65	16.69					160	0.00	25.20	19.69	0.050	5.75
	10/24/19		5.55	16.69					187	7.21	14.70	20.58	0.038	5.74
	9/22/20		4.70	16.69					36	0.00	18.10	21.05	0.051	5.58
EW-23M	11/17/15		5.66	37.82					248	0.00	0.00	14.92	0.167	5.14
	10/20/16		5.59	37.85					283	0.00	0.90	18.50	0.086	4.29
	10/13/17		5.64	37.83					374	0.23	0.30	16.61	0.068	4.16
	9/28/18		4.60	37.83					452	0.00	0.00	18.39	0.090	4.09
	10/24/19		5.62	37.83					329	0.00	0.00	17.18	0.054	4.23
	9/22/20		4.66	37.83					310	0.00	0.00	18.85	0.076	3.96

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-28S	6/24/15		8.97	15.40					213	0.62	14.30	16.60	0.244	5.15
	6/28/18		8.91	16.40					194	0.00	45.60	19.16	0.239	6.50
	8/1/19		9.65	16.40					144	0.00	38.80	23.45	0.123	5.93
	6/18/20		10.08	16.40					142	0.84	38.20	16.68	0.087	5.39
	6/4/21		9.46	16.40					100	0.00	48.20	19.59	0.112	6.21
MW-28M	6/24/15		9.15	58.50					269	2.80	25.00	16.77	0.337	4.81
	6/28/18		8.99	58.00					215	5.45	12.30	18.50	0.077	6.15
	8/1/19		9.78	58.00					230	0.00	30.70	18.41	0.115	5.15
	6/18/20		10.30	58.00					52	0.64	48.30	14.91	0.106	5.33
	6/4/21		9.71	58.00					230	3.16	20.10	19.81	0.105	5.48
MW-29S	6/24/15		4.15	12.50					199	5.97	68.40	18.99	0.142	5.42
	6/27/18		4.26	12.60					250	5.70	8.30	20.61	0.067	5.69
	8/1/19		4.59	12.60					216	5.24	7.30	21.96	0.093	5.92
	6/17/20		4.72	12.60					215	1.65	0.00	18.02	0.075	5.86
	6/4/21		4.21	12.60					224	2.85	9.10	17.25	0.083	5.95
MW-29M	4/29/16		4.76	36.90					371	0.00	2.90	14.36	0.038	4.59
	5/2/18		4.38	36.79					396	0.00	1.40	14.35	0.024	4.39
	4/16/20		4.40	36.79					380	1.48	1.50	14.15	0.027	4.63
MW-30S	6/24/15		10.61	18.20					151	1.60	3.70	16.78	0.134	5.21
	6/27/18		10.62	18.10					131	4.81	0.00	15.49	0.016	5.41
	8/1/19		11.31	18.10					150	0.96	5.30	18.12	0.030	5.42
	6/17/20		11.24	18.10					249	0.00	7.30	15.44	0.052	5.39
	6/7/21		10.83	18.10					57	0.00	20.30	16.99	0.024	5.67
MW-31S	11/23/15		5.32	12.86					116	0.00	48.30	14.58	0.216	5.53
	10/19/16		5.29	12.85					87	0.00	50.80	20.20	0.102	5.53
	10/11/17		5.20	12.90					25	0.00	8.10	21.00	0.050	4.81
	9/26/18		4.45	12.90					75	0.00	27.70	23.12	0.077	5.65
	10/23/19		5.00	12.90					14	0.00	92.70	20.88	0.085	5.67
	9/23/20		3.43	12.80					58	0.00	29.40	22.57	0.138	5.58
MW-31M	11/23/15		5.29	32.00					30	3.35	0.00	13.92	0.154	6.22
	10/19/16		5.25	32.00					57	0.00	11.10	20.80	0.052	6.02
	10/11/17		5.35	32.10					29	0.00	0.00	17.25	0.059	6.01
	9/26/18		4.51	32.01					52	0.00	11.30	18.88	0.039	6.00
	10/23/19		5.06	32.01					14	1.33	48.70	19.85	0.046	6.37
	9/23/20		4.61	32.01					-10	0.89	177.00	16.84	0.064	6.28

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-32S	11/18/15		7.54	16.40					184	0.72	0.00	18.84	0.433	7.30
	10/19/16		7.52	16.35					-12	0.00	5.80	22.43	0.324	6.17
	10/12/17		7.40	16.30					11	0.33	5.70	21.55	0.300	6.19
	9/26/18		6.70	15.50					-31	2.99	5.70	21.67	0.417	6.09
	10/25/19		7.52	16.30					-78	0.00	3.40	18.49	0.351	6.29
	9/24/20		6.84	16.30					7	0.00	6.00	20.04	0.032	5.85
MW-32M	4/26/16		7.35	38.45					309	0.00	37.80	17.90	0.440	4.30
	5/1/18		7.07	38.51					395	3.39	23.80	14.29	0.034	4.23
	4/15/20		7.11	38.51					380	0.25	8.10	13.71	0.033	4.46
MW-33S	6/25/15		7.82	17.74					197	5.50	0.00	20.26	0.155	5.29
	6/28/18		7.98	17.70					243	4.58	5.30	16.41	0.062	5.60
	7/31/19		8.44	17.70					199	4.66	4.00	17.15	0.088	6.08
	6/18/20		8.66	17.70					209	0.00	8.20	15.58	0.105	5.76
	6/4/21		7.95	17.70					207	0.43	49.40	17.28	0.094	6.00
MW-33M	6/25/15		7.26	46.91					273	3.79	9.40	20.90	0.025	4.84
	6/28/18		7.97	46.00					315	4.52	0.00	17.44	0.082	5.09
	7/31/19		8.30	46.00					255	2.81	0.00	17.15	0.091	5.03
	6/18/20		8.94	46.00					313	1.68	2.40	15.75	0.088	4.62
	6/4/21		8.41	46.00					278	3.06	3.70	16.28	0.082	5.33
MW-34S	6/24/15		9.52	20.51					140	0.47	16.80	20.15	0.670	6.02
	6/27/18		9.60	20.45					219	2.39	48.70	17.03	0.174	6.30
	8/1/19		10.26	20.45					166	0.00	19.10	20.76	0.135	6.17
	6/17/20		10.49	20.45					180	0.00	16.40	16.83	0.174	5.16
	6/7/21		9.80	20.45					210	0.00	29.30	20.71	0.134	6.30
MW-34M	4/28/16		10.02	63.30					310	0.00	0.00	13.42	0.102	4.66
	4/30/18		9.37	65.00					331	0.70	0.00	15.26	0.092	4.74
	4/15/20		9.62	64.00					368	1.94	0.00	15.35	0.088	4.97
MW-35S	6/24/15		9.80	19.20					223	6.73	8.00	18.72	0.131	5.45
	6/27/18		9.85	19.20					167	6.86	19.90	16.18	0.037	6.66
	8/1/19		10.55	19.20					190	2.78	7.00	21.19	0.025	6.07
	6/17/20		10.84	19.20					209	7.12	5.10	15.72	0.044	4.87
	6/7/21		9.84	19.20					324	2.61	0.00	16.01	0.088	4.23

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-35M	4/28/16		9.92	72.25					297	0.00	3.90	13.37	0.099	4.73
	4/30/18		9.27	75.00					332	1.40	0.50	14.14	0.087	4.68
	4/15/20		9.41	75.00					310	2.16	0.90	14.53	0.108	4.74
MW-37M	4/27/16		12.46	68.20					282	2.85	1.60	13.51	0.076	5.07
	4/30/18		11.70	68.00					230	8.35	0.00	14.10	0.076	6.12
	4/16/20		11.46	68.20					269	4.55	0.60	11.44	0.113	5.05
MW-38S	11/18/15		8.26	14.36					272	1.03	0.00	18.21	0.191	7.43
	10/20/16		8.19	14.30					134	1.01	29.30	24.73	0.153	6.27
	10/12/17		7.63	14.27					136	1.64	9.30	19.55	0.196	6.38
	9/27/18		7.25	14.27					163	0.00	1.30	20.89	0.167	6.34
	10/24/19		8.18	14.27					118	0.00	14.60	18.13	0.140	6.57
	9/24/20		7.04	14.27					170	2.18	6.10	22.34	0.215	6.20
MW-38M	11/18/15		8.38	58.40					320	0.60	15.60	17.54	0.038	7.22
	10/20/16		8.19	55.00					36	0.00	4.70	24.70	0.049	6.31
	10/12/17		7.71	55.00					-23	0.32	13.40	17.87	0.047	6.53
	9/27/18		7.36	60.00					-66	0.00	3.80	16.61	0.062	6.03
	10/24/19		8.30	60.00					61	0.00	1.10	13.49	0.059	5.91
	9/24/20		7.09	60.00					290	0.00	7.60	18.36	0.102	5.01
MW-39S	11/5/14		12.08	19.00					315	0.76	26.50	20.00	0.161	6.00
	12/10/15		11.69	18.70					300	1.07	20.80	19.43	0.183	7.84
	11/17/16		11.72	18.85					108	0.00	16.80	22.06	0.056	6.58
	10/25/17		11.86	18.95					137	7.10	12.00	20.60	0.118	6.21
	10/22/18		10.50	18.95					314	3.05	0.00	17.91	0.264	6.82
	11/20/19		11.67	18.95					220	0.00	6.50	17.89	0.209	6.60
	10/21/20		10.65	18.95					81	0.77	9.00	20.56	0.176	6.61
MW-39M	11/5/14		12.09	58.20					340	2.40	9.30	17.58	0.155	5.41
	12/10/15		12.04	58.00					358	0.62	7.30	16.75	0.109	5.99
	11/17/16		12.15	58.30					287	0.00	0.00	19.19	0.102	5.43
	10/25/17		12.26	58.20					230	0.00	0.00	17.75	0.105	5.36
	10/22/18		10.90	58.20					358	0.00	0.00	16.04	0.077	5.42
	11/20/19		12.04	58.20					388	0.00	0.80	15.83	0.085	5.10
	10/21/20		11.04	58.20					232	1.42	0.00	17.33	0.078	5.64

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-40S	11/5/14		6.71	15.55					261	4.94	51.70	20.00	0.283	6.36
	12/9/15		6.35	15.55					152	2.24	43.90	17.15	0.235	8.05
	11/17/16		6.55	15.60					78	0.09	37.20	19.14	0.198	6.61
	10/25/17		6.57	15.40					110	0.64	10.40	21.34	0.239	6.58
	10/22/18		5.34	15.70					250	0.84	6.20	18.13	0.191	6.47
	11/20/19		6.48	15.70					259	3.32	9.50	17.98	0.248	6.59
	10/21/20		5.49	15.70					117	1.44	0.00	20.79	0.173	6.63
MW-40M	4/29/16		6.28	38.70					356	4.90	0.44	14.51	0.033	4.34
	5/2/18		5.90	38.70					389	0.00	0.00	14.80	0.027	4.11
	4/16/20		5.93	38.70					380	0.00	1.20	14.09	0.032	4.20
MW-41S	4/27/16		5.62	14.75					212	2.81	12.50	14.60	0.109	6.32
	5/1/18		5.29	14.74					185	5.70	2.20	14.68	0.303	6.32
	4/15/20		5.28	14.74					162	4.47	11.30	14.12	0.153	6.51
MW-41M	11/5/14		6.04	32.50					71	0.82	71.10	17.03	0.110	5.72
	12/9/15		5.84	32.50					-53	0.21	64.50	16.24	0.029	7.98
	11/16/16		6.00	32.60					99	0.00	69.10	17.99	0.127	4.06
	10/26/17		5.97	32.50					52	0.00	47.20	19.37	0.095	5.97
	10/18/18		5.51	32.50					27	0.00	88.10	19.19	0.090	6.32
	11/21/19		6.00	32.50					116	0.00	19.00	18.13	0.093	5.66
	10/20/20		5.11	32.50					70	0.00	22.40	20.37	0.076	5.95
MW-42S	4/26/16		13.33	22.10					220	1.57	38.10	19.68	0.065	5.92
	5/1/18		13.00	22.11					243	3.60	3.50	14.74	0.068	5.59
	4/14/20		13.08	22.11					290	3.05	6.20	14.44	0.049	5.60
MW-42M	4/26/16		13.17	41.20					297	0.00	24.80	17.42	0.093	4.76
	5/1/18		12.80	41.30					351	1.12	5.40	16.37	0.068	4.83
	4/14/20		12.99	41.30					366	2.41	6.60	16.01	0.078	4.72
MW-43S	4/29/16		9.86	17.70					227	1.05	6.90	14.41	0.099	5.69
	5/1/18		9.00	18.10					216	8.08	10.00	17.73	0.120	5.97
	4/14/20		9.48	17.10					186	1.99	14.70	14.41	0.135	6.08
MW-43M	4/29/16		9.80	40.90					271	0.00	45.40	14.31	0.105	4.95
	5/1/18		9.65	40.00					313	2.00	22.90	16.19	0.098	4.86
	4/14/20		9.32	41.00					297	1.67	10.70	15.07	0.111	5.04

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-45S	11/5/14		9.72	17.35					401	5.35	35.60	21.10	0.140	5.76
	12/9/15		9.56	17.40					113	4.87	33.30	17.65	0.307	5.94
	11/16/16		9.80	17.40					243	0.00	22.10	19.77	0.060	5.56
	10/25/17		9.72	17.40					226	4.40	4.70	23.97	0.570	5.50
	10/18/18		7.98	17.40					362	5.15	0.10	20.19	0.130	6.19
	11/20/19		9.74	17.40					315	4.23	9.60	19.29	0.066	5.64
	10/20/20		8.24	17.40					185	4.08	14.00	22.36	0.066	5.92
MW-45M	11/5/14		9.69	46.95					274	13.20	34.00	16.96	0.125	4.44
	12/9/15		9.10	47.00					168	2.70	35.00	14.92	0.019	4.42
	11/16/16		9.73	47.00					328	0.00	2.00	17.22	0.093	4.56
	10/25/17		9.64	47.00					323	0.99	1.70	17.63	0.110	4.62
	10/18/18		7.87	39.30					405	2.12	0.00	16.65	0.088	4.85
	11/20/19		9.65	39.30					411	0.00	3.60	16.46	0.096	4.58
	10/20/20		8.19	46.95					325	2.85	4.70	19.37	0.090	4.76
MW-46S	4/27/16		7.27	15.40					-18	0.00	13.20	15.46	0.073	6.10
	5/2/18		6.76	18.35					69	0.00	0.30	13.91	0.203	5.84
	4/15/20		7.05	8.75					31	0.75	2.00	13.69	0.030	5.93
MW-46M	4/27/16		7.26	49.20					338	0.00	3.90	14.45	0.089	4.63
	5/2/18		6.75	49.00					431	0.00	0.00	15.86	0.072	4.15
	4/15/20		7.04	47.00					422	2.07	0.00	14.88	0.071	4.30
MW-47S	4/29/16		12.13	17.50					298	3.02	0.00	14.03	0.017	5.03
	4/30/18		12.10	18.00					342	7.96	0.00	15.12	0.024	4.73
	4/16/20		11.62	17.50					219	3.87	10.30	14.71	0.024	4.79
MW-47M	11/5/14		12.68	42.15					354	2.74	82.60	17.08	0.098	4.65
	12/10/15		12.46	42.00					344	1.24	32.60	16.25	0.064	5.88
	11/17/16		12.63	42.20					345	0.00	25.90	15.89	0.063	4.84
	10/25/17		12.62	42.25					336	0.75	21.40	18.41	0.073	4.46
	10/19/18		11.12	42.25					272	0.75	28.70	17.55	0.093	5.26
	11/20/19		12.57	42.25					404	0.00	9.90	15.82	0.076	4.57
	10/21/20		11.36	42.25					299	2.70	12.40	17.13	0.079	4.94

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-48M	11/5/14		11.23	66.65					409	4.06	118.00	16.84	0.097	4.58
	12/10/15		11.20	66.50					297	3.60	55.00	16.07	0.124	4.43
	11/17/16		11.18	60.00					340	3.23	5.30	15.92	0.066	4.76
	10/25/17		11.80	65.00					291	4.56	0.00	16.70	0.069	4.91
	10/22/18		8.98	66.50					404	3.12	0.00	16.20	0.056	5.05
	11/20/19		11.29	65.00					391	4.33	9.70	14.76	0.072	4.62
	10/20/20		8.81	66.50					311	4.11	68.30	19.10	0.060	5.00
MW-49M	11/5/14		16.20	73.35					423	4.49	58.70	16.42	0.097	4.39
	12/10/15		16.17	73.00					300	5.16	26.30	14.69	0.111	4.21
	11/16/16		16.14	73.35					368	0.00	0.00	16.53	0.070	4.56
	10/25/17		15.14	73.40					299	3.35	0.00	15.07	0.840	4.65
	10/18/18		14.46	73.40					446	4.51	0.00	14.56	0.065	4.81
	11/20/19		16.28	73.40					386	3.79	4.80	13.59	0.057	4.66
	10/20/20		13.74	73.40					294	4.65	1.60	16.28	0.048	4.61
MW-50M	4/28/16		14.87	72.35					270	0.10	0.00	13.38	0.081	4.85
	4/30/18		11.35	75.00					282	7.84	0.00	15.54	0.081	5.56
	4/16/20		13.62	75.00					299	3.64	1.70	13.13	0.078	4.83
MW-51D	3/23/15		7.49	91.32					344	6.27	10.20	10.22	0.063	4.89
	3/24/16		8.10	90.00					373	0.00	0.00	13.92	0.037	4.39
	3/24/17		8.80	85.00					243	0.00	0.60	13.44	0.040	4.32
	3/20/18		7.76	91.20					270	0.00	14.40	12.49	0.044	3.95
	3/20/19		7.17	91.20					262	0.00	31.80	13.54	0.052	4.16
	3/18/20		8.57	91.20					337	0.00	2.30	12.95	0.052	4.33
	5/25/21		8.43	91.20					418	0.00	0.00	15.97	0.040	3.88
MW-51M	3/23/15		9.53	46.75					438	1.27	88.40	9.77	0.116	3.75
	3/24/16		9.81	46.80					381	0.27	4.40	13.44	0.075	4.62
	3/24/17		10.00	46.80					391	0.00	0.00	14.30	0.099	4.31
	3/20/18		9.65	46.80					382	0.00	0.00	17.47	0.089	4.27
	3/20/19		9.55	46.80					379	0.00	0.00	14.32	0.080	4.70
	3/18/20		9.90	46.80					430	1.27	3.30	12.39	0.104	4.69
	5/25/21		9.98	46.80					380	2.21	0.00	15.23	0.080	4.29

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-51S	3/23/15		9.52	31.70					332	3.02	69.50	10.72	0.062	4.53
	3/24/16		9.81	31.70					376	9.46	2.00	13.38	0.035	4.59
	3/24/17		10.00	31.70					389	0.00	0.00	13.63	0.071	4.44
	3/20/18		9.65	31.70					368	0.00	0.00	16.98	0.072	4.41
	3/20/19		9.48	31.70					392	3.23	0.40	14.09	0.024	4.56
	3/18/20		9.91	31.70					413	2.64	3.60	12.00	0.056	4.89
	5/25/21		9.95	31.70					306	1.83	6.10	14.88	0.052	4.91
MW-52S	11/5/14		3.05	25.30					154	3.83	50.90	16.37	0.161	5.79
	12/9/15		2.91	25.00					235	2.71	38.60	14.17	0.120	7.63
	11/17/16		3.07	24.90					106	0.00	18.70	16.07	0.078	6.50
	10/26/17		3.01	25.20					180	0.96	39.00	15.47	0.052	5.37
	10/19/18		2.34	23.50					146	0.00	19.80	17.11	0.062	5.99
	11/21/19		3.01	23.50					289	2.39	5.70	14.83	0.061	5.80
	10/19/20		2.35	25.20					104	1.14	104.00	19.41	0.047	5.39
MW-52M	11/5/14		3.71	44.10					174	2.81	57.40	16.19	0.070	5.41
	12/9/15		3.60	44.00					252	0.78	44.40	14.65	0.063	6.06
	11/17/16		3.71	44.00					248	0.00	22.30	16.95	0.062	5.26
	10/26/17		3.64	43.70					264	0.00	9.20	15.57	0.059	4.85
	10/19/18		2.89	43.70					345	0.00	4.20	17.90	0.051	5.06
	11/21/19		3.67	43.70					402	0.00	6.80	15.38	0.056	4.64
	10/19/20		3.00	43.70					290	1.17	28.10	17.34	0.062	4.15
MW-53S	11/5/14		3.96	27.10					266	1.45	0.00	18.57	0.088	5.57
	12/9/15		3.64	27.10					292	2.88	8.00	14.90	0.078	6.47
	11/17/16		3.95	27.15					277	0.00	35.80	16.64	0.043	4.91
	10/25/17		3.89	27.10					251	0.00	0.00	16.47	0.044	5.27
	10/19/18		3.18	27.10					255	0.00	11.50	15.61	0.029	5.47
	11/21/19		3.87	27.10					336	0.00	9.10	13.33	0.058	4.99
	10/19/20		3.32	27.10					224	0.00	19.70	17.18	0.030	4.54
MW-53M	11/5/14		3.31	46.50					324	0.31	41.50	16.53	0.045	4.35
	12/9/15		2.96	46.50					139	0.48	6.40	14.66	0.045	6.61
	11/17/16		3.28	46.35					35	0.00	30.30	16.72	0.062	5.99
	10/25/17		3.22	46.40					217	0	13.5	15.77	0.032	4.69
	10/19/18		2.50	46.40					296	0	0	15.09	0.031	4.61
	11/21/19		3.23	46.40					134	0	49.4	13.06	0.046	5.63
	10/19/20		2.54	46.40					298	0	74.3	15.75	0.032	3.49

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-54S	3/24/15		12.04	31.86					132	2.56	129.00	10.22	0.111	5.63
	3/23/16		12.75	31.46					266	0.00	20.00	22.02	0.115	4.82
	3/23/17		13.06	31.95					207	2.82	124.00	14.49	0.095	5.33
	3/23/18		12.02	31.95					273	0.00	39.00	14.65	0.108	4.77
	3/22/19		11.63	31.95					210	0.00	46.30	12.87	0.074	5.37
	3/18/20		12.90	31.98					317	2.80	47.70	13.90	121.000	5.10
	5/25/21		12.92	31.95					261	1.89	171.00	16.25	0.156	5.02
MW-54M	3/23/15		11.80	46.72					324	4.24	51.00	11.27	0.136	5.05
	3/23/16		13.40	46.75					307	1.70	24.50	17.32	0.138	5.11
	3/23/17		12.79	46.75					295	0.84	4.50	14.12	0.102	5.41
	3/23/18		11.78	46.75					261	0.00	42.20	18.69	0.109	5.50
	3/22/19		11.38	46.75					311	3.34	0.00	11.49	0.171	5.17
	5/25/21		12.63	46.75					272	3.49	22.50	16.40	0.125	5.19
MW-54D	3/23/15		10.79	84.20					445	2.73	19.60	10.33	0.141	3.75
	3/23/16		11.65	83.65					426	1.57	0.00	22.75	0.113	4.02
	3/23/17		12.24	83.65					434	0.00	0.00	12.63	0.145	3.42
	3/23/18		10.95	83.65					468	0.00	2.10	17.48	0.147	3.77
	3/22/19		10.45	83.65					501	1.95	0.00	13.12	0.178	3.30
	5/25/21		11.89	83.65					446	2.72	0.00	15.73	0.133	3.64
MW-55S	11/5/14		10.32	24.90					357	0.88	9.90	18.11	0.025	5.49
	12/10/15		10.21	25.00					228	0.53	0.00	18.50	0.036	5.16
	11/17/16		10.47	24.95					-3	0.00	0.00	19.29	0.085	6.79
	10/25/17		10.24	24.90					146	4.74	7.60	22.27	0.440	6.76
	10/19/18		9.81	24.90					-79	3.58	8.70	16.01	0.517	6.66
	11/22/19		10.40	24.90					-41	0.00	0.00	17.88	0.435	6.33
	10/20/20		9.09	24.90					-90	0.39	5.10	19.28	0.335	6.55
MW-55M	11/5/14		9.93	39.70					394	1.05	16.80	15.53	0.048	4.10
	12/10/15		9.82	40.00					303	1.24	40.60	17.08	0.064	3.79
	11/17/16		10.07	39.80					340	0.00	0.00	17.88	0.038	4.50
	10/25/17		9.84	38.00					354	0.00	4.20	19.13	0.047	4.38
	10/19/18		8.53	35.00					205	0.00	0.00	18.02	0.039	5.46
	11/22/19		10.02	39.60					387	0.00	0.00	16.47	0.034	4.22
	10/20/20		8.68	39.60					317	0.53	8.70	17.64	0.037	4.36

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-56D	3/23/15		0.44	77.87					328	5.91	12.30	11.21	0.049	5.42
	3/23/16		1.28	77.95					191	0.00	47.90	16.68	0.038	5.55
	3/23/17		1.84	77.95					89	0.00	31.60	10.39	0.037	5.71
	3/20/18		0.72	77.95					163	0.00	48.80	16.33	0.055	5.19
	3/20/19		0.17	77.95					165	0.00	5.20	13.70	0.048	5.04
	5/24/21		1.51	77.95					174	0.00	31.80	15.98	0.039	5.06
MW-56M	3/23/15		1.83	39.64					336	2.12	8.60	12.71	0.035	4.30
	3/23/16		2.03	40.50					392	0.00	10.50	16.48	0.033	4.29
	3/23/17		2.19	40.50					408	0.00	0.40	12.33	0.034	3.79
	3/20/18		1.89	40.50					435	0.00	6.90	12.35	0.039	3.93
	3/20/19		1.79	40.50					446	0.00	0.00	14.15	0.035	4.08
	5/24/21		2.16	40.50					493	0.00	0.00	16.59	0.039	3.76
MW-56S	3/23/15		2.31	24.62					365	1.08	84.40	12.74	0.048	4.88
	3/23/16		2.44	27.75					346	0.00	0.00	17.44	0.031	5.83
	3/23/17		2.61	27.75					266	0.00	0.00	12.19	0.030	4.94
	3/20/18		2.27	29.75					329	0.00	20.80	10.98	0.033	4.73
	3/20/19		2.22	27.75					299	0.00	2.20	13.68	0.026	4.81
	5/24/21		2.54	27.75					373	1.38	4.50	15.84	0.094	4.41
MW-57S	3/23/15		2.01	26.59					378	1.48	74.20	11.61	0.051	4.29
	3/23/16		2.19	26.20					343	0.00	0.00	15.77	0.045	4.73
	3/23/17		2.40	26.60					339	0.00	0.00	12.66	0.077	4.04
	3/20/18		2.07	26.60					379	0.00	0.00	16.66	0.057	4.18
	3/20/19		1.94	26.60					354	0.00	0.00	13.41	0.036	4.39
	5/24/21		2.47	26.60					334	0.00	0.00	15.15	0.051	4.05
MW-57M	3/23/15		2.08	36.86					391	0.20	26.60	11.67	0.067	4.10
	3/23/16		2.26	30.00					463	0.00	0.00	15.28	0.052	4.29
	3/23/17		2.47	36.80					385	0.00	0.00	11.50	0.053	4.28
	3/20/18		2.15	36.80					466	0.00	7.30	11.57	0.058	3.79
	3/20/19		2.06	36.80					415	0.00	0.00	13.92	0.061	4.11
	5/24/21		2.41	36.80					317	0.00	8.10	16.96	0.043	4.12
MW-58S	12/3/14		3.28	38.20					303	7.68	703.00	14.60	0.104	8.23
	5/18/15		3.39	38.20					129	5.54	223.00	15.99	0.240	7.99
	6/8/17		3.14	38.10					401	2.30	0.00	16.17	0.068	4.78
	6/5/18		2.93	38.20					346	4.31	0.00	21.50	0.040	4.63
	7/11/19		3.27	38.20					299	4.11	31.60	21.26	0.077	4.78

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-58M	12/3/14		3.13	52.50					326	2.12	58.00	13.46	0.035	4.90
	5/18/15		3.12	52.57					291	4.88	127.00	17.74	0.066	3.77
	6/8/17		2.95	52.60					399	0.00	0.00	16.73	0.029	4.30
	6/5/18		2.73	52.57					263	0.00	0.00	15.55	0.018	4.12
	7/11/19		3.08	52.57					183	0.00	0.00	20.01	0.031	4.38
	5/22/20		3.24	52.57					193	0.00	0.00	15.06	0.024	4.10
MW-59S	12/5/14		3.94	35.30					194	1.48	788.00	11.36	0.039	4.97
	5/18/15		3.86	35.30					357	0.07	203.00	16.66	0.113	3.80
	6/8/17		3.61	35.40					299	0.00	1.90	17.31	0.037	4.42
	6/4/18		3.34	35.30					417	0.00	0.00	16.70	0.032	3.89
	7/11/19		3.92	35.30					308	0.00	0.00	22.02	0.042	4.25
	5/19/20		4.02	35.30					453	0.00	0.00	15.32	0.038	3.18
MW-59M	12/5/14		4.15	48.00					317	1.04	30.50	12.76	0.058	3.39
	5/18/15		3.45	48.10					289	6.35	150.00	15.88	0.109	4.40
	6/8/17		3.14	48.10					327	0.00	25.40	18.69	0.037	4.35
	6/4/18		2.80	48.10					408	0.00	0.00	15.36	0.035	3.78
	7/11/19		3.46	48.10					346	0.00	0.00	19.41	0.049	4.07
	5/19/20		3.89	48.10					416	0.00	0.00	16.39	0.037	3.30
MW-60S	12/4/14		4.35	18.00					431	7.44	30.00	139.97	0.055	3.81
	5/18/15		2.50	24.50					315	6.26	129.00	15.00	0.141	3.80
	6/7/17		4.20	23.25					420	4.56	0.00	14.80	0.033	4.64
	6/4/18		3.80	23.50					475	7.46	0.00	12.98	0.040	4.29
	7/10/19		4.46	24.50					404	6.55	7.30	16.47	0.049	4.22
	5/19/20		4.59	24.50					304	7.01	2.10	13.07	0.024	3.96
MW-60M	12/4/14		43.00	53.10					164	2.87	800+	12.22	0.032	4.78
	5/18/15		4.25	53.20					441	2.31	490.00	15.96	0.046	3.56
	6/7/17		3.91	53.10					339	0.00	0.00	14.61	0.029	4.46
	6/4/18		3.97	53.10					424	0.00	0.00	14.85	0.028	4.30
	7/10/19		4.18	53.20					387	0.00	6.20	15.28	0.037	3.47
	5/19/20		4.31	53.20					305	0.00	9.70	13.87	0.026	3.83
MW-61S	12/4/14		1.90	32.00					270	2.36	808.00	14.21	0.101	4.76
	5/18/15		2.12	31.95					369	3.29	661.00	17.43	0.091	4.05
	6/7/17		1.75	32.00					343	0.42	17.70	14.42	0.069	5.21
	6/4/18		2.34	32.00					403	2.93	0.00	13.71	0.070	4.75
	7/10/19		1.88	31.95					322	1.46	104.00	17.40	0.076	4.71
	5/19/20		2.55	31.95					356	0.00	45.70	13.22	0.089	4.00

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-61M	12/4/14		2.00	55.80					140	2.49	280.00	11.96	0.061	7.52
	5/18/15		2.18	56.11					230	4.49	200.00	16.75	0.152	4.96
	6/7/17		1.87	55.85					295	0.00	4.70	14.61	0.044	5.43
	6/1/18		2.35	55.00					363	0.00	0.00	14.26	0.038	4.86
	7/10/19		2.02	56.11					237	0.97	36.00	18.15	0.060	5.44
	5/19/20		2.86	56.11					345	0.00	0.00	14.61	0.035	3.74
MW-62S	12/8/14		3.25	23.20					364	0.05	73.60	9.03	0.045	4.25
	5/18/15		3.38	23.22					289	3.55	182.00	20.44	0.120	4.19
	6/8/17		3.10	20.00					344	0.00	0.00	15.12	0.046	4.24
	6/5/18		3.02	22.00					340	0.00	0.00	13.84	0.032	4.18
	7/12/19		3.03	23.22					297	0.00	0.00	19.06	0.041	4.05
	5/21/20		3.53	23.22					358	0.00	0.00	15.30	0.034	4.05
MW-62M	12/8/14		2.73	35.00					301	3.16	390.00	11.79	0.055	4.24
	5/18/15		2.68	46.21					447	4.19	1000+	17.29	0.052	3.91
	6/8/17		2.40	55.00					264	0.00	0.00	15.78	0.050	4.73
	6/5/18		2.25	46.00					298	0.00	0.00	14.80	0.030	4.68
	7/12/19		2.43	46.21					243	0.00	21.80	16.80	0.043	4.57
	5/21/20		2.89	46.21					243	0.00	1.20	16.45	0.030	4.57
MW-63S	12/9/14		3.70	23.15					351	5.79	26.50	10.43	0.097	4.62
	5/18/15		4.13	23.15					521	6.43	163.00	15.08	0.144	3.29
	6/8/17		3.90	23.15					315	3.31	0.00	15.55	0.086	4.56
	6/1/18		3.65	23.15					435	3.74	0.00	14.84	0.089	4.47
	7/12/19		3.80	23.15					390	3.86	0.00	15.54	0.082	4.29
	5/22/20		4.35	23.15					373	5.67	0.00	13.89	0.068	4.65
MW-63M	12/9/14		2.81	45.00					427	3.23	128.00	11.58	0.049	402.00
	5/18/15		2.87	57.92					494	5.18	173.00	14.82	0.050	3.73
	6/8/17		2.65	57.70					364	0.52	0.00	15.12	0.033	4.62
	6/1/18		2.26	57.92					406	1.88	0.00	15.02	0.029	4.42
	7/12/19		2.69	57.92					347	2.76	0.00	14.86	0.036	4.28
	5/22/20		3.29	57.92					348	2.19	2.20	14.59	0.031	4.70
MW-64S	12/5/14		3.90	23.10					178	0.20	38.10	13.44	0.138	6.19
	5/18/15		4.01	23.08					-	-	-	-	-	-
	6/6/17		3.53	23.15					171	0.00	0.00	15.59	0.088	6.06
	6/1/18		4.05	23.00					259	0.00	0.00	15.76	0.093	5.76
	7/11/19		4.18	23.08					217	1.18	0.00	17.07	0.123	5.58
	5/21/20		4.43	23.08					198	0.00	0.00	14.73	0.079	5.72

Table 2
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Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-64M	12/5/14		3.05	61.10					415	3.78	126.00	13.47	0.117	3.83
	5/18/15		2.74	61.20					-	-	-	-	-	-
	6/6/17		2.42	61.20					356	1.92	0.00	15.38	0.089	4.55
	6/1/18		2.11	61.20					347	6.37	0.00	17.12	0.069	4.89
	7/11/19		2.82	61.20					389	2.97	7.80	16.77	0.076	4.07
	5/21/20		3.08	57.10					304	0.00	8.00	14.50	0.072	4.93
MW-65S	12/8/14		4.72	23.10					164	4.99	138.00	12.00	0.136	5.89
	5/18/15		5.11	22.90					503	6.19	151.00	16.49	0.132	3.87
	6/6/17		4.62	23.15					128	1.65	74.80	16.60	0.155	5.71
	6/1/18		4.20	22.90					259	4.10	41.20	15.19	0.116	5.10
	7/9/19		5.27	22.90					230	2.97	61.40	18.33	0.088	5.09
	5/21/20		5.27	22.90					181	2.49	0.00	14.53	0.111	6.20
MW-65M	12/9/14		4.05	63.10					451	3.94	115.00	13.07	0.119	4.33
	5/18/15		4.36	63.14					531	4.62	149.00	14.87	0.108	3.20
	6/6/17		4.03	63.10					299	1.18	0.00	15.25	0.089	4.79
	6/1/18		3.61	63.14					377	4.30	0.00	15.91	0.064	4.60
	7/9/19		4.49	63.14					315	2.73	0.00	18.49	0.073	4.79
	5/21/20		4.66	63.14					349	1.90	0.00	13.63	0.071	4.73
MW-66S	12/3/14		6.17	23.00					326	7.19	724.00	13.82	0.090	4.92
	5/18/15		5.90	23.04					442	7.04	742.00	15.48	0.077	3.54
	6/6/17		5.65	23.65					360	7.62	28.00	15.30	0.063	4.62
	6/5/18		5.10	23.04					440	6.20	0.00	16.53	0.056	4.09
	7/9/19		6.05	20.00					298	5.06	7.10	17.16	0.065	4.69
	5/20/20		6.62	20.00					366	3.04	15.70	13.50	0.056	3.88
MW-67S	12/4/14		8.85	33.00					366	5.96	230.00	13.42	0.048	4.62
	5/18/15		8.58	32.90					-31	0.26	153.00	12.23	0.172	6.05
	6/6/17		8.22	32.10					47	0.26	29.50	15.63	0.050	5.69
	6/5/18		7.72	32.90					445	3.09	0.00	14.69	0.033	3.83
	7/9/19		8.83	32.90					-2	-	6.80	17.75	0.069	5.86
	5/20/20		3.76	32.90					310	0.00	17.20	13.10	0.037	3.79
MW-68S	12/3/14		11.54	28.30					216	0.00	117.00	13.81	0.098	6.09
	5/18/15		10.59	28.27					214	3.06	159.00	14.39	0.205	5.42
	6/6/17		11.60	28.25					178	0.00	0.00	14.48	0.042	5.35
	6/5/18		10.05	29.10					328	0.00	0.00	15.80	0.024	5.15
	7/9/19		10.73	28.27					386	4.71	7.70	14.93	0.028	4.20
	5/20/20		11.22	28.27					360	0.00	5.90	12.77	0.020	4.09

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-69S	12/3/14		3.60	30.70					243	6.67	800+	11.15	0.066	5.21
	5/18/15		3.80	30.68					302	6.45	238.00	14.47	0.234	4.50
	6/7/17		3.41	30.70					347	5.59	37.60	16.49	0.080	4.86
	7/10/19		3.71	30.70					338	6.28	0.00	15.90	0.084	4.55
	5/20/20		3.98	36.95					378	3.69	0.00	13.52	0.098	3.94

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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-69M	12/3/14		3.53	50.70					436	3.53	420.00	13.04	0.130	3.81
	5/18/15		3.70	50.80					454	3.11	425.00	16.28	0.101	3.39
	6/7/17		3.35	50.65					394	0.82	44.40	16.21	0.062	4.43
	7/10/19		3.68	50.55					396	1.41	3.20	15.47	0.067	3.91
	5/20/20		4.10	50.80					430	0.00	0.00	14.08	0.058	3.54
MW-70S	12/4/14		2.80	29.40					431	6.70	194.00	13.28	0.149	3.97
	5/18/15		2.78	29.60					252	6.16	800+	15.48	0.296	3.86
	6/7/17		2.46	29.60					395	3.38	25.30	16.37	0.079	4.74
	6/4/18		2.08	29.60					422	6.43	0.00	13.84	0.065	4.38
	7/10/19		2.76	29.60					322	5.90	32.90	19.25	0.120	4.61
	5/19/20		2.90	29.60					337	5.22	27.10	15.28	0.084	4.31
MW-70M	12/4/14		2.10	56.40					291	1.29	65.20	12.28	0.027	4.73
	5/18/15		1.90	56.50					236	2.23	212.00	13.57	0.075	4.62
	6/7/17		1.59	56.60					343	0.00	41.90	16.57	0.016	4.78
	6/4/18		1.20	56.50					392	0.77	0.00	14.34	0.018	4.50
	7/10/19		2.91	56.50					357	0.63	0.00	15.09	0.020	4.32
	5/19/20		2.14	56.50					307	0.00	0.00	13.72	0.018	4.31
MW-71S	12/3/14		3.40	21.30					311	6.04	297.00	11.47	0.037	4.68
	5/18/15		3.61	22.21					462	6.15	265.00	14.50	0.100	3.60
	6/7/17		3.21	22.35					380	6.24	40.70	15.21	0.026	4.39
	7/10/19		3.43	22.21					379	6.35	1.80	16.96	0.082	4.06
	5/20/20		3.52	22.21					373	5.04	8.90	13.71	0.043	4.28
MW-71M	12/3/14		3.45	56.95					321	4.66	922.00	12.55	0.053	4.11
	5/18/15		3.57	57.19					317	0.63	800+	14.24	0.095	3.76
	6/7/17		3.21	56.95					378	0.00	43.70	14.75	0.039	4.19
	7/10/19		3.41	57.19					346	0.00	3.60	21.24	0.029	4.15
	5/20/20		3.55	57.19					356	0.00	33.70	13.43	0.048	4.14
MW-72S	12/8/14		2.63	27.20					290	6.60	1000+	13.19	0.146	4.30
	5/18/15		2.90	27.10					542	7.06	300.00	15.19	0.108	2.96
	6/6/17		2.48	27.30					373	370.00	79.00	14.73	0.121	4.48
	6/1/18		2.12	27.10					409	6.40	0.00	14.46	0.077	4.45
	7/11/19		2.96	27.10					350	6.42	22.80	16.12	0.064	4.20
	5/20/20		2.96	27.10					362	4.69	9.30	12.90	0.083	4.43

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-72M	12/8/14		2.43	62.25					433	3.36	33.70	11.99	0.089	4.52
	5/18/15		2.68	62.50					484	7.20	333.00	14.80	0.083	3.83
	-		2.25	62.20					327	0.00	0.00	14.81	0.054	4.93
	6/1/18		2.14	62.20					403	0.92	0.00	14.97	0.055	4.72
	7/11/19		2.74	62.50					349	1.90	0.00	15.11	0.052	4.37
	5/20/20		2.76	62.50					359	0.66	0.00	13.14	0.054	4.41
MW-73S	12/5/14		3.50	27.60					193	5.02	53.40	12.61	0.078	5.64
	5/18/15		3.59	27.60					-	-	-	-	-	-
	6/8/17		3.29	27.65					317	1.50	0.00	15.39	0.160	5.00
	6/1/18		3.06	27.60					352	0.74	0.00	17.07	0.069	4.80
	7/11/19		3.63	27.60					350	2.59	0.00	18.22	0.112	4.60
	5/22/20		3.83	27.60					280	5.30	0.00	16.44	0.090	5.13
MW-73M	12/5/14		3.52	52.35					370	3.55	3.51	13.20	0.061	4.71
	5/18/15		3.60	52.29					-	-	-	-	-	-
	6/8/17		3.35	52.50					147	0.00	47.80	15.33	0.090	5.51
	6/1/18		3.08	52.29					125	0.00	41.70	15.96	0.083	5.32
	7/11/19		3.68	52.29					27	0.00	9.00	17.44	0.283	5.59
	5/22/20		3.87	52.29					62	0.00	2.10	14.52	0.087	5.97
MW-74S	12/9/14		2.24	32.70					221	6.35	682.00	11.75	0.030	4.92
	5/18/15		2.70	32.43					-	-	-	-	-	-
	6/8/17		2.34	32.40					257	0.00	0.00	14.61	0.032	4.78
	6/5/18		2.18	32.43					244	0.00	0.00	16.13	0.022	4.71
	7/12/19		2.40	32.43					206	0.00	0.00	16.12	0.023	4.61
	5/22/20		2.89	32.43					265	0.00	7.60	14.69	0.022	4.47
MW-74M	12/9/14		1.83	56.60					375	3.13	1000+	12.38	0.043	3.78
	5/18/15		2.09	57.10					-	-	-	-	-	-
	6/8/17		1.84	56.75					376	0.00	26.00	14.51	0.025	4.34
	6/5/18		1.49	57.10					402	0.00	0.00	14.81	0.017	4.02
	7/12/19		1.83	57.10					367	0.00	0.00	14.53	0.026	4.09
	5/22/20		2.32	57.10					373	0.00	10.30	14.49	0.023	4.13
MW-75S	12/4/14		3.21	30.30					129	1.76	350.00	12.24	0.051	5.74
	5/18/15		3.23	30.30					326	1.69	230.00	14.69	0.072	5.04
	6/8/17		3.60	28.75					22	0.00	49.50	15.43	0.052	6.15
	6/5/18		4.25	27.00					32	0.00	0.00	15.27	0.044	6.19
	7/12/19		2.90	30.30					-24	4.55	49.00	19.98	0.059	6.12
	5/21/20		3.41	30.30					-12	0.00	0.00	15.38	0.042	6.41

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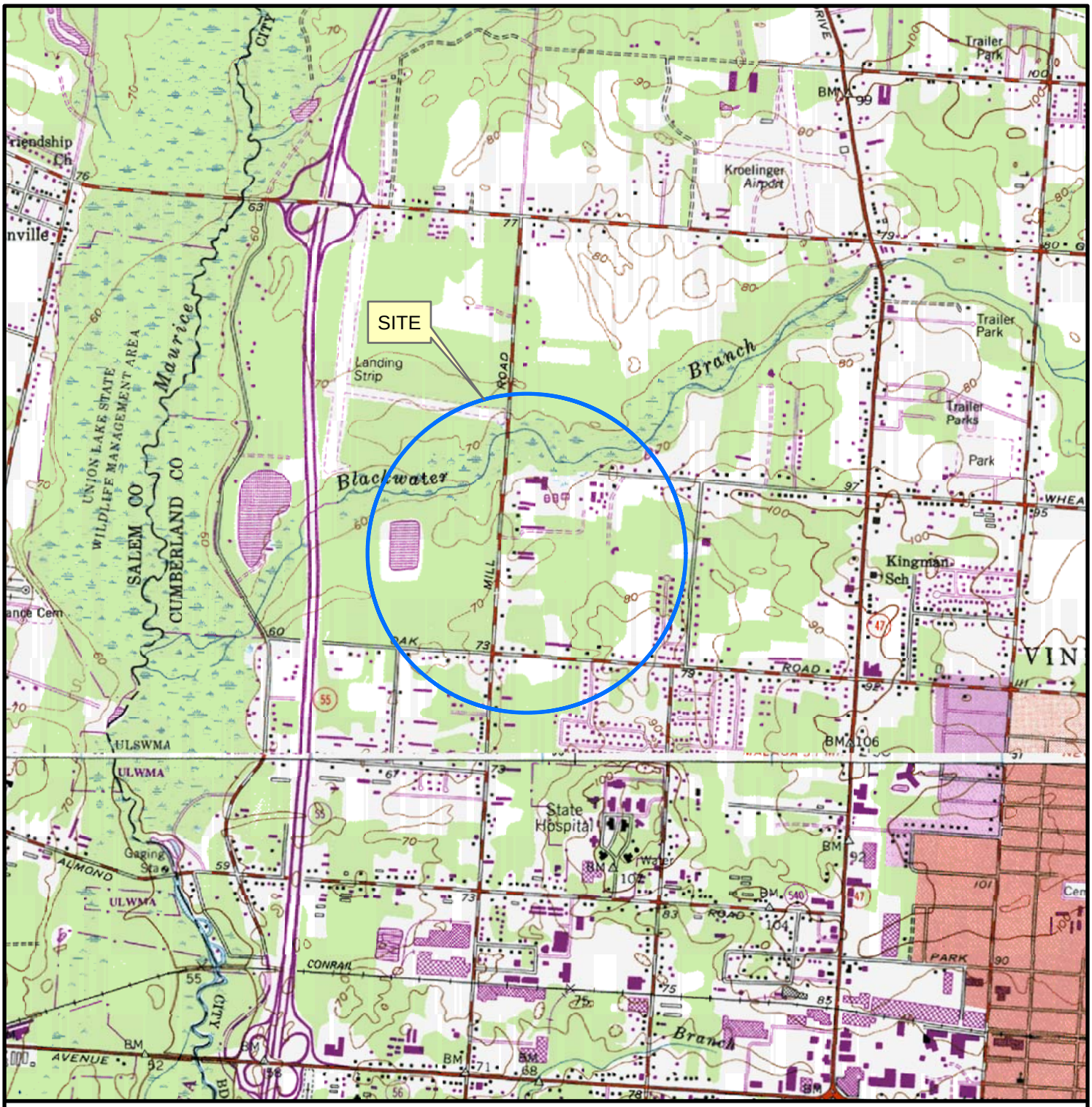
Vineland, NJ

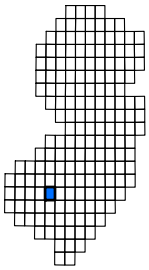
		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-75M	12/4/14		3.45	41.60					227	4.41	641.00	11.41	0.037	4.83
	5/18/15		3.38	41.59					311	3.23	708.00	14.71	0.052	3.24
	6/8/17		3.87	42.00					311	0.00	0.00	15.19	0.040	4.35
	6/5/18		3.54	40.00					379	0.00	0.00	18.50	0.032	4.18
	7/12/19		3.10	41.59					209	0.00	0.00	18.92	0.041	4.28
	5/21/20		3.58	41.59					274	0.00	0.00	14.96	0.034	4.16
MW-75D	12/4/14		2.34	71.20					308	1.09	>800	12.70	0.034	4.34
	5/18/15		2.12	71.80					414	2.52	757.00	14.54	0.048	2.83
	6/8/17		1.90	72.00					313	1.93	0.00	14.95	0.034	4.51
	6/5/18		4.12	70.00					438	0.00	0.00	15.25	0.028	4.18
	7/12/19		1.93	71.80					331	0.00	0.00	15.20	0.029	3.95
	5/21/20		2.44	71.80					313	0.00	72.40	15.16	0.030	4.12
WW-24S	11/5/14		12.35	15.50					234	2.29	38.60	20.35	0.121	6.20
	12/10/15		11.62	15.50					315	1.84	51.40	18.87	0.097	7.29
	11/16/16		12.45	15.80					217	0.00	35.30	19.15	0.124	4.36
	10/25/17		12.30	15.80					198	3.40	13.30	20.50	0.150	6.17
	10/19/18		11.25	15.80					217	3.96	0.00	18.76	0.140	6.41
	11/22/19		12.38	15.80					285	2.84	0.00	17.16	0.112	6.03
	10/20/20		11.36	15.80					185	4.60	5.10	19.10	0.153	6.38
WW-24M	4/26/16		11.27	54.00					271	2.41	88.10	12.78	0.100	4.90
	5/1/18		10.92	55.00					333	7.13	99.10	15.70	0.076	4.87
	4/15/20		11.05	55.00					258	6.50	70.70	13.67	0.085	4.75
WW-25S	11/5/14		4.68	16.80					190	0.62	11.50	19.68	0.100	5.91
	12/9/15		4.55	16.80					75	0.00	73.00	15.25	0.208	6.04
	11/17/16		7.79	16.85					137	0.00	0.00	19.06	0.098	6.01
	10/26/17		4.65	15.50					155	0.00	0.00	17.07	0.098	5.65
	10/19/18		3.92	16.83					193	0.00	0.00	17.94	0.105	5.89
	11/21/19		4.60	16.83					187	1.59	0.00	16.45	0.048	5.72
	10/19/20		4.00	16.83					230	1.68	0.00	20.12	0.091	7.00
WW-25M	11/5/14		4.48	42.20					118	0.00	12.30	16.16	0.041	5.26
	12/9/15		4.58	42.00					174	0.00	71.70	13.82	0.051	4.40
	11/17/17		4.70	42.50					134	0.00	14.30	16.08	0.036	5.20
	10/26/17		4.65	42.40					183	0.00	7.70	16.08	0.035	4.90
	10/19/18		3.91	42.40					7	0.00	0.00	17.67	0.053	6.06
	11/21/19		3.59	42.40					271	0.00	0.00	15.25	0.033	5.80
	10/19/20		3.93	42.40					182	5.42	0.00	19.20	0.045	6.08

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-26S	11/5/14		7.73	13.60					58	1.21	72.90	18.78	0.161	6.64
	12/10/15		7.65	13.50					110	3.05	73.00	14.43	0.262	6.46
	11/16/16		7.79	13.70					50	0.00	51.50	21.87	0.127	6.71
	10/25/17		7.67	13.65					-31	0.00	12.20	20.79	0.180	6.49
	10/19/18		6.25	13.86					36	0.00	15.20	20.43	0.100	6.68
	11/21/19		7.80	13.65					66	2.35	0.00	16.74	0.133	6.95
	10/19/20		6.96	13.65					121	3.37	0.00	20.24	0.122	6.40
WW-26M	11/5/14		12.98	40.00					274	3.82	28.70	17.22	0.156	5.50
	12/10/15		7.65	40.50					225	3.92	36.20	13.65	0.283	5.14
	11/16/16		7.82	40.60					269	0.00	24.00	19.03	0.157	5.49
	10/25/17		7.68	40.50					245	3.32	0.00	16.93	0.180	5.24
	10/19/18		6.85	40.30					256	4.43	0.00	18.52	0.160	5.60
	11/21/19		7.72	40.50					251	7.20	0.00	16.73	0.104	5.86
	10/19/20		6.97	40.50					236	5.36	0.00	20.05	0.156	5.36
WW-27S	11/5/14		13.08	20.00					357	6.37	32.40	17.42	0.043	4.98
	12/10/15		12.90	20.00					400	4.34	4.20	15.95	0.020	5.63
	11/16/16		13.13	19.95					278	0.57	7.40	18.15	0.038	5.16
	10/25/17		12.94	19.90					229	5.57	2.70	20.61	0.051	4.82
	10/19/18		12.00	18.50					386	6.75	21.90	18.47	0.101	6.22
	11/22/19		13.10	19.90					363	4.49	0.00	17.27	0.234	4.97
	10/20/20		12.11	19.90					271	4.42	12.10	19.88	0.209	5.60
WW-27M	11/5/14		11.76	43.00					327	8.92	19.90	16.50	0.111	5.24
	12/10/15		13.02	44.50					369	0.98	7.70	15.29	0.070	6.16
	11/16/16		13.22	44.65					291	0.00	3.80	18.29	0.077	4.90
	10/25/17		13.03	44.57					295	0.50	2.10	19.82	0.110	4.68
	10/19/18		12.10	44.57					341	0.00	0.00	17.80	0.063	4.84
	11/22/19		13.18	44.57					464	0.00	0.00	16.76	0.072	4.40
	10/20/20		12.17	44.57					246	0.00	4.30	18.54	0.080	5.41

ATTACHMENTS





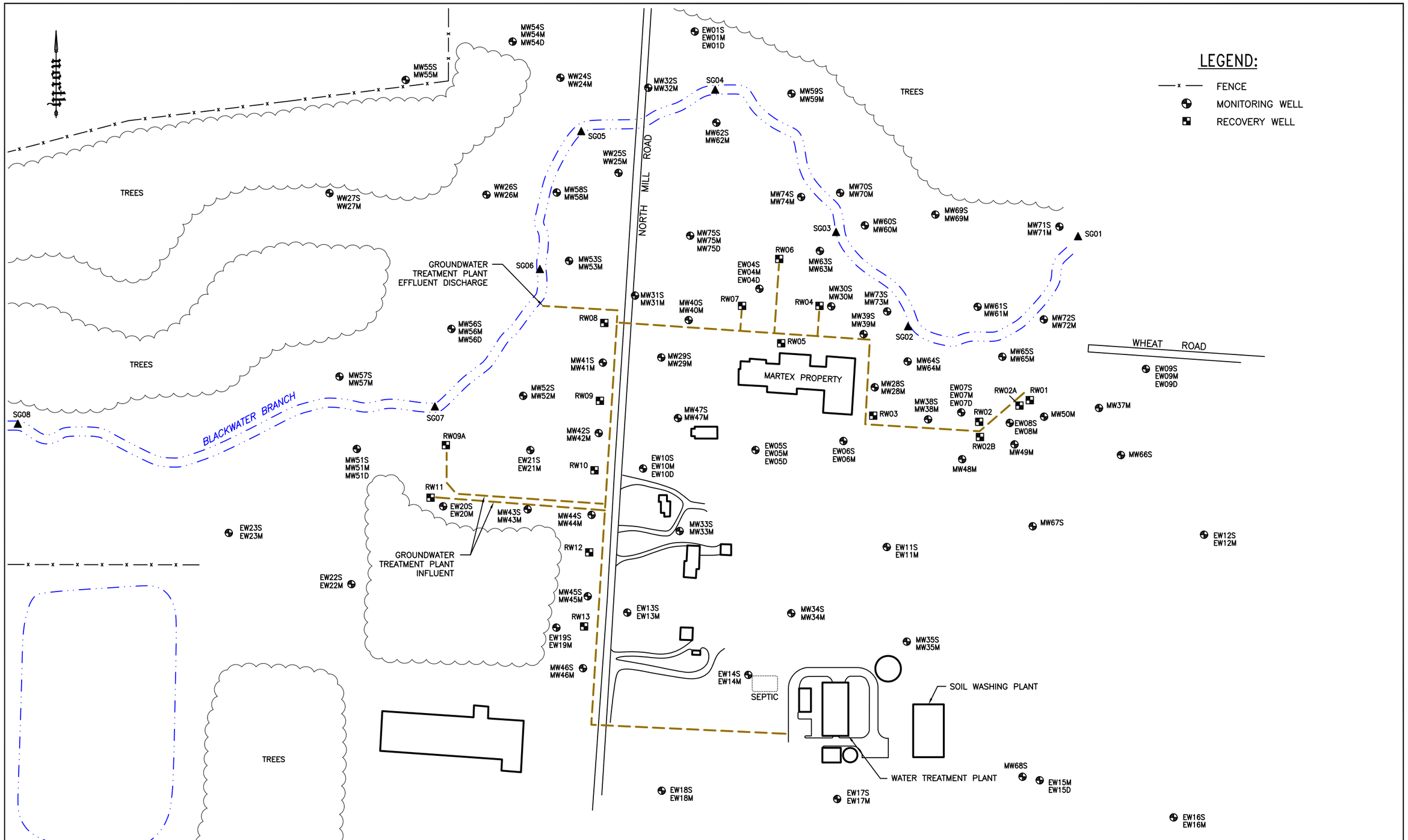
QUADRANGLE LOCATION:
NEWFIELD, NEW JERSEY

SOURCE: USGS 7.5 MINUTE SERIES
REVISED/INSPECTED: 1994
CONTOUR INTERVAL: 10 FEET

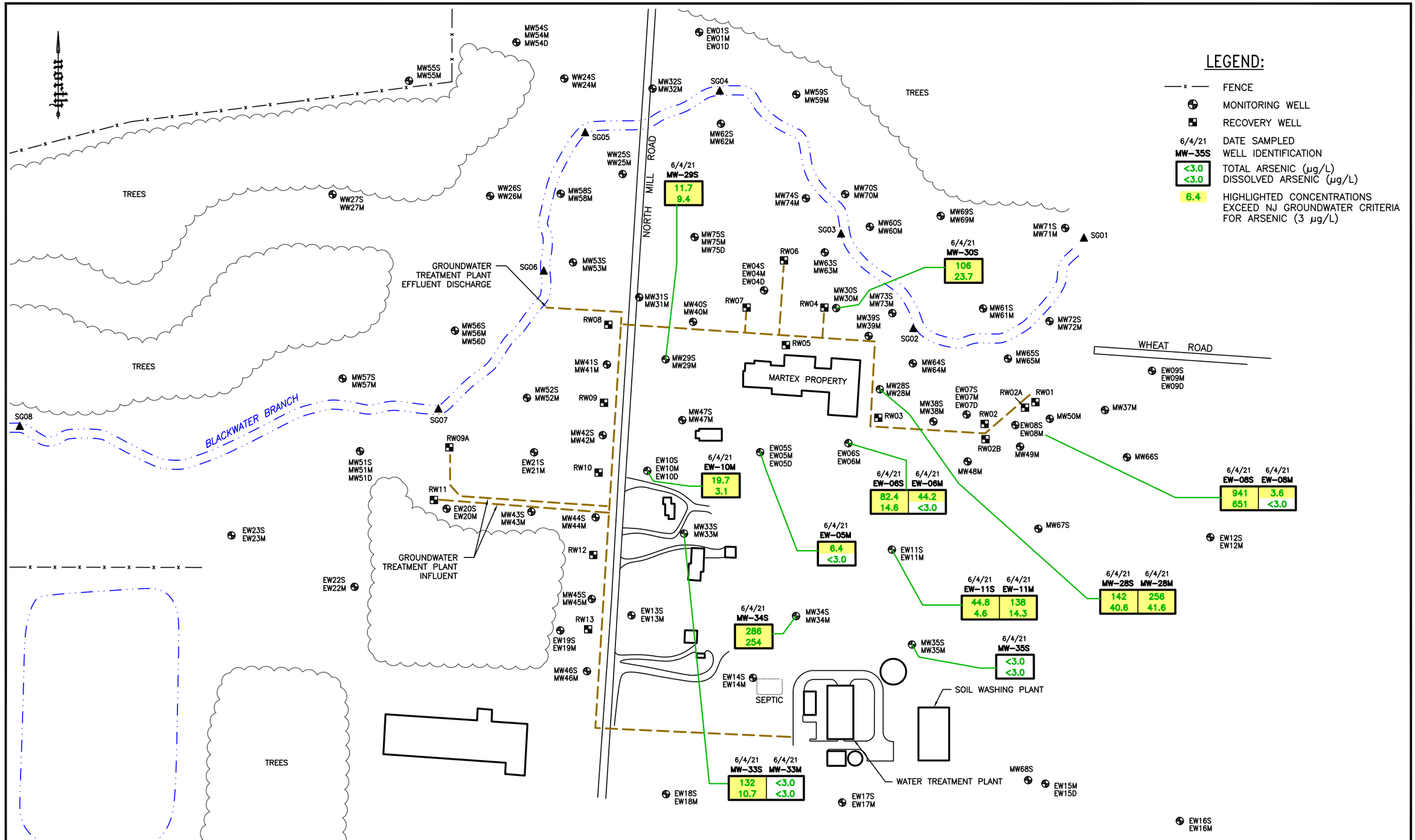
0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

ATTACHMENT	U.S.G.S. TOPOGRAPHIC MAP	DRAWN BY: B.S.	EnviroTrac ENVIRONMENTAL SERVICES
A	NJDEP - VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	DATE: 11/21/2014	400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017



ATTACHMENT B	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	SITE PLAN	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
		DRAWN BY: B.S. / REVISION DATE: 11/21/2014		



ATTACHMENT D

NJDEP – VINELAND CHEMICAL
1405 NORTH MILL ROAD
VINELAND, NEW JERSEY

GROUNDWATER CONTAMINANT MAP
JUNE 2021

DRAWN BY: B.S.

REVISION DATE: 7/15/2021

0 250
SCALE IN FEET

EnviroTrac
ENVIRONMENTAL SERVICES
400E CORPORATE COURT, So. PLAINFIELD NJ 07080
PHONE: (908)757-1900 FAX: (908)757-0017

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

October 2021

PREPARED FOR:

Erin Husta

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

401 EAST STATE STREET

MAIL CODE: 401-06H

P.O. BOX 420

TRENTON, NJ 08625

SAMPLING COMPLETED BY:

ENVIROTRAC LTD.

400 CORPORATE COURT, SUITE E

SOUTH PLAINFIELD, NJ 07080

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

1.0 Introduction

Envirotrac Ltd., between October 20th, 2021, and October 21st, 2021, sampled NJDEP Vineland Chemical, Vineland, of Cumberland County, New Jersey per the request of Erin Husta, NJDEP Operations Manager. Sampling was performed in accordance with the 2021 Groundwater Sampling Plan Scope of Work provided by the NJDEP. The system onsite was sampled by Sevenson Environmental Services between the groundwater sampling events.

2.0 Scope of the Sampling

The groundwater sampling event included EW-13S, EW-13M, EW-14S, EW-14M, EW-15M, EW-17S, EW-18S, EW-18M, EW-19S, EW-19M, EW-20M, EW-21M, EW-22S, EW-22M, EW-23S, EW-23M, MW-31S, MW-31M, MW-32S, MW-38S and MW-38M. Two matrix spike/matrix spike duplicate sample (EW-14M and MW-38M) and two field duplicates (EW-14S and MW-32S) were collected during this sampling event in accordance with the Site-Specific Quality Assurance and Quality Control (QAPP) prepared in 2021 by Envirotrac.

3.0 Analytical Parameters

The groundwater samples were analyzed at the time of sampling for the field parameters Oxidation-Reduction Potential (ORP), Dissolved Oxygen (ppm), Turbidity (NTU), Temperature (^{0}C), Conductivity (ms/cm) and pH by the field technicians of Envirotrac Ltd. (NJ Lab Certification 12020), South Plainfield, New Jersey. The groundwater samples were then analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

The system samples were analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

4.0 Sampling Personnel on Site

The groundwater sampling was conducted by Brian Magley and Frederick Reichert. The system sampling was conducted by Sevenson Environmental Services between the groundwater sampling events.

5.0 Methodology(ies)

All samples were collected by first purging the monitoring wells using a low-flow submersible pump and dedicated 3/8” poly tubing. The wells were purged until indicator parameters stabilized with three consecutive readings within ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10mv for Redox Potential; and 10% for Dissolved Oxygen and Turbidity. Once the indicator parameters have been stabilized, the sample is collected using a submersible pump. All purge water was containerized and brought back to the system to be treated.

The onsite System was active during the groundwater sampling event.

6.0 Non-conformance summary

All sampling was performed in compliance with the scope of work and the standard sampling methods. There were no unusual observations during the sampling event.

Tables

Table 1 October 2021 Groundwater Sampling Lab Results

Table 2 Summary of Groundwater Sampling Field Data

Attachments

Attachment A U.S.G.S. Topographic Map with Site Location

Attachment B Site Plan

Attachment C Groundwater Contaminant Map

TABLES

SGS Dayton, NJ

12/1/2021 9:48

Job Number:	JD34100
Account:	EnviroTrac Ltd.
Project:	NJDEP-Vineland Chemical, Vineland, NJ
Project Number:	

Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent). Legend: Hit | Exceed

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW22M	EW22M	EW23S	EW23S	EW23M	EW23M	MW31S	MW31S
Lab Sample ID:				JD34100-1	JD34100-1F	JD34100-2	JD34100-2F	JD34100-3	JD34100-3F	JD34100-4	JD34100-4F
Date Sampled:				10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/20/2021	10/20/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	41.5	20

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW31M	MW31M	MW32S	MW32S	MW38S	MW38S	MW38M	MW38M
Lab Sample ID:				JD34100-5	JD34100-5F	JD34100-6	JD34100-6F	JD34100-7	JD34100-7F	JD34100-8	JD34100-8F
Date Sampled:				10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	1430	131	10.8	4.8	219	187	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	FD-01	FD-01	FD-02	FD-02	FIELD BLANK 1	FIELD BLANK 1	FIELD BLANK 2	FIELD BLANK 2
Lab Sample ID:				JD34100-9	JD34100-9F	JD34100-10	JD34100-10F	JD34100-11	JD34100-11F	JD34100-12	JD34100-12F
Date Sampled:				10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/21/2021	10/21/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Field Blank Water	Field Blank Filtered	Field Blank Water	Field Blank Filtered
Metals Analysis											
Arsenic	ug/l	3	-	10.7	<3.0	3.7	<3.0	<3.0	<3.0	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW13S	EW13S	EW13M	EW13M	EW14S	EW14S	EW14M	EW14M
Lab Sample ID:				JD34100-13	JD34100-13F	JD34100-14	JD34100-14F	JD34100-15	JD34100-15F	JD34100-16	JD34100-16F
Date Sampled:				10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	1060	32.2	12.2	10.2	5.3	<3.0	<3.0	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW15M	EW15M	EW17S	EW17S	EW17M	EW17M	EW18S	EW18S
Lab Sample ID:				JD34100-17	JD34100-17F	JD34100-18	JD34100-18F	JD34100-19	JD34100-19F	JD34100-20	JD34100-20F
Date Sampled:				10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021	10/20/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	4.4	<3.0

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW18M	EW18M	EW19S	EW19S	EW19M	EW19M	EW20M	EW20M
Lab Sample ID:				JD34100-21	JD34100-21F	JD34100-22	JD34100-22F	JD34100-23	JD34100-23F	JD34100-24	JD34100-24F
Date Sampled:				10/20/2021	10/20/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021	10/21/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<3.0	<3.0	3.9	<3.0	8.2	6.9	75.5	13

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	EW21M	EW21M	EW22S	EW22S				
Lab Sample ID:				JD34100-25	JD34100-25F	JD34100-26	JD34100-26F				
Date Sampled:				10/21/2021	10/21/2021	10/21/2021	10/21/2021				
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered				
Metals Analysis											
Arsenic	ug/l	3	-	58	3.1	<3.0	<3.0				

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

23 results exceeded regulatory criteria.

[1] NOTE: The above also includes "generic" criteria that cannot be evaluated using LabLink regulatory limits. They are as follows: "SOCs defined as carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 5 ug/l each 25 ug/l total. SOCs defined as non-carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 100 ug/l each 500 ug/l total."

[2] NOTE: This list represents Interim Specific and Interim Generic criteria ONLY. For Specific criteria refer to "NJ Groundwater Criteria".

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-1M	3/24/15		9.59	39.30					318	1.32	63.80	11.03	0.048	3.50
	3/24/16		10.20	39.25					424	0.00	0.00	18.72	0.035	4.39
	3/24/17		10.10	39.25					396	0.00	0.00	13.95	0.040	4.05
	3/20/18		9.74	39.25					408	0.00	0.00	17.15	0.041	4.07
	3/21/19		9.47	39.25					426	2.25	0.00	12.92	0.062	4.03
	3/18/20		10.37	39.25					454	0.59	0.30	13.76	0.042	4.30
	5/26/21		10.37	39.25					410	0.00	0.00	15.66	0.043	3.96
EW-1D	3/24/15		8.91	108.63					258	1.87	64.60	10.69	0.044	4.10
	3/24/16		9.80	104.00					347	0.00	0.00	20.50	0.026	4.79
	3/24/17		10.21	104.00					252	0.00	0.00	12.44	0.029	4.78
	3/20/18		9.10	104.00					331	0.00	3.30	12.27	0.031	4.24
	3/21/19		8.87	104.00					328	0.00	0.50	12.54	0.027	4.82
	3/18/20		10.02	104.20					400	0.49	1.40	14.22	0.031	4.69
	5/26/21		9.93	104.00					329	0.00	0.00	17.55	0.030	4.69
EW-4D	3/24/15		10.73	111.54					347	0.80	64.70	11.18	0.040	4.46
	3/24/16		11.50	113.00					387	5.76	0.00	16.88	0.021	4.99
	3/23/17		12.02	113.00					320	0.00	0.00	13.60	0.029	3.96
	3/23/18		11.50	113.00					300	7.15	0.00	12.82	0.035	5.17
	3/21/19		10.33	104.00					320	0.00	0.00	13.10	0.030	4.18
	3/18/20		11.79	110.09					317	0.00	1.20	14.13	0.032	4.58
	5/27/21		11.48	113.00					343	9.30	0.00	16.41	0.029	4.38
EW-4M	3/23/15		12.04	45.60					361	1.01	47.80	10.38	0.031	5.07
	3/24/16		12.77	42.20					343	0.72	9.00	18.42	0.020	5.02
	3/23/17		12.93	45.20					198	0.00	4.80	13.87	0.260	5.00
	3/23/18		12.14	45.20					277	0.00	8.60	18.41	0.022	4.91
	3/21/19		11.93	45.20					223	0.00	0.00	13.74	0.034	4.94
	3/18/20		12.94	45.20					269	0.78	10.60	14.33	0.027	5.01
	5/27/21		12.66	45.20					157	0.00	9.20	18.29	0.030	5.01
EW-4S	3/23/15		12.51	23.30					322	4.07	22.80	10.12	0.049	5.53
	3/24/16		13.30	23.25					174	0.52	40.00	19.98	0.053	6.96
	3/23/17		13.46	23.25					213	0.00	63.90	13.81	0.072	5.74
	3/23/18		12.80	23.25					207	0.00	12.80	14.65	0.090	5.72
	3/22/19		12.32	23.25					142	0.00	27.30	11.93	0.073	6.01
	3/17/20		13.51	23.25					126	58.00	47.20	14.51	0.640	6.11
	5/27/21		13.22	23.25					155	6.00	30.20	16.90	0.058	5.74

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-5M	6/24/15		10.00	51.40					340	2.57	27.30	16.78	0.299	4.05
	6/27/18		10.06	51.35					336	2.84	18.00	15.60	0.093	4.59
	8/1/19		10.68	51.35					285	3.80	2.80	18.72	0.082	4.65
	6/17/20		10.88	51.35					278	2.26	0.00	16.08	0.080	4.40
	6/4/21		10.18	51.35					309	2.45	0.00	16.98	0.089	4.61
EW-5D	4/29/16		9.36	128.05					361	7.33	0.00	14.21	0.450	4.73
	5/1/18		8.80	125.00					366	9.18	0.00	15.49	0.035	4.69
	4/16/20		9.20	130.00					306	0.00	1.80	12.89	0.037	4.39
EW-6S	6/25/15		13.81	23.60					149	2.63	2.10	20.46	0.015	4.97
	6/28/18		13.80	23.00					300	2.91	29.00	18.66	0.009	4.73
	8/1/19		14.66	15.11					**Not Enough Water to Sample**					
	6/18/20		15.05	24.40					229	6.67	45.90	18.70	0.009	4.69
	6/3/21		14.18	24.40					189	4.80	28.30	17.78	0.009	5.25
EW-6M	6/25/15		13.39	59.60					290	3.36	18.60	17.21	0.114	3.85
	6/28/18		13.31	58.00					346	3.30	4.80	19.11	0.101	4.58
	8/1/19		14.14	58.00					318	2.42	3.70	17.16	0.102	4.40
	6/18/20		14.58	58.00					287	2.43	4.90	18.78	0.084	4.31
	6/3/21		13.74	58.00					266	1.86	4.80	16.99	0.085	4.53
EW-7S	3/23/15		9.55	20.05					263	6.35	45.00	10.34	0.263	6.25
	3/24/16		12.51	22.40					241	1.47	5.00	20.15	0.093	6.17
	3/23/17		12.08	20.20					229	1.39	19.80	13.60	0.093	6.40
	3/23/18		10.93	20.20					196	0.00	12.20	16.62	0.086	6.14
	3/22/19		10.08	20.20					188	1.19	26.80	12.29	0.096	6.28
	3/17/20		12.45	20.25					229	5.16	47.40	13.97	0.082	6.23
	5/26/21		12.17	20.20					173	0.00	9.50	15.82	0.081	5.89
EW-7M	3/23/15		9.32	63.20					357	2.03	91.90	11.32	0.140	5.69
	3/24/16		13.10	63.00					264	0.00	0.00	17.02	0.105	6.25
	3/23/17		12.08	63.00					276	1.24	0.80	13.92	0.069	6.20
	3/23/18		11.80	63.00					234	0.66	0.00	12.97	0.154	5.84
	3/22/19		9.75	63.00					283	0.00	3.20	14.00	0.136	5.55
	3/17/20		12.52	63.15					313	4.10	42.40	13.58	0.800	5.85
	5/26/21		12.32	63.00					189	0.00	8.20	16.47	0.133	5.80

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-7D	3/23/15		8.08	112.98					357	0.70	62.50	12.13	0.040	4.67
	3/24/16		9.00	112.00					366	3.99	0.00	21.51	0.027	5.25
	3/24/17		9.58	112.00					335	0.00	0.00	12.49	0.300	4.72
	3/23/18		8.37	112.00					337	0.00	2.30	17.48	0.027	4.71
	3/22/19		7.41	112.00					350	0.00	0.00	12.38	0.031	4.70
	3/17/20		9.26	111.10					347	0.27	0.00	13.21	0.270	4.98
	5/26/21		8.98	112.00					358	4.21	0.00	19.21	0.032	4.39
EW-8S	6/25/15		17.60	24.03					160	5.42	15.40	16.41	0.284	5.96
	6/28/18		16.63	23.80					154	0.00	26.30	18.40	0.229	6.74
	7/31/19		18.34	23.80					136	0.00	6.00	16.97	0.243	6.53
	6/18/20		18.15	23.80					158	1.06	12.70	15.48	0.229	6.35
	6/3/21		17.29	23.80					121	0.72	49.80	14.98	0.107	6.95
EW-8M	6/25/15		17.40	75.57					280	5.58	0.00	16.51	0.103	4.14
	6/28/18		16.80	71.00					300	5.47	0.00	19.85	0.069	4.90
	7/31/19		18.57	71.00					292	6.00	0.00	16.89	0.059	4.68
	6/18/20		18.20	71.00					337	4.33	0.20	15.83	0.058	4.37
	6/3/21		17.21	71.00					293	5.16	2.80	15.64	0.065	4.55
EW-9S	4/28/16		17.22	26.35					188	4.04	31.10	14.15	0.090	6.09
	4/30/18		16.60	26.32					179	6.54	9.70	14.72	0.104	6.19
	4/16/20		16.53	26.32					240	6.71	21.30	14.68	0.064	6.08
EW-9M	4/27/16		17.95	77.15					206	4.23	4.20	14.29	0.106	4.23
	4/30/18		17.20	79.00					178	5.46	4.60	14.00	0.110	5.82
	4/16/20		17.16	79.00					215	6.15	1.40	14.62	0.114	6.40
EW-9D	4/27/16		16.45	125.90					-81	0.00	4.90	13.24	0.065	6.50
	4/30/18		16.09	130.00					-100	0.00	4.60	13.69	0.082	6.95
	4/16/20		16.33	130.00					-118	0.00	0.90	12.74	0.089	7.15
EW-10M	6/24/15		10.66	41.49					285	3.57	59.20	16.25	0.202	4.05
	6/27/18		10.71	41.30					298	3.58	7.50	15.75	0.068	4.64
	8/1/19		11.06	41.30					307	1.73	2.70	19.22	0.073	4.81
	6/17/20		11.32	41.30					320	3.33	0.00	15.68	0.066	4.53
	6/4/21		11.03	41.30					297	2.70	8.80	16.77	0.069	4.89
EW-10D	4/29/16		9.59	106.90					-60	0.00	3.90	12.89	0.090	6.15
	5/2/18		9.14	110.00					-31	0.00	2.60	14.67	0.066	6.10
	4/16/20		9.41	110.00					-88	0.00	3.20	13.00	0.069	6.05

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-11S	6/24/15		10.60	22.44					321	14.92	61.90	16.96	0.147	5.18
	6/27/18		10.44	22.46					256	0.00	0.00	17.93	0.020	5.28
	7/31/19		11.33	22.46					235	2.32	39.00	29.10	0.046	5.39
	6/17/20		11.54	22.46					225	3.99	13.70	15.53	0.048	4.13
	6/3/21		10.63	22.46					237	2.68	34.80	16.76	0.027	5.32
EW-11M	6/24/15		10.35	64.40					342	4.13	0.00	18.55	0.339	3.82
	6/27/18		10.30	63.00					204	10.27	0.00	18.60	0.088	5.47
	7/31/19		11.15	63.00					321	3.82	0.00	27.44	0.960	4.65
	6/17/20		11.39	63.00					261	1.55	0.00	15.78	0.154	3.49
	6/3/21		10.46	63.00					306	2.48	9.80	17.49	0.103	4.33
EW-12S	4/26/16		14.87	26.45					383	7.00	4.00	17.29	0.042	4.64
	5/1/18		12.10	27.00					360	8.70	0.00	14.89	0.031	4.26
	4/14/20		14.49	26.60					346	6.12	4.40	14.09	0.050	4.68
EW-12M	4/26/16		14.52	69.55					341	6.21	2.00	16.85	0.035	4.92
	5/1/18		13.79	70.00					343	8.01	0.00	14.39	0.026	4.98
	4/14/20		14.07	76.00					249	7.83	1.60	13.81	0.044	5.57
EW-13S	11/23/15		10.73	16.58					310	1.22	0.00	15.55	0.171	6.73
	10/20/16		10.73	14.40					100	0.00	3.00	20.72	0.095	6.01
	10/12/17		10.73	17.40					32	0.78	33.00	20.82	0.105	6.22
	9/29/18		9.37	17.40					25	0.00	15.00	21.18	0.058	6.01
	10/25/19		10.81	17.40					-69	0.00	38.00	18.77	0.154	6.43
	9/23/20		9.13	17.40					-53	0.00	5.80	21.00	0.109	5.94
	10/21/21		10.90	18.15					-122	0.00	79.00	19.06	0.193	6.21
EW-13M	11/23/15		10.65	51.00					387	1.34	0.00	14.62	0.126	5.76
	10/20/16		10.51	51.10					250	0.00	0.00	18.61	0.105	5.14
	10/12/17		10.64	53.00					266	1.34	1.00	17.81	0.104	5.25
	9/27/17		9.28	53.20					310	2.69	6.70	17.42	0.083	5.07
	10/25/19		10.68	53.00					267	0.00	0.00	15.97	0.090	5.55
	9/23/20		9.10	53.00					301	0.00	0.00	17.60	0.120	5.12
	10/21/21		10.84	51.00					197	0.95	5.20	19.99	0.109	5.61

Table 2
Summary of Groundwater Sampling Field Data
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-14S	11/20/15		8.57	19.30					353	2.60	45.60	18.42	0.211	7.78
	10/20/16		9.40	20.00					5	1.70	40.00	22.77	0.285	6.85
	10/11/17		8.50	19.40					210	4.09	31.90	22.23	0.287	6.00
	9/26/18		6.87	19.40					177	2.10	43.10	24.80	0.127	6.45
	10/23/19		8.73	19.40					97	1.28	0.00	20.65	0.147	6.81
	9/23/20		6.65	19.40					197	3.67	32.50	22.31	0.297	6.29
	10/20/21		8.60	19.30					103	0.78	15.60	22.82	0.117	6.43
EW-14M	11/20/15		8.29	56.15					438	2.90	0.00	15.91	0.110	5.50
	10/20/16		8.21	56.00					235	1.18	3.00	19.11	0.104	4.90
	10/11/17		8.22	43.35					292	3.60	0.00	18.33	0.087	5.00
	9/27/18		6.70	43.35					304	1.24	0.00	19.26	0.081	4.63
	10/23/19		8.45	43.35					236	0.00	0.00	20.67	0.085	5.32
	9/23/20		6.39	43.35					275	2.94	0.00	20.58	0.124	5.20
	10/20/21		8.39	56.15					251	2.39	0.00	21.03	0.089	4.80
EW-15D	4/27/16		8.40	111.95					326	3.94	0.00	12.64	0.055	5.07
	4/30/18		8.60	110.00					330	9.60	0.00	13.12	0.060	4.92
	4/15/20		8.26	120.00					289	2.87	2.20	13.71	0.057	5.05
EW-15M	11/18/15		9.90	70.86					349	1.52	0.00	15.01	0.106	6.49
	10/19/16		9.80	72.20					245	5.13	6.90	15.81	0.109	4.54
	10/12/17		11.10	68.00					249	0.00	0.00	15.40	0.103	5.62
	9/27/18		8.15	72.70					249	3.70	0.00	16.23	0.079	5.34
	10/24/19		10.20	72.60					312	2.86	0.00	13.72	0.086	5.34
	9/22/20		7.79	72.60					274	4.01	0.00	16.43	0.113	5.22
	10/20/21		9.65	70.70					244	4.60	1.90	17.72	0.091	5.10
EW-16S	4/27/16		7.33	19.00					348	0.00	11.70	13.40	0.026	4.74
	5/1/18		7.41	19.00					334	2.14	15.20	14.85	0.036	4.64
	4/14/20		7.30	18.99					358	3.95	8.50	12.61	0.029	4.53
EW-16M	4/27/16		7.80	65.00					299	1.26	6.00	13.09	0.130	4.81
	5/1/18		7.01	65.00					312	3.70	0.00	15.20	0.139	5.20
	4/14/20		7.74	74.44					370	0.00	1.90	13.40	0.126	4.84
EW-17S	11/23/15		10.22	21.15					291	2.21	111.00	15.83	0.235	7.17

Table 2
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
	10/19/15		10.10	21.10					74	1.20	0.00	29.12	0.098	6.76
	10/11/17		9.40	20.91					39	1.66	107.00	22.24	0.098	6.50
	9/26/18		8.30	20.70					160	1.45	42.70	21.48	0.185	6.50
	10/23/19		10.50	20.70					90	3.50	48.00	19.00	0.047	6.58
	9/22/20		7.84	20.70					-36	0.00	154.00	20.46	0.106	6.24
	10/20/21		10.25	20.50					-52	0.00	48.00	18.82	0.124	6.14
EW-17M	11/20/15		10.17	64.69					226	1.58	47.50	14.93	0.103	6.65
	10/19/16		10.02	65.00					136	1.05	47.00	17.59	0.078	5.23
	10/11/17		10.12	66.20					-56	0.49	49.60	17.40	0.088	6.33
	9/26/18		8.25	66.25					57	0.15	47.40	19.04	0.130	6.18
	10/23/19		10.34	66.20					64	4.75	47.00	18.03	0.025	7.16
	9/22/20		7.77	66.20					96	0.00	8.50	18.10	0.053	6.52
	10/20/21		10.22	65.00					65	0.00	46.20	18.10	0.047	6.14
EW-18S	11/23/15		7.46	19.21					310	2.09	5.60	18.53	0.199	7.45
	10/19/16		7.34	19.25					114	0.50	0.00	24.32	0.144	5.78
	10/11/17		7.50	19.10					100	0.62	0.00	22.45	0.314	6.50
	9/26/18		5.65	19.00					148	0.86	0.00	25.39	0.278	6.74
	10/23/19		7.56	19.00					-19	0.00	5.40	21.82	0.120	6.32
	9/23/20		5.37	19.00					79	0.00	9.50	22.75	0.164	6.07
	10/20/21		7.55	19.30					114	0.00	13.60	23.84	0.152	6.06
EW-18M	11/23/15		7.28	55.38					389	3.23	20.60	14.09	0.100	5.94
	10/19/16		7.15	55.50					332	2.91	25.30	19.75	0.097	3.82
	10/11/17		7.30	56.50					339	1.94	7.40	17.00	0.107	4.79
	9/27/18		5.50	57.20					304	1.83	49.20	18.92	0.068	5.14
	10/23/19		7.34	57.20					348	3.42	19.60	17.19	0.067	4.45
	9/23/20		5.20	57.20					344	3.33	5.70	17.24	0.095	4.77
	10/20/21		7.36	55.65					228	3.76	0.00	21.79	0.082	5.18
EW-19S	11/18/15		11.77	24.79					395	3.30	47.60	18.76	0.193	6.46
	10/20/16		11.66	21.50					181	0.80	10.00	17.33	0.101	6.11
	10/12/17		12.50	25.00					199	1.14	0.00	17.15	0.169	6.12
	9/28/18		10.43	24.75					204	0.33	9.70	17.33	0.170	5.93
	10/25/19		11.97	24.75					30	0.00	26.00	17.20	0.229	6.13
	9/23/20		10.18	24.75					191	2.24	16.30	18.44	0.099	6.13
	10/21/21		11.97	24.80					151	0.00	15.70	18.82	0.195	5.97

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Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-19M	11/18/15		11.74	48.54					435	7.83	0.00	15.61	0.092	5.65
	10/20/16		11.63	48.50					320	0.11	0.00	16.37	0.077	4.59
	10/12/17		12.15	36.50					364	0.87	0.00	16.01	0.101	4.58
	9/28/18		10.40	48.60					337	0.00	0.00	15.81	0.073	4.53
	10/25/19		11.85	48.60					327	2.79	0.00	16.52	0.064	4.71
	9/23/20		10.15	48.60					224	2.77	0.00	16.20	0.098	4.79
	10/21/21		11.91	48.50					321	3.86	0.00	17.43	0.071	4.51
EW-20S	4/28/16		14.42	20.80					238	0.00	18.20	14.70	0.044	5.35
	5/1/18		13.95	15.10					**Unable to sample. Well Blocked.**					
	4/15/20		14.04	24.65					284	6.61	26.90	13.59	0.031	4.67
EW-20M	11/17/15		14.06	47.58					421	1.82	0.00	14.33	0.098	5.38
	10/19/16		14.00	47.55					308	0.00	0.00	20.42	0.092	4.29
	10/13/17		14.04	45.20					222	1.39	5.60	16.33	0.098	4.96
	9/28/18		13.21	45.20					341	0.00	0.00	16.06	0.080	4.73
	10/24/19		14.05	45.20					334	0.00	0.00	15.31	0.077	5.13
	9/22/20		13.11	45.26					320	2.29	1.70	16.09	0.101	4.70
	10/21/21		14.48	47.55					466	2.89	1.80	15.33	0.057	4.83
EW-21S	4/29/16		11.28	23.10					213	3.33	14.80	14.79	0.179	6.18
	5/1/18		10.98	22.40					201	1.97	21.70	18.61	0.095	6.14
	4/15/20		11.06	22.40					128	2.63	15.10	12.34	0.180	6.20
EW-21M	11/17/15		11.62	46.33					418	2.47	0.00	16.14	0.084	5.36
	10/19/16		11.56	46.36					265	0.43	4.20	19.42	0.087	4.88
	10/13/17		11.63	46.30					348	0.00	0.00	14.79	0.112	4.65
	9/28/18		10.92	46.33					336	0.00	0.00	17.19	0.068	4.76
	10/25/19		11.60	46.33					322	1.20	0.00	15.64	0.063	4.82
	9/22/20		10.81	46.33					318	2.39	3.10	16.97	0.090	4.80
	10/21/21		11.96	46.30					508	1.42	6.40	17.93	0.650	4.58
EW-22S	11/17/15		16.25	28.00					415	6.94	0.00	20.12	0.022	5.60
	10/19/16		16.15	27.95					271	9.13	0.00	18.38	0.029	4.51
	10/13/17		16.36	28.20					308	9.91	3.80	19.70	0.019	4.69
	9/28/18		15.10	28.20					400	8.13	0.00	17.72	0.040	4.48
	10/24/19		16.26	28.20					332	7.51	0.00	18.43	0.014	4.54
	9/22/20		15.05	28.20					334	7.98	2.80	18.55	0.041	4.70
	10/21/21		16.60	28.00					526	10.40	0.00	19.31	0.012	4.49

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-22M	11/17/15		15.86	55.00					247	2.45	0.00	16.08	0.155	4.47
	10/19/16		15.79	55.05					304	1.90	0.00	18.51	0.082	4.38
	10/13/17		15.88	55.00					419	0.28	0.00	15.42	0.092	4.12
	9/28/18		14.75	56.00					372	1.75	0.00	16.01	0.086	4.45
	10/24/19		15.90	56.00					384	2.01	0.00	17.47	0.059	4.26
	9/22/20		14.70	56.00					310	2.62	2.90	17.36	0.078	4.57
	10/21/21		16.10	55.10					556	2.39	3.50	17.22	0.540	4.29
EW-23S	11/17/15		5.63	16.90					121	0.72	1.50	15.79	0.078	5.26
	10/20/16		5.59	13.00					71	0.00	16.30	19.30	0.056	5.70
	10/13/17		5.65	13.00					196	0.00	0.00	17.65	0.058	5.66
	9/28/18		4.65	16.69					160	0.00	25.20	19.69	0.050	5.75
	10/24/19		5.55	16.69					187	7.21	14.70	20.58	0.038	5.74
	9/22/20		4.70	16.69					36	0.00	18.10	21.05	0.051	5.58
	10/21/21		5.86	16.85					251	0.00	5.50	18.57	0.038	5.79
EW-23M	11/17/15		5.66	37.82					248	0.00	0.00	14.92	0.167	5.14
	10/20/16		5.59	37.85					283	0.00	0.90	18.50	0.086	4.29
	10/13/17		5.64	37.83					374	0.23	0.30	16.61	0.068	4.16
	9/28/18		4.60	37.83					452	0.00	0.00	18.39	0.090	4.09
	10/24/19		5.62	37.83					329	0.00	0.00	17.18	0.054	4.23
	9/22/20		4.66	37.83					310	0.00	0.00	18.85	0.076	3.96
	10/21/21		5.80	37.95					468	0.00	1.00	16.13	0.045	4.29
MW-28S	6/24/15		8.97	15.40					213	0.62	14.30	16.60	0.244	5.15
	6/28/18		8.91	16.40					194	0.00	45.60	19.16	0.239	6.50
	8/1/19		9.65	16.40					144	0.00	38.80	23.45	0.123	5.93
	6/18/20		10.08	16.40					142	0.84	38.20	16.68	0.087	5.39
	6/4/21		9.46	16.40					100	0.00	48.20	19.59	0.112	6.21
MW-28M	6/24/15		9.15	58.50					269	2.80	25.00	16.77	0.337	4.81
	6/28/18		8.99	58.00					215	5.45	12.30	18.50	0.077	6.15
	8/1/19		9.78	58.00					230	0.00	30.70	18.41	0.115	5.15
	6/18/20		10.30	58.00					52	0.64	48.30	14.91	0.106	5.33
	6/4/21		9.71	58.00					230	3.16	20.10	19.81	0.105	5.48
MW-29S	6/24/15		4.15	12.50					199	5.97	68.40	18.99	0.142	5.42
	6/27/18		4.26	12.60					250	5.70	8.30	20.61	0.067	5.69
	8/1/19		4.59	12.60					216	5.24	7.30	21.96	0.093	5.92
	6/17/20		4.72	12.60					215	1.65	0.00	18.02	0.075	5.86
	6/4/21		4.21	12.60					224	2.85	9.10	17.25	0.083	5.95

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-29M	4/29/16		4.76	36.90					371	0.00	2.90	14.36	0.038	4.59
	5/2/18		4.38	36.79					396	0.00	1.40	14.35	0.024	4.39
	4/16/20		4.40	36.79					380	1.48	1.50	14.15	0.027	4.63
MW-30S	6/24/15		10.61	18.20					151	1.60	3.70	16.78	0.134	5.21
	6/27/18		10.62	18.10					131	4.81	0.00	15.49	0.016	5.41
	8/1/19		11.31	18.10					150	0.96	5.30	18.12	0.030	5.42
	6/17/20		11.24	18.10					249	0.00	7.30	15.44	0.052	5.39
	6/7/21		10.83	18.10					57	0.00	20.30	16.99	0.024	5.67
MW-31S	11/23/15		5.32	12.86					116	0.00	48.30	14.58	0.216	5.53
	10/19/16		5.29	12.85					87	0.00	50.80	20.20	0.102	5.53
	10/11/17		5.20	12.90					25	0.00	8.10	21.00	0.050	4.81
	9/26/18		4.45	12.90					75	0.00	27.70	23.12	0.077	5.65
	10/23/19		5.00	12.90					14	0.00	92.70	20.88	0.085	5.67
	9/23/20		3.43	12.80					58	0.00	29.40	22.57	0.138	5.58
	10/20/21		5.49	12.30					179	0.00	35.30	20.11	0.041	5.12
MW-31M	11/23/15		5.29	32.00					30	3.35	0.00	13.92	0.154	6.22
	10/19/16		5.25	32.00					57	0.00	11.10	20.80	0.052	6.02
	10/11/17		5.35	32.10					29	0.00	0.00	17.25	0.059	6.01
	9/26/18		4.51	32.01					52	0.00	11.30	18.88	0.039	6.00
	10/23/19		5.06	32.01					14	1.33	48.70	19.85	0.046	6.37
	9/23/20		4.61	32.01					-10	0.89	177.00	16.84	0.064	6.28
	10/20/21		5.46	32.00					178	0.00	30.20	17.19	0.037	6.03
MW-32S	11/18/15		7.54	16.40					184	0.72	0.00	18.84	0.433	7.30
	10/19/16		7.52	16.35					-12	0.00	5.80	22.43	0.324	6.17
	10/12/17		7.40	16.30					11	0.33	5.70	21.55	0.300	6.19
	9/26/18		6.70	15.50					-31	2.99	5.70	21.67	0.417	6.09
	10/25/19		7.52	16.30					-78	0.00	3.40	18.49	0.351	6.29
	9/24/20		6.84	16.30					7	0.00	6.00	20.04	0.032	5.85
	10/20/21		7.61	16.35					67	0.00	0.00	24.52	0.325	6.10
MW-32M	4/26/16		7.35	38.45					309	0.00	37.80	17.90	0.440	4.30
	5/1/18		7.07	38.51					395	3.39	23.80	14.29	0.034	4.23
	4/15/20		7.11	38.51					380	0.25	8.10	13.71	0.033	4.46

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-33S	6/25/15		7.82	17.74					197	5.50	0.00	20.26	0.155	5.29
	6/28/18		7.98	17.70					243	4.58	5.30	16.41	0.062	5.60
	7/31/19		8.44	17.70					199	4.66	4.00	17.15	0.088	6.08
	6/18/20		8.66	17.70					209	0.00	8.20	15.58	0.105	5.76
	6/4/21		7.95	17.70					207	0.43	49.40	17.28	0.094	6.00
MW-33M	6/25/15		7.26	46.91					273	3.79	9.40	20.90	0.025	4.84
	6/28/18		7.97	46.00					315	4.52	0.00	17.44	0.082	5.09
	7/31/19		8.30	46.00					255	2.81	0.00	17.15	0.091	5.03
	6/18/20		8.94	46.00					313	1.68	2.40	15.75	0.088	4.62
	6/4/21		8.41	46.00					278	3.06	3.70	16.28	0.082	5.33
MW-34S	6/24/15		9.52	20.51					140	0.47	16.80	20.15	0.670	6.02
	6/27/18		9.60	20.45					219	2.39	48.70	17.03	0.174	6.30
	8/1/19		10.26	20.45					166	0.00	19.10	20.76	0.135	6.17
	6/17/20		10.49	20.45					180	0.00	16.40	16.83	0.174	5.16
	6/7/21		9.80	20.45					210	0.00	29.30	20.71	0.134	6.30
MW-34M	4/28/16		10.02	63.30					310	0.00	0.00	13.42	0.102	4.66
	4/30/18		9.37	65.00					331	0.70	0.00	15.26	0.092	4.74
	4/15/20		9.62	64.00					368	1.94	0.00	15.35	0.088	4.97
MW-35S	6/24/15		9.80	19.20					223	6.73	8.00	18.72	0.131	5.45
	6/27/18		9.85	19.20					167	6.86	19.90	16.18	0.037	6.66
	8/1/19		10.55	19.20					190	2.78	7.00	21.19	0.025	6.07
	6/17/20		10.84	19.20					209	7.12	5.10	15.72	0.044	4.87
	6/7/21		9.84	19.20					324	2.61	0.00	16.01	0.088	4.23

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-35M	4/28/16		9.92	72.25					297	0.00	3.90	13.37	0.099	4.73
	4/30/18		9.27	75.00					332	1.40	0.50	14.14	0.087	4.68
	4/15/20		9.41	75.00					310	2.16	0.90	14.53	0.108	4.74
MW-37M	4/27/16		12.46	68.20					282	2.85	1.60	13.51	0.076	5.07
	4/30/18		11.70	68.00					230	8.35	0.00	14.10	0.076	6.12
	4/16/20		11.46	68.20					269	4.55	0.60	11.44	0.113	5.05
MW-38S	11/18/15		8.26	14.36					272	1.03	0.00	18.21	0.191	7.43
	10/20/16		8.19	14.30					134	1.01	29.30	24.73	0.153	6.27
	10/12/17		7.63	14.27					136	1.64	9.30	19.55	0.196	6.38
	9/27/18		7.25	14.27					163	0.00	1.30	20.89	0.167	6.34
	10/24/19		8.18	14.27					118	0.00	14.60	18.13	0.140	6.57
	9/24/20		7.04	14.27					170	2.18	6.10	22.34	0.215	6.20
	10/21/21		7.83	14.30					123	0.49	10.10	16.62	0.145	6.36
MW-38M	11/18/15		8.38	58.40					320	0.60	15.60	17.54	0.038	7.22
	10/20/16		8.19	55.00					36	0.00	4.70	24.70	0.049	6.31
	10/12/17		7.71	55.00					-23	0.32	13.40	17.87	0.047	6.53
	9/27/18		7.36	60.00					-66	0.00	3.80	16.61	0.062	6.03
	10/24/19		8.30	60.00					61	0.00	1.10	13.49	0.059	5.91
	9/24/20		7.09	60.00					290	0.00	7.60	18.36	0.102	5.01
	10/21/21		7.62	58.35					183	2.24	5.90	18.98	0.056	5.86
MW-39S	11/5/14		12.08	19.00					315	0.76	26.50	20.00	0.161	6.00
	12/10/15		11.69	18.70					300	1.07	20.80	19.43	0.183	7.84
	11/17/16		11.72	18.85					108	0.00	16.80	22.06	0.056	6.58
	10/25/17		11.86	18.95					137	7.10	12.00	20.60	0.118	6.21
	10/22/18		10.50	18.95					314	3.05	0.00	17.91	0.264	6.82
	11/20/19		11.67	18.95					220	0.00	6.50	17.89	0.209	6.60
	10/21/20		10.65	18.95					81	0.77	9.00	20.56	0.176	6.61
MW-39M	11/5/14		12.09	58.20					340	2.40	9.30	17.58	0.155	5.41
	12/10/15		12.04	58.00					358	0.62	7.30	16.75	0.109	5.99
	11/17/16		12.15	58.30					287	0.00	0.00	19.19	0.102	5.43
	10/25/17		12.26	58.20					230	0.00	0.00	17.75	0.105	5.36
	10/22/18		10.90	58.20					358	0.00	0.00	16.04	0.077	5.42
	11/20/19		12.04	58.20					388	0.00	0.80	15.83	0.085	5.10
	10/21/20		11.04	58.20					232	1.42	0.00	17.33	0.078	5.64

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-40S	11/5/14		6.71	15.55					261	4.94	51.70	20.00	0.283	6.36
	12/9/15		6.35	15.55					152	2.24	43.90	17.15	0.235	8.05
	11/17/16		6.55	15.60					78	0.09	37.20	19.14	0.198	6.61
	10/25/17		6.57	15.40					110	0.64	10.40	21.34	0.239	6.58
	10/22/18		5.34	15.70					250	0.84	6.20	18.13	0.191	6.47
	11/20/19		6.48	15.70					259	3.32	9.50	17.98	0.248	6.59
	10/21/20		5.49	15.70					117	1.44	0.00	20.79	0.173	6.63
MW-40M	4/29/16		6.28	38.70					356	4.90	0.44	14.51	0.033	4.34
	5/2/18		5.90	38.70					389	0.00	0.00	14.80	0.027	4.11
	4/16/20		5.93	38.70					380	0.00	1.20	14.09	0.032	4.20
MW-41S	4/27/16		5.62	14.75					212	2.81	12.50	14.60	0.109	6.32
	5/1/18		5.29	14.74					185	5.70	2.20	14.68	0.303	6.32
	4/15/20		5.28	14.74					162	4.47	11.30	14.12	0.153	6.51
MW-41M	11/5/14		6.04	32.50					71	0.82	71.10	17.03	0.110	5.72
	12/9/15		5.84	32.50					-53	0.21	64.50	16.24	0.029	7.98
	11/16/16		6.00	32.60					99	0.00	69.10	17.99	0.127	4.06
	10/26/17		5.97	32.50					52	0.00	47.20	19.37	0.095	5.97
	10/18/18		5.51	32.50					27	0.00	88.10	19.19	0.090	6.32
	11/21/19		6.00	32.50					116	0.00	19.00	18.13	0.093	5.66
	10/20/20		5.11	32.50					70	0.00	22.40	20.37	0.076	5.95
MW-42S	4/26/16		13.33	22.10					220	1.57	38.10	19.68	0.065	5.92
	5/1/18		13.00	22.11					243	3.60	3.50	14.74	0.068	5.59
	4/14/20		13.08	22.11					290	3.05	6.20	14.44	0.049	5.60
MW-42M	4/26/16		13.17	41.20					297	0.00	24.80	17.42	0.093	4.76
	5/1/18		12.80	41.30					351	1.12	5.40	16.37	0.068	4.83
	4/14/20		12.99	41.30					366	2.41	6.60	16.01	0.078	4.72
MW-43S	4/29/16		9.86	17.70					227	1.05	6.90	14.41	0.099	5.69
	5/1/18		9.00	18.10					216	8.08	10.00	17.73	0.120	5.97
	4/14/20		9.48	17.10					186	1.99	14.70	14.41	0.135	6.08
MW-43M	4/29/16		9.80	40.90					271	0.00	45.40	14.31	0.105	4.95
	5/1/18		9.65	40.00					313	2.00	22.90	16.19	0.098	4.86
	4/14/20		9.32	41.00					297	1.67	10.70	15.07	0.111	5.04

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-45S	11/5/14		9.72	17.35					401	5.35	35.60	21.10	0.140	5.76
	12/9/15		9.56	17.40					113	4.87	33.30	17.65	0.307	5.94
	11/16/16		9.80	17.40					243	0.00	22.10	19.77	0.060	5.56
	10/25/17		9.72	17.40					226	4.40	4.70	23.97	0.570	5.50
	10/18/18		7.98	17.40					362	5.15	0.10	20.19	0.130	6.19
	11/20/19		9.74	17.40					315	4.23	9.60	19.29	0.066	5.64
	10/20/20		8.24	17.40					185	4.08	14.00	22.36	0.066	5.92
MW-45M	11/5/14		9.69	46.95					274	13.20	34.00	16.96	0.125	4.44
	12/9/15		9.10	47.00					168	2.70	35.00	14.92	0.019	4.42
	11/16/16		9.73	47.00					328	0.00	2.00	17.22	0.093	4.56
	10/25/17		9.64	47.00					323	0.99	1.70	17.63	0.110	4.62
	10/18/18		7.87	39.30					405	2.12	0.00	16.65	0.088	4.85
	11/20/19		9.65	39.30					411	0.00	3.60	16.46	0.096	4.58
	10/20/20		8.19	46.95					325	2.85	4.70	19.37	0.090	4.76
MW-46S	4/27/16		7.27	15.40					-18	0.00	13.20	15.46	0.073	6.10
	5/2/18		6.76	18.35					69	0.00	0.30	13.91	0.203	5.84
	4/15/20		7.05	8.75					31	0.75	2.00	13.69	0.030	5.93
MW-46M	4/27/16		7.26	49.20					338	0.00	3.90	14.45	0.089	4.63
	5/2/18		6.75	49.00					431	0.00	0.00	15.86	0.072	4.15
	4/15/20		7.04	47.00					422	2.07	0.00	14.88	0.071	4.30
MW-47S	4/29/16		12.13	17.50					298	3.02	0.00	14.03	0.017	5.03
	4/30/18		12.10	18.00					342	7.96	0.00	15.12	0.024	4.73
	4/16/20		11.62	17.50					219	3.87	10.30	14.71	0.024	4.79
MW-47M	11/5/14		12.68	42.15					354	2.74	82.60	17.08	0.098	4.65
	12/10/15		12.46	42.00					344	1.24	32.60	16.25	0.064	5.88
	11/17/16		12.63	42.20					345	0.00	25.90	15.89	0.063	4.84
	10/25/17		12.62	42.25					336	0.75	21.40	18.41	0.073	4.46
	10/19/18		11.12	42.25					272	0.75	28.70	17.55	0.093	5.26
	11/20/19		12.57	42.25					404	0.00	9.90	15.82	0.076	4.57
	10/21/20		11.36	42.25					299	2.70	12.40	17.13	0.079	4.94

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-48M	11/5/14		11.23	66.65					409	4.06	118.00	16.84	0.097	4.58
	12/10/15		11.20	66.50					297	3.60	55.00	16.07	0.124	4.43
	11/17/16		11.18	60.00					340	3.23	5.30	15.92	0.066	4.76
	10/25/17		11.80	65.00					291	4.56	0.00	16.70	0.069	4.91
	10/22/18		8.98	66.50					404	3.12	0.00	16.20	0.056	5.05
	11/20/19		11.29	65.00					391	4.33	9.70	14.76	0.072	4.62
	10/20/20		8.81	66.50					311	4.11	68.30	19.10	0.060	5.00
MW-49M	11/5/14		16.20	73.35					423	4.49	58.70	16.42	0.097	4.39
	12/10/15		16.17	73.00					300	5.16	26.30	14.69	0.111	4.21
	11/16/16		16.14	73.35					368	0.00	0.00	16.53	0.070	4.56
	10/25/17		15.14	73.40					299	3.35	0.00	15.07	0.840	4.65
	10/18/18		14.46	73.40					446	4.51	0.00	14.56	0.065	4.81
	11/20/19		16.28	73.40					386	3.79	4.80	13.59	0.057	4.66
	10/20/20		13.74	73.40					294	4.65	1.60	16.28	0.048	4.61
MW-50M	4/28/16		14.87	72.35					270	0.10	0.00	13.38	0.081	4.85
	4/30/18		11.35	75.00					282	7.84	0.00	15.54	0.081	5.56
	4/16/20		13.62	75.00					299	3.64	1.70	13.13	0.078	4.83
MW-51D	3/23/15		7.49	91.32					344	6.27	10.20	10.22	0.063	4.89
	3/24/16		8.10	90.00					373	0.00	0.00	13.92	0.037	4.39
	3/24/17		8.80	85.00					243	0.00	0.60	13.44	0.040	4.32
	3/20/18		7.76	91.20					270	0.00	14.40	12.49	0.044	3.95
	3/20/19		7.17	91.20					262	0.00	31.80	13.54	0.052	4.16
	3/18/20		8.57	91.20					337	0.00	2.30	12.95	0.052	4.33
	5/25/21		8.43	91.20					418	0.00	0.00	15.97	0.040	3.88
MW-51M	3/23/15		9.53	46.75					438	1.27	88.40	9.77	0.116	3.75
	3/24/16		9.81	46.80					381	0.27	4.40	13.44	0.075	4.62
	3/24/17		10.00	46.80					391	0.00	0.00	14.30	0.099	4.31
	3/20/18		9.65	46.80					382	0.00	0.00	17.47	0.089	4.27
	3/20/19		9.55	46.80					379	0.00	0.00	14.32	0.080	4.70
	3/18/20		9.90	46.80					430	1.27	3.30	12.39	0.104	4.69
	5/25/21		9.98	46.80					380	2.21	0.00	15.23	0.080	4.29

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-51S	3/23/15		9.52	31.70					332	3.02	69.50	10.72	0.062	4.53
	3/24/16		9.81	31.70					376	9.46	2.00	13.38	0.035	4.59
	3/24/17		10.00	31.70					389	0.00	0.00	13.63	0.071	4.44
	3/20/18		9.65	31.70					368	0.00	0.00	16.98	0.072	4.41
	3/20/19		9.48	31.70					392	3.23	0.40	14.09	0.024	4.56
	3/18/20		9.91	31.70					413	2.64	3.60	12.00	0.056	4.89
	5/25/21		9.95	31.70					306	1.83	6.10	14.88	0.052	4.91
MW-52S	11/5/14		3.05	25.30					154	3.83	50.90	16.37	0.161	5.79
	12/9/15		2.91	25.00					235	2.71	38.60	14.17	0.120	7.63
	11/17/16		3.07	24.90					106	0.00	18.70	16.07	0.078	6.50
	10/26/17		3.01	25.20					180	0.96	39.00	15.47	0.052	5.37
	10/19/18		2.34	23.50					146	0.00	19.80	17.11	0.062	5.99
	11/21/19		3.01	23.50					289	2.39	5.70	14.83	0.061	5.80
	10/19/20		2.35	25.20					104	1.14	104.00	19.41	0.047	5.39
MW-52M	11/5/14		3.71	44.10					174	2.81	57.40	16.19	0.070	5.41
	12/9/15		3.60	44.00					252	0.78	44.40	14.65	0.063	6.06
	11/17/16		3.71	44.00					248	0.00	22.30	16.95	0.062	5.26
	10/26/17		3.64	43.70					264	0.00	9.20	15.57	0.059	4.85
	10/19/18		2.89	43.70					345	0.00	4.20	17.90	0.051	5.06
	11/21/19		3.67	43.70					402	0.00	6.80	15.38	0.056	4.64
	10/19/20		3.00	43.70					290	1.17	28.10	17.34	0.062	4.15
MW-53S	11/5/14		3.96	27.10					266	1.45	0.00	18.57	0.088	5.57
	12/9/15		3.64	27.10					292	2.88	8.00	14.90	0.078	6.47
	11/17/16		3.95	27.15					277	0.00	35.80	16.64	0.043	4.91
	10/25/17		3.89	27.10					251	0.00	0.00	16.47	0.044	5.27
	10/19/18		3.18	27.10					255	0.00	11.50	15.61	0.029	5.47
	11/21/19		3.87	27.10					336	0.00	9.10	13.33	0.058	4.99
	10/19/20		3.32	27.10					224	0.00	19.70	17.18	0.030	4.54
MW-53M	11/5/14		3.31	46.50					324	0.31	41.50	16.53	0.045	4.35
	12/9/15		2.96	46.50					139	0.48	6.40	14.66	0.045	6.61
	11/17/16		3.28	46.35					35	0.00	30.30	16.72	0.062	5.99
	10/25/17		3.22	46.40					217	0	13.5	15.77	0.032	4.69
	10/19/18		2.50	46.40					296	0	0	15.09	0.031	4.61
	11/21/19		3.23	46.40					134	0	49.4	13.06	0.046	5.63
	10/19/20		2.54	46.40					298	0	74.3	15.75	0.032	3.49

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-54S	3/24/15		12.04	31.86					132	2.56	129.00	10.22	0.111	5.63
	3/23/16		12.75	31.46					266	0.00	20.00	22.02	0.115	4.82
	3/23/17		13.06	31.95					207	2.82	124.00	14.49	0.095	5.33
	3/23/18		12.02	31.95					273	0.00	39.00	14.65	0.108	4.77
	3/22/19		11.63	31.95					210	0.00	46.30	12.87	0.074	5.37
	3/18/20		12.90	31.98					317	2.80	47.70	13.90	121.000	5.10
	5/25/21		12.92	31.95					261	1.89	171.00	16.25	0.156	5.02
MW-54M	3/23/15		11.80	46.72					324	4.24	51.00	11.27	0.136	5.05
	3/23/16		13.40	46.75					307	1.70	24.50	17.32	0.138	5.11
	3/23/17		12.79	46.75					295	0.84	4.50	14.12	0.102	5.41
	3/23/18		11.78	46.75					261	0.00	42.20	18.69	0.109	5.50
	3/22/19		11.38	46.75					311	3.34	0.00	11.49	0.171	5.17
	5/25/21		12.63	46.75					272	3.49	22.50	16.40	0.125	5.19
MW-54D	3/23/15		10.79	84.20					445	2.73	19.60	10.33	0.141	3.75
	3/23/16		11.65	83.65					426	1.57	0.00	22.75	0.113	4.02
	3/23/17		12.24	83.65					434	0.00	0.00	12.63	0.145	3.42
	3/23/18		10.95	83.65					468	0.00	2.10	17.48	0.147	3.77
	3/22/19		10.45	83.65					501	1.95	0.00	13.12	0.178	3.30
	5/25/21		11.89	83.65					446	2.72	0.00	15.73	0.133	3.64
MW-55S	11/5/14		10.32	24.90					357	0.88	9.90	18.11	0.025	5.49
	12/10/15		10.21	25.00					228	0.53	0.00	18.50	0.036	5.16
	11/17/16		10.47	24.95					-3	0.00	0.00	19.29	0.085	6.79
	10/25/17		10.24	24.90					146	4.74	7.60	22.27	0.440	6.76
	10/19/18		9.81	24.90					-79	3.58	8.70	16.01	0.517	6.66
	11/22/19		10.40	24.90					-41	0.00	0.00	17.88	0.435	6.33
	10/20/20		9.09	24.90					-90	0.39	5.10	19.28	0.335	6.55
MW-55M	11/5/14		9.93	39.70					394	1.05	16.80	15.53	0.048	4.10
	12/10/15		9.82	40.00					303	1.24	40.60	17.08	0.064	3.79
	11/17/16		10.07	39.80					340	0.00	0.00	17.88	0.038	4.50
	10/25/17		9.84	38.00					354	0.00	4.20	19.13	0.047	4.38
	10/19/18		8.53	35.00					205	0.00	0.00	18.02	0.039	5.46
	11/22/19		10.02	39.60					387	0.00	0.00	16.47	0.034	4.22
	10/20/20		8.68	39.60					317	0.53	8.70	17.64	0.037	4.36

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-56D	3/23/15		0.44	77.87					328	5.91	12.30	11.21	0.049	5.42
	3/23/16		1.28	77.95					191	0.00	47.90	16.68	0.038	5.55
	3/23/17		1.84	77.95					89	0.00	31.60	10.39	0.037	5.71
	3/20/18		0.72	77.95					163	0.00	48.80	16.33	0.055	5.19
	3/20/19		0.17	77.95					165	0.00	5.20	13.70	0.048	5.04
	5/24/21		1.51	77.95					174	0.00	31.80	15.98	0.039	5.06
MW-56M	3/23/15		1.83	39.64					336	2.12	8.60	12.71	0.035	4.30
	3/23/16		2.03	40.50					392	0.00	10.50	16.48	0.033	4.29
	3/23/17		2.19	40.50					408	0.00	0.40	12.33	0.034	3.79
	3/20/18		1.89	40.50					435	0.00	6.90	12.35	0.039	3.93
	3/20/19		1.79	40.50					446	0.00	0.00	14.15	0.035	4.08
	5/24/21		2.16	40.50					493	0.00	0.00	16.59	0.039	3.76
MW-56S	3/23/15		2.31	24.62					365	1.08	84.40	12.74	0.048	4.88
	3/23/16		2.44	27.75					346	0.00	0.00	17.44	0.031	5.83
	3/23/17		2.61	27.75					266	0.00	0.00	12.19	0.030	4.94
	3/20/18		2.27	29.75					329	0.00	20.80	10.98	0.033	4.73
	3/20/19		2.22	27.75					299	0.00	2.20	13.68	0.026	4.81
	5/24/21		2.54	27.75					373	1.38	4.50	15.84	0.094	4.41
MW-57S	3/23/15		2.01	26.59					378	1.48	74.20	11.61	0.051	4.29
	3/23/16		2.19	26.20					343	0.00	0.00	15.77	0.045	4.73
	3/23/17		2.40	26.60					339	0.00	0.00	12.66	0.077	4.04
	3/20/18		2.07	26.60					379	0.00	0.00	16.66	0.057	4.18
	3/20/19		1.94	26.60					354	0.00	0.00	13.41	0.036	4.39
	5/24/21		2.47	26.60					334	0.00	0.00	15.15	0.051	4.05
MW-57M	3/23/15		2.08	36.86					391	0.20	26.60	11.67	0.067	4.10
	3/23/16		2.26	30.00					463	0.00	0.00	15.28	0.052	4.29
	3/23/17		2.47	36.80					385	0.00	0.00	11.50	0.053	4.28
	3/20/18		2.15	36.80					466	0.00	7.30	11.57	0.058	3.79
	3/20/19		2.06	36.80					415	0.00	0.00	13.92	0.061	4.11
	5/24/21		2.41	36.80					317	0.00	8.10	16.96	0.043	4.12
MW-58S	12/3/14		3.28	38.20					303	7.68	703.00	14.60	0.104	8.23
	5/18/15		3.39	38.20					129	5.54	223.00	15.99	0.240	7.99
	6/8/17		3.14	38.10					401	2.30	0.00	16.17	0.068	4.78
	6/5/18		2.93	38.20					346	4.31	0.00	21.50	0.040	4.63
	7/11/19		3.27	38.20					299	4.11	31.60	21.26	0.077	4.78

Table 2
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Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-58M	12/3/14		3.13	52.50					326	2.12	58.00	13.46	0.035	4.90
	5/18/15		3.12	52.57					291	4.88	127.00	17.74	0.066	3.77
	6/8/17		2.95	52.60					399	0.00	0.00	16.73	0.029	4.30
	6/5/18		2.73	52.57					263	0.00	0.00	15.55	0.018	4.12
	7/11/19		3.08	52.57					183	0.00	0.00	20.01	0.031	4.38
	5/22/20		3.24	52.57					193	0.00	0.00	15.06	0.024	4.10
MW-59S	12/5/14		3.94	35.30					194	1.48	788.00	11.36	0.039	4.97
	5/18/15		3.86	35.30					357	0.07	203.00	16.66	0.113	3.80
	6/8/17		3.61	35.40					299	0.00	1.90	17.31	0.037	4.42
	6/4/18		3.34	35.30					417	0.00	0.00	16.70	0.032	3.89
	7/11/19		3.92	35.30					308	0.00	0.00	22.02	0.042	4.25
	5/19/20		4.02	35.30					453	0.00	0.00	15.32	0.038	3.18
MW-59M	12/5/14		4.15	48.00					317	1.04	30.50	12.76	0.058	3.39
	5/18/15		3.45	48.10					289	6.35	150.00	15.88	0.109	4.40
	6/8/17		3.14	48.10					327	0.00	25.40	18.69	0.037	4.35
	6/4/18		2.80	48.10					408	0.00	0.00	15.36	0.035	3.78
	7/11/19		3.46	48.10					346	0.00	0.00	19.41	0.049	4.07
	5/19/20		3.89	48.10					416	0.00	0.00	16.39	0.037	3.30
MW-60S	12/4/14		4.35	18.00					431	7.44	30.00	139.97	0.055	3.81
	5/18/15		2.50	24.50					315	6.26	129.00	15.00	0.141	3.80
	6/7/17		4.20	23.25					420	4.56	0.00	14.80	0.033	4.64
	6/4/18		3.80	23.50					475	7.46	0.00	12.98	0.040	4.29
	7/10/19		4.46	24.50					404	6.55	7.30	16.47	0.049	4.22
	5/19/20		4.59	24.50					304	7.01	2.10	13.07	0.024	3.96
MW-60M	12/4/14		43.00	53.10					164	2.87	800+	12.22	0.032	4.78
	5/18/15		4.25	53.20					441	2.31	490.00	15.96	0.046	3.56
	6/7/17		3.91	53.10					339	0.00	0.00	14.61	0.029	4.46
	6/4/18		3.97	53.10					424	0.00	0.00	14.85	0.028	4.30
	7/10/19		4.18	53.20					387	0.00	6.20	15.28	0.037	3.47
	5/19/20		4.31	53.20					305	0.00	9.70	13.87	0.026	3.83
MW-61S	12/4/14		1.90	32.00					270	2.36	808.00	14.21	0.101	4.76
	5/18/15		2.12	31.95					369	3.29	661.00	17.43	0.091	4.05
	6/7/17		1.75	32.00					343	0.42	17.70	14.42	0.069	5.21
	6/4/18		2.34	32.00					403	2.93	0.00	13.71	0.070	4.75
	7/10/19		1.88	31.95					322	1.46	104.00	17.40	0.076	4.71
	5/19/20		2.55	31.95					356	0.00	45.70	13.22	0.089	4.00

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-61M	12/4/14		2.00	55.80					140	2.49	280.00	11.96	0.061	7.52
	5/18/15		2.18	56.11					230	4.49	200.00	16.75	0.152	4.96
	6/7/17		1.87	55.85					295	0.00	4.70	14.61	0.044	5.43
	6/1/18		2.35	55.00					363	0.00	0.00	14.26	0.038	4.86
	7/10/19		2.02	56.11					237	0.97	36.00	18.15	0.060	5.44
	5/19/20		2.86	56.11					345	0.00	0.00	14.61	0.035	3.74
MW-62S	12/8/14		3.25	23.20					364	0.05	73.60	9.03	0.045	4.25
	5/18/15		3.38	23.22					289	3.55	182.00	20.44	0.120	4.19
	6/8/17		3.10	20.00					344	0.00	0.00	15.12	0.046	4.24
	6/5/18		3.02	22.00					340	0.00	0.00	13.84	0.032	4.18
	7/12/19		3.03	23.22					297	0.00	0.00	19.06	0.041	4.05
	5/21/20		3.53	23.22					358	0.00	0.00	15.30	0.034	4.05
MW-62M	12/8/14		2.73	35.00					301	3.16	390.00	11.79	0.055	4.24
	5/18/15		2.68	46.21					447	4.19	1000+	17.29	0.052	3.91
	6/8/17		2.40	55.00					264	0.00	0.00	15.78	0.050	4.73
	6/5/18		2.25	46.00					298	0.00	0.00	14.80	0.030	4.68
	7/12/19		2.43	46.21					243	0.00	21.80	16.80	0.043	4.57
	5/21/20		2.89	46.21					243	0.00	1.20	16.45	0.030	4.57
MW-63S	12/9/14		3.70	23.15					351	5.79	26.50	10.43	0.097	4.62
	5/18/15		4.13	23.15					521	6.43	163.00	15.08	0.144	3.29
	6/8/17		3.90	23.15					315	3.31	0.00	15.55	0.086	4.56
	6/1/18		3.65	23.15					435	3.74	0.00	14.84	0.089	4.47
	7/12/19		3.80	23.15					390	3.86	0.00	15.54	0.082	4.29
	5/22/20		4.35	23.15					373	5.67	0.00	13.89	0.068	4.65
MW-63M	12/9/14		2.81	45.00					427	3.23	128.00	11.58	0.049	402.00
	5/18/15		2.87	57.92					494	5.18	173.00	14.82	0.050	3.73
	6/8/17		2.65	57.70					364	0.52	0.00	15.12	0.033	4.62
	6/1/18		2.26	57.92					406	1.88	0.00	15.02	0.029	4.42
	7/12/19		2.69	57.92					347	2.76	0.00	14.86	0.036	4.28
	5/22/20		3.29	57.92					348	2.19	2.20	14.59	0.031	4.70
MW-64S	12/5/14		3.90	23.10					178	0.20	38.10	13.44	0.138	6.19
	5/18/15		4.01	23.08					-	-	-	-	-	-
	6/6/17		3.53	23.15					171	0.00	0.00	15.59	0.088	6.06
	6/1/18		4.05	23.00					259	0.00	0.00	15.76	0.093	5.76
	7/11/19		4.18	23.08					217	1.18	0.00	17.07	0.123	5.58
	5/21/20		4.43	23.08					198	0.00	0.00	14.73	0.079	5.72

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-64M	12/5/14		3.05	61.10					415	3.78	126.00	13.47	0.117	3.83
	5/18/15		2.74	61.20					-	-	-	-	-	-
	6/6/17		2.42	61.20					356	1.92	0.00	15.38	0.089	4.55
	6/1/18		2.11	61.20					347	6.37	0.00	17.12	0.069	4.89
	7/11/19		2.82	61.20					389	2.97	7.80	16.77	0.076	4.07
	5/21/20		3.08	57.10					304	0.00	8.00	14.50	0.072	4.93
MW-65S	12/8/14		4.72	23.10					164	4.99	138.00	12.00	0.136	5.89
	5/18/15		5.11	22.90					503	6.19	151.00	16.49	0.132	3.87
	6/6/17		4.62	23.15					128	1.65	74.80	16.60	0.155	5.71
	6/1/18		4.20	22.90					259	4.10	41.20	15.19	0.116	5.10
	7/9/19		5.27	22.90					230	2.97	61.40	18.33	0.088	5.09
	5/21/20		5.27	22.90					181	2.49	0.00	14.53	0.111	6.20
MW-65M	12/9/14		4.05	63.10					451	3.94	115.00	13.07	0.119	4.33
	5/18/15		4.36	63.14					531	4.62	149.00	14.87	0.108	3.20
	6/6/17		4.03	63.10					299	1.18	0.00	15.25	0.089	4.79
	6/1/18		3.61	63.14					377	4.30	0.00	15.91	0.064	4.60
	7/9/19		4.49	63.14					315	2.73	0.00	18.49	0.073	4.79
	5/21/20		4.66	63.14					349	1.90	0.00	13.63	0.071	4.73
MW-66S	12/3/14		6.17	23.00					326	7.19	724.00	13.82	0.090	4.92
	5/18/15		5.90	23.04					442	7.04	742.00	15.48	0.077	3.54
	6/6/17		5.65	23.65					360	7.62	28.00	15.30	0.063	4.62
	6/5/18		5.10	23.04					440	6.20	0.00	16.53	0.056	4.09
	7/9/19		6.05	20.00					298	5.06	7.10	17.16	0.065	4.69
	5/20/20		6.62	20.00					366	3.04	15.70	13.50	0.056	3.88
MW-67S	12/4/14		8.85	33.00					366	5.96	230.00	13.42	0.048	4.62
	5/18/15		8.58	32.90					-31	0.26	153.00	12.23	0.172	6.05
	6/6/17		8.22	32.10					47	0.26	29.50	15.63	0.050	5.69
	6/5/18		7.72	32.90					445	3.09	0.00	14.69	0.033	3.83
	7/9/19		8.83	32.90					-2	-	6.80	17.75	0.069	5.86
	5/20/20		3.76	32.90					310	0.00	17.20	13.10	0.037	3.79
MW-68S	12/3/14		11.54	28.30					216	0.00	117.00	13.81	0.098	6.09
	5/18/15		10.59	28.27					214	3.06	159.00	14.39	0.205	5.42
	6/6/17		11.60	28.25					178	0.00	0.00	14.48	0.042	5.35
	6/5/18		10.05	29.10					328	0.00	0.00	15.80	0.024	5.15
	7/9/19		10.73	28.27					386	4.71	7.70	14.93	0.028	4.20
	5/20/20		11.22	28.27					360	0.00	5.90	12.77	0.020	4.09

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-69S	12/3/14		3.60	30.70					243	6.67	800+	11.15	0.066	5.21
	5/18/15		3.80	30.68					302	6.45	238.00	14.47	0.234	4.50
	6/7/17		3.41	30.70					347	5.59	37.60	16.49	0.080	4.86
	7/10/19		3.71	30.70					338	6.28	0.00	15.90	0.084	4.55
	5/20/20		3.98	36.95					378	3.69	0.00	13.52	0.098	3.94
MW-69M	12/3/14		3.53	50.70					436	3.53	420.00	13.04	0.130	3.81
	5/18/15		3.70	50.80					454	3.11	425.00	16.28	0.101	3.39
	6/7/17		3.35	50.65					394	0.82	44.40	16.21	0.062	4.43
	7/10/19		3.68	50.55					396	1.41	3.20	15.47	0.067	3.91
	5/20/20		4.10	50.80					430	0.00	0.00	14.08	0.058	3.54
MW-70S	12/4/14		2.80	29.40					431	6.70	194.00	13.28	0.149	3.97
	5/18/15		2.78	29.60					252	6.16	800+	15.48	0.296	3.86
	6/7/17		2.46	29.60					395	3.38	25.30	16.37	0.079	4.74
	6/4/18		2.08	29.60					422	6.43	0.00	13.84	0.065	4.38
	7/10/19		2.76	29.60					322	5.90	32.90	19.25	0.120	4.61
	5/19/20		2.90	29.60					337	5.22	27.10	15.28	0.084	4.31
MW-70M	12/4/14		2.10	56.40					291	1.29	65.20	12.28	0.027	4.73
	5/18/15		1.90	56.50					236	2.23	212.00	13.57	0.075	4.62
	6/7/17		1.59	56.60					343	0.00	41.90	16.57	0.016	4.78
	6/4/18		1.20	56.50					392	0.77	0.00	14.34	0.018	4.50
	7/10/19		2.91	56.50					357	0.63	0.00	15.09	0.020	4.32
	5/19/20		2.14	56.50					307	0.00	0.00	13.72	0.018	4.31
MW-71S	12/3/14		3.40	21.30					311	6.04	297.00	11.47	0.037	4.68
	5/18/15		3.61	22.21					462	6.15	265.00	14.50	0.100	3.60
	6/7/17		3.21	22.35					380	6.24	40.70	15.21	0.026	4.39
	7/10/19		3.43	22.21					379	6.35	1.80	16.96	0.082	4.06
	5/20/20		3.52	22.21					373	5.04	8.90	13.71	0.043	4.28
MW-71M	12/3/14		3.45	56.95					321	4.66	922.00	12.55	0.053	4.11
	5/18/15		3.57	57.19					317	0.63	800+	14.24	0.095	3.76
	6/7/17		3.21	56.95					378	0.00	43.70	14.75	0.039	4.19
	7/10/19		3.41	57.19					346	0.00	3.60	21.24	0.029	4.15
	5/20/20		3.55	57.19					356	0.00	33.70	13.43	0.048	4.14

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-72S	12/8/14		2.63	27.20					290	6.60	1000+	13.19	0.146	4.30
	5/18/15		2.90	27.10					542	7.06	300.00	15.19	0.108	2.96
	6/6/17		2.48	27.30					373	370.00	79.00	14.73	0.121	4.48
	6/1/18		2.12	27.10					409	6.40	0.00	14.46	0.077	4.45
	7/11/19		2.96	27.10					350	6.42	22.80	16.12	0.064	4.20
	5/20/20		2.96	27.10					362	4.69	9.30	12.90	0.083	4.43
MW-72M	12/8/14		2.43	62.25					433	3.36	33.70	11.99	0.089	4.52
	5/18/15		2.68	62.50					484	7.20	333.00	14.80	0.083	3.83
	-		2.25	62.20					327	0.00	0.00	14.81	0.054	4.93
	6/1/18		2.14	62.20					403	0.92	0.00	14.97	0.055	4.72
	7/11/19		2.74	62.50					349	1.90	0.00	15.11	0.052	4.37
	5/20/20		2.76	62.50					359	0.66	0.00	13.14	0.054	4.41
MW-73S	12/5/14		3.50	27.60					193	5.02	53.40	12.61	0.078	5.64
	5/18/15		3.59	27.60					-	-	-	-	-	-
	6/8/17		3.29	27.65					317	1.50	0.00	15.39	0.160	5.00
	6/1/18		3.06	27.60					352	0.74	0.00	17.07	0.069	4.80
	7/11/19		3.63	27.60					350	2.59	0.00	18.22	0.112	4.60
	5/22/20		3.83	27.60					280	5.30	0.00	16.44	0.090	5.13
MW-73M	12/5/14		3.52	52.35					370	3.55	3.51	13.20	0.061	4.71
	5/18/15		3.60	52.29					-	-	-	-	-	-
	6/8/17		3.35	52.50					147	0.00	47.80	15.33	0.090	5.51
	6/1/18		3.08	52.29					125	0.00	41.70	15.96	0.083	5.32
	7/11/19		3.68	52.29					27	0.00	9.00	17.44	0.283	5.59
	5/22/20		3.87	52.29					62	0.00	2.10	14.52	0.087	5.97
MW-74S	12/9/14		2.24	32.70					221	6.35	682.00	11.75	0.030	4.92
	5/18/15		2.70	32.43					-	-	-	-	-	-
	6/8/17		2.34	32.40					257	0.00	0.00	14.61	0.032	4.78
	6/5/18		2.18	32.43					244	0.00	0.00	16.13	0.022	4.71
	7/12/19		2.40	32.43					206	0.00	0.00	16.12	0.023	4.61
	5/22/20		2.89	32.43					265	0.00	7.60	14.69	0.022	4.47

Table 2
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Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-74M	12/9/14		1.83	56.60					375	3.13	1000+	12.38	0.043	3.78
	5/18/15		2.09	57.10					-	-	-	-	-	-
	6/8/17		1.84	56.75					376	0.00	26.00	14.51	0.025	4.34
	6/5/18		1.49	57.10					402	0.00	0.00	14.81	0.017	4.02
	7/12/19		1.83	57.10					367	0.00	0.00	14.53	0.026	4.09
	5/22/20		2.32	57.10					373	0.00	10.30	14.49	0.023	4.13
MW-75S	12/4/14		3.21	30.30					129	1.76	350.00	12.24	0.051	5.74
	5/18/15		3.23	30.30					326	1.69	230.00	14.69	0.072	5.04
	6/8/17		3.60	28.75					22	0.00	49.50	15.43	0.052	6.15
	6/5/18		4.25	27.00					32	0.00	0.00	15.27	0.044	6.19
	7/12/19		2.90	30.30					-24	4.55	49.00	19.98	0.059	6.12
	5/21/20		3.41	30.30					-12	0.00	0.00	15.38	0.042	6.41
MW-75M	12/4/14		3.45	41.60					227	4.41	641.00	11.41	0.037	4.83
	5/18/15		3.38	41.59					311	3.23	708.00	14.71	0.052	3.24
	6/8/17		3.87	42.00					311	0.00	0.00	15.19	0.040	4.35
	6/5/18		3.54	40.00					379	0.00	0.00	18.50	0.032	4.18
	7/12/19		3.10	41.59					209	0.00	0.00	18.92	0.041	4.28
	5/21/20		3.58	41.59					274	0.00	0.00	14.96	0.034	4.16
MW-75D	12/4/14		2.34	71.20					308	1.09	>800	12.70	0.034	4.34
	5/18/15		2.12	71.80					414	2.52	757.00	14.54	0.048	2.83
	6/8/17		1.90	72.00					313	1.93	0.00	14.95	0.034	4.51
	6/5/18		4.12	70.00					438	0.00	0.00	15.25	0.028	4.18
	7/12/19		1.93	71.80					331	0.00	0.00	15.20	0.029	3.95
	5/21/20		2.44	71.80					313	0.00	72.40	15.16	0.030	4.12

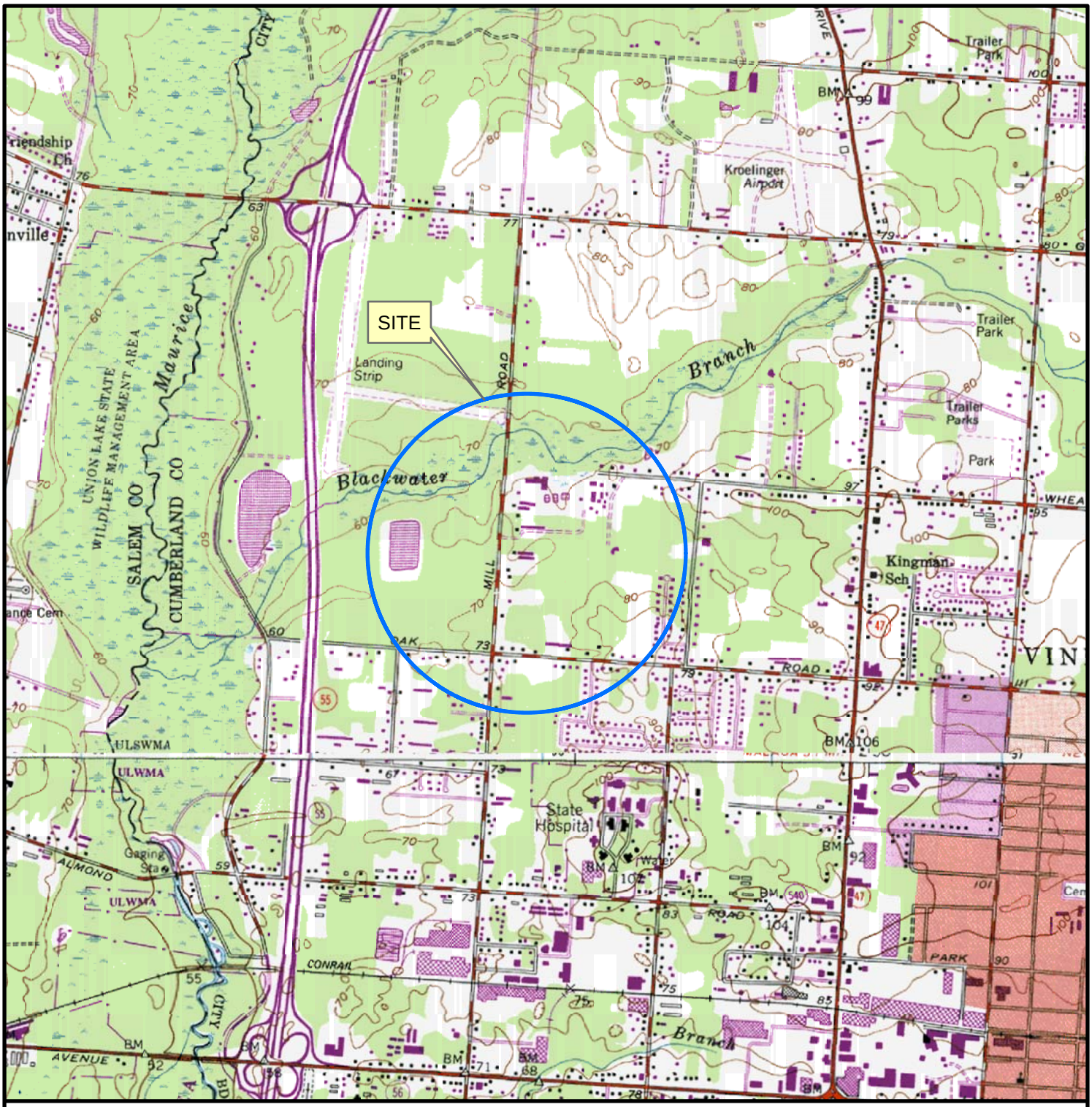
Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

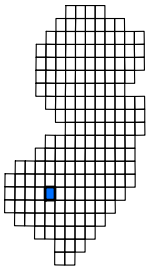
		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-24S	11/5/14		12.35	15.50					234	2.29	38.60	20.35	0.121	6.20
	12/10/15		11.62	15.50					315	1.84	51.40	18.87	0.097	7.29
	11/16/16		12.45	15.80					217	0.00	35.30	19.15	0.124	4.36
	10/25/17		12.30	15.80					198	3.40	13.30	20.50	0.150	6.17
	10/19/18		11.25	15.80					217	3.96	0.00	18.76	0.140	6.41
	11/22/19		12.38	15.80					285	2.84	0.00	17.16	0.112	6.03
	10/20/20		11.36	15.80					185	4.60	5.10	19.10	0.153	6.38
WW-24M	4/26/16		11.27	54.00					271	2.41	88.10	12.78	0.100	4.90
	5/1/18		10.92	55.00					333	7.13	99.10	15.70	0.076	4.87
	4/15/20		11.05	55.00					258	6.50	70.70	13.67	0.085	4.75
WW-25S	11/5/14		4.68	16.80					190	0.62	11.50	19.68	0.100	5.91
	12/9/15		4.55	16.80					75	0.00	73.00	15.25	0.208	6.04
	11/17/16		7.79	16.85					137	0.00	0.00	19.06	0.098	6.01
	10/26/17		4.65	15.50					155	0.00	0.00	17.07	0.098	5.65
	10/19/18		3.92	16.83					193	0.00	0.00	17.94	0.105	5.89
	11/21/19		4.60	16.83					187	1.59	0.00	16.45	0.048	5.72
	10/19/20		4.00	16.83					230	1.68	0.00	20.12	0.091	7.00
WW-25M	11/5/14		4.48	42.20					118	0.00	12.30	16.16	0.041	5.26
	12/9/15		4.58	42.00					174	0.00	71.70	13.82	0.051	4.40
	11/17/17		4.70	42.50					134	0.00	14.30	16.08	0.036	5.20
	10/26/17		4.65	42.40					183	0.00	7.70	16.08	0.035	4.90
	10/19/18		3.91	42.40					7	0.00	0.00	17.67	0.053	6.06
	11/21/19		3.59	42.40					271	0.00	0.00	15.25	0.033	5.80
	10/19/20		3.93	42.40					182	5.42	0.00	19.20	0.045	6.08
WW-26S	11/5/14		7.73	13.60					58	1.21	72.90	18.78	0.161	6.64
	12/10/15		7.65	13.50					110	3.05	73.00	14.43	0.262	6.46
	11/16/16		7.79	13.70					50	0.00	51.50	21.87	0.127	6.71
	10/25/17		7.67	13.65					-31	0.00	12.20	20.79	0.180	6.49
	10/19/18		6.25	13.86					36	0.00	15.20	20.43	0.100	6.68
	11/21/19		7.80	13.65					66	2.35	0.00	16.74	0.133	6.95
	10/19/20		6.96	13.65					121	3.37	0.00	20.24	0.122	6.40

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-26M	11/5/14		12.98	40.00					274	3.82	28.70	17.22	0.156	5.50
	12/10/15		7.65	40.50					225	3.92	36.20	13.65	0.283	5.14
	11/16/16		7.82	40.60					269	0.00	24.00	19.03	0.157	5.49
	10/25/17		7.68	40.50					245	3.32	0.00	16.93	0.180	5.24
	10/19/18		6.85	40.30					256	4.43	0.00	18.52	0.160	5.60
	11/21/19		7.72	40.50					251	7.20	0.00	16.73	0.104	5.86
	10/19/20		6.97	40.50					236	5.36	0.00	20.05	0.156	5.36
WW-27S	11/5/14		13.08	20.00					357	6.37	32.40	17.42	0.043	4.98
	12/10/15		12.90	20.00					400	4.34	4.20	15.95	0.020	5.63
	11/16/16		13.13	19.95					278	0.57	7.40	18.15	0.038	5.16
	10/25/17		12.94	19.90					229	5.57	2.70	20.61	0.051	4.82
	10/19/18		12.00	18.50					386	6.75	21.90	18.47	0.101	6.22
	11/22/19		13.10	19.90					363	4.49	0.00	17.27	0.234	4.97
	10/20/20		12.11	19.90					271	4.42	12.10	19.88	0.209	5.60
WW-27M	11/5/14		11.76	43.00					327	8.92	19.90	16.50	0.111	5.24
	12/10/15		13.02	44.50					369	0.98	7.70	15.29	0.070	6.16
	11/16/16		13.22	44.65					291	0.00	3.80	18.29	0.077	4.90
	10/25/17		13.03	44.57					295	0.50	2.10	19.82	0.110	4.68
	10/19/18		12.10	44.57					341	0.00	0.00	17.80	0.063	4.84
	11/22/19		13.18	44.57					464	0.00	0.00	16.76	0.072	4.40
	10/20/20		12.17	44.57					246	0.00	4.30	18.54	0.080	5.41

ATTACHMENTS





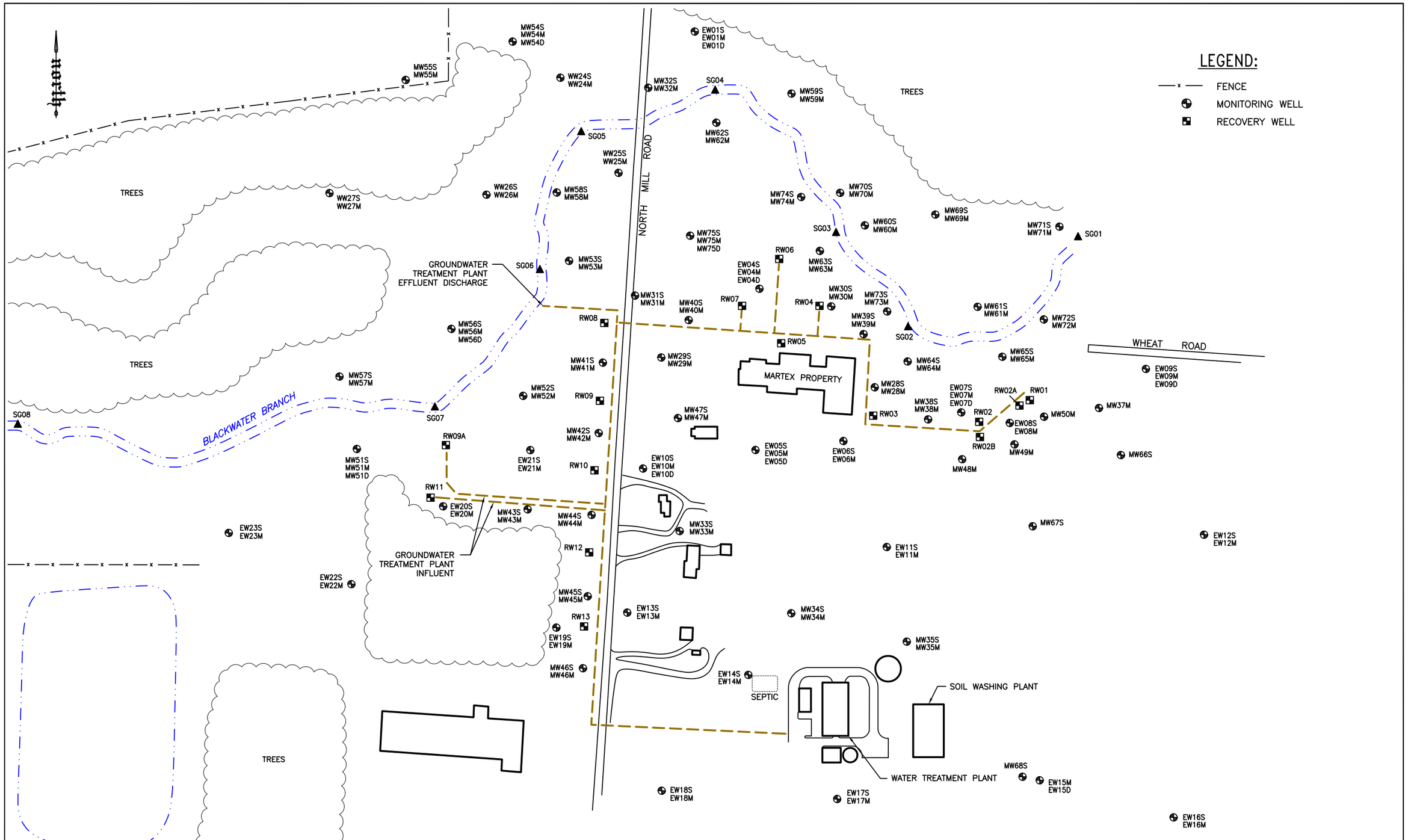
QUADRANGLE LOCATION:
NEWFIELD, NEW JERSEY

SOURCE: USGS 7.5 MINUTE SERIES
REVISED/INSPECTED: 1994
CONTOUR INTERVAL: 10 FEET

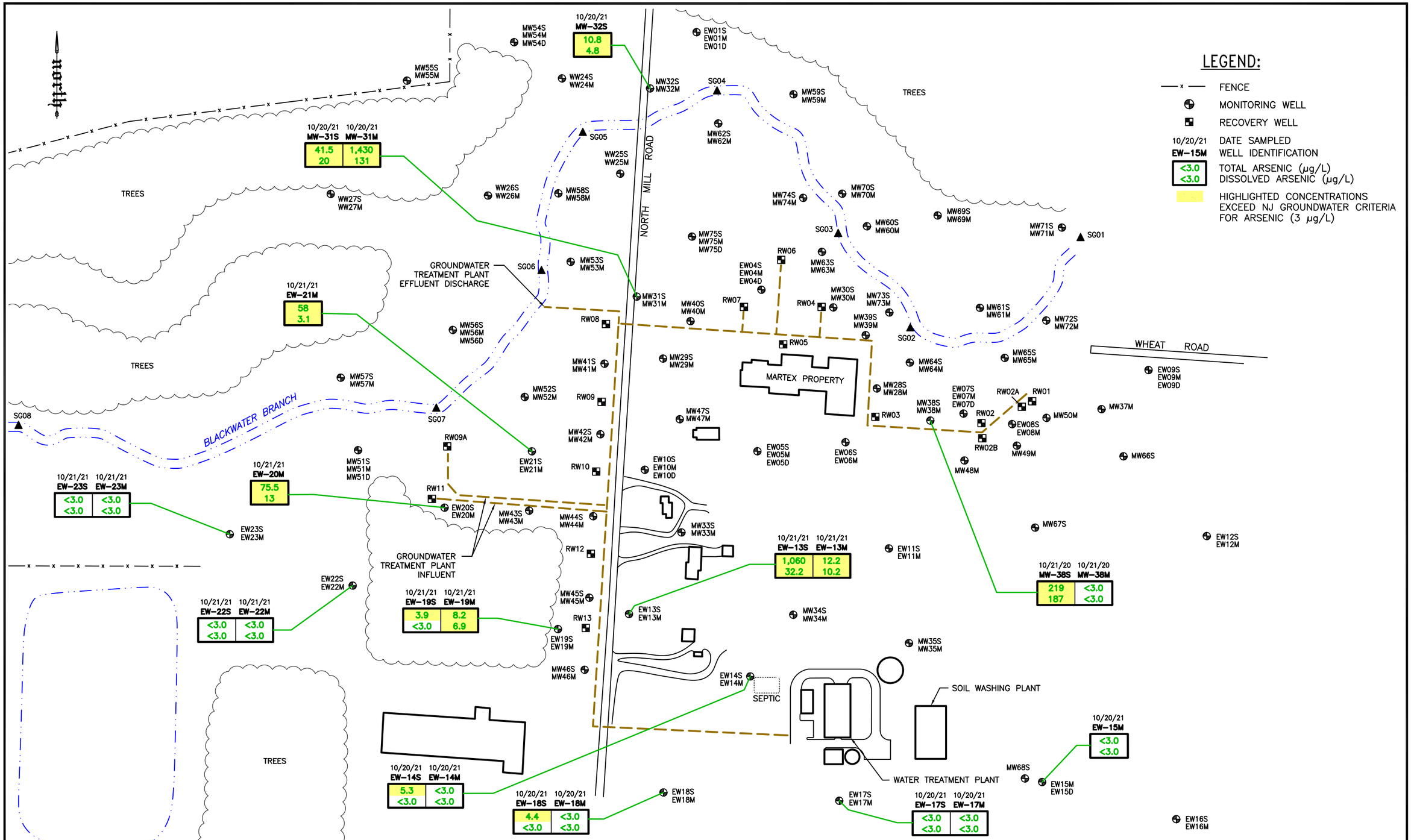
0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

ATTACHMENT	U.S.G.S. TOPOGRAPHIC MAP	DRAWN BY: B.S.	EnviroTrac ENVIRONMENTAL SERVICES
A	NJDEP - VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	DATE: 11/21/2014	400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017



ATTACHMENT B	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	SITE PLAN	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
		DRAWN BY: B.S. / REVISION DATE: 11/21/2014		



ATTACHMENT D

NJDEP – VINELAND CHEMICAL
1405 NORTH MILL ROAD
VINELAND, NEW JERSEY

GROUNDWATER CONTAMINANT MAP
OCTOBER 2021

DRAWN BY: B.S.

REVISION DATE: 12/2/2021

0 250
SCALE IN FEET

EnviroTrac
ENVIRONMENTAL SERVICES
400E CORPORATE COURT, So. PLAINFIELD NJ 07080
PHONE: (908)757-1900 FAX: (908)757-0017

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

December 2021

PREPARED FOR:

Erin Husta

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

401 EAST STATE STREET

MAIL CODE: 401-06H

P.O. BOX 420

TRENTON, NJ 08625

SAMPLING COMPLETED BY:

ENVIROTRAC LTD.

400 CORPORATE COURT, SUITE E

SOUTH PLAINFIELD, NJ 07080

GROUNDWATER SAMPLING SUMMARY

NJDEP – Vineland Chemical

VINELAND, CUMBERLAND COUNTY, NJ

1.0 Introduction

Envirotrac Ltd., between December 2nd, 2021, and December 3rd, 2021, sampled NJDEP Vineland Chemical, Vineland, of Cumberland County, New Jersey per the request of Erin Husta, NJDEP Operations Manager. Sampling was performed in accordance with the 2021 Groundwater Sampling Plan Scope of Work provided by the NJDEP. The system onsite was sampled by Sevenson Environmental Services between the groundwater sampling events.

2.0 Scope of the Sampling

The groundwater sampling event included WW-24S, WW-25S, WW-25M, WW-26S, WW-26M, WW-27S, WWW-27M, MW-39S, MW-39M, MW-40S, MW-41M, MW-45S, MW-45M, MW-47M, MW-48M, MW-49M, MW-52S, MW-52M, MW-53S, MW-53M, MW-55S and MW-55M. Two matrix spike/matrix spike duplicate sample (MW-53M and MW-40S) and two field duplicates (WW-29S and MW-39M) were collected during this sampling event in accordance with the Site-Specific Quality Assurance and Quality Control (QAPP) prepared in 2021 by Envirotrac.

3.0 Analytical Parameters

The groundwater samples were analyzed at the time of sampling for the field parameters Oxidation-Reduction Potential (ORP), Dissolved Oxygen (ppm), Turbidity (NTU), Temperature (^{0}C), Conductivity (ms/cm) and pH by the field technicians of Envirotrac Ltd. (NJ Lab Certification 12020), South Plainfield, New Jersey. The groundwater samples were then analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

The system samples were analyzed by SGS Accutest Laboratories (NJ Lab Certification 12129), Dayton, NJ for Total/Dissolved Arsenic by USEPA method 6020A.

4.0 Sampling Personnel on Site

The groundwater sampling was conducted by Brian Magley and Frederick Reichert. The system sampling was conducted by Sevenson Environmental Services between the groundwater sampling events.

5.0 Methodology(ies)

All samples were collected by first purging the monitoring wells using a low-flow submersible pump and dedicated 3/8” poly tubing. The wells were purged until indicator parameters stabilized with three consecutive readings within ±0.1 for pH; ±3% for Specific Conductivity and Temperature; ±10mv for Redox Potential; and 10% for Dissolved Oxygen and Turbidity. Once the indicator parameters have been stabilized, the sample is collected using a submersible pump. All purge water was containerized and brought back to the system to be treated.

The onsite System was active during the groundwater sampling event.

6.0 Non-conformance summary

All sampling was performed in compliance with the scope of work and the standard sampling methods. There were no unusual observations during the sampling event.

Tables

Table 1 December 2021 Groundwater Sampling Lab Results

Table 2 Summary of Groundwater Sampling Field Data

Attachments

Attachment A U.S.G.S. Topographic Map with Site Location

Attachment B Site Plan

Attachment C Groundwater Contaminant Map

TABLES

SGS Dayton, NJ

12/29/2021 10:35

Job Number:	JD36141
Account:	EnviroTrac Ltd.
Project:	NJDEP, Vineland Chemical, 1405 North Mill Road, Vineland, NJ
Project Number:	

Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent). Legend: Hit | Exceed

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	WW24S	WW24S	WW25S	WW25S	WW25M	WW25M	WW26S	WW26S
Lab Sample ID:				JD36141-1	JD36141-1F	JD36141-2	JD36141-2F	JD36141-3	JD36141-3F	JD36141-4	JD36141-4F
Date Sampled:				12/3/2021	12/3/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	164 [a]	146 [a]	34.3 [a]	27.9 [a]	18.1 [a]	5.9 [a]	24.0 [a]	5.6 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	WW26M	WW26M	WW27S	WW27S	WW27M	WW27M	MW39S	MW39S
Lab Sample ID:				JD36141-5	JD36141-5F	JD36141-6	JD36141-6F	JD36141-7	JD36141-7F	JD36141-8	JD36141-8F
Date Sampled:				12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/3/2021	12/3/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	5.7 [a]	2.8 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]	162 [a]	142 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW39M	MW39M	MW40S	MW40S	MW41M	MW41M	MW45S	MW45S
Lab Sample ID:				JD36141-9	JD36141-9F	JD36141-10	JD36141-10F	JD36141-11	JD36141-11F	JD36141-12	JD36141-12F
Date Sampled:				12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	<2.0 [a]	<2.0 [a]	9.5 [a]	4.1 [a]	180 [a]	143 [a]	8.7 [a]	8.1 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW45M	MW45M	MW47M	MW47M	MW48M	MW48M	MW49M	MW49M
Lab Sample ID:				JD36141-13	JD36141-13F	JD36141-14	JD36141-14F	JD36141-15	JD36141-15F	JD36141-16	JD36141-16F
Date Sampled:				12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021	12/3/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	25.2 [a]	24.5 [a]	55.3 [a]	<2.0 [a]	20.2 [a]	3.6 [a]	21.1 [a]	19.3 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW52S	MW52S	MW52M	MW52M	MW53S	MW53S	MW53M	MW53M
Lab Sample ID:				JD36141-17	JD36141-17F	JD36141-18	JD36141-18F	JD36141-19	JD36141-19F	JD36141-20	JD36141-20F
Date Sampled:				12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered
Metals Analysis											
Arsenic	ug/l	3	-	60.7 [a]	12.7 [a]	<2.0 [a]	<2.0 [a]	15.8 [a]	3.2 [a]	275 [a]	122 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	MW55S	MW55S	MW55M	MW55M	FB-01	FB-01	FB-02	FB-02
Lab Sample ID:				JD36141-21	JD36141-21F	JD36141-22	JD36141-22F	JD36141-23	JD36141-23F	JD36141-24	JD36141-24F
Date Sampled:				12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/2/2021	12/3/2021	12/3/2021
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered	Field Blank Water	Field Blank Filtered	Field Blank Water	Field Blank Filtered
Metals Analysis											
Arsenic	ug/l	3	-	15.1 [a]	4.7 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]

Client Sample ID:		NJ Groundwater Criteria (NJAC 7:9C 9/4/18)[1]	NJ Interim Groundwater Criteria (NJAC 7:9C 1/17/19)[2]	DUPLICATE #1	DUPLICATE #1	DUPLICATE #2	DUPLICATE #2				
Lab Sample ID:				JD36141-25	JD36141-25F	JD36141-26	JD36141-26F				
Date Sampled:				12/2/2021	12/2/2021	12/3/2021	12/3/2021				
Matrix:				Ground Water	Groundwater Filtered	Ground Water	Groundwater Filtered				
Metals Analysis											
Arsenic	ug/l	3	-	<2.0 [a]	<2.0 [a]	<2.0 [a]	<2.0 [a]				

Footnotes:

[a] Analysis performed at SGS Orlando, FL.

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

32 results exceeded regulatory criteria.

[1] NOTE: The above also includes "generic" criteria that cannot be evaluated using LabLink regulatory limits. They are as follows: "SOCs defined as carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 5 ug/l each 25 ug/l total. SOCs defined as non-carcinogens in N.J.A.C. 7:9C-1.4 lacking specific or interim specific criteria: 100 ug/l each 500 ug/l total."

[2] NOTE: This list represents Interim Specific and Interim Generic criteria ONLY. For Specific criteria refer to "NJ Groundwater Criteria".

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-1M	3/24/15		9.59	39.30					318	1.32	63.80	11.03	0.048	3.50
	3/24/16		10.20	39.25					424	0.00	0.00	18.72	0.035	4.39
	3/24/17		10.10	39.25					396	0.00	0.00	13.95	0.040	4.05
	3/20/18		9.74	39.25					408	0.00	0.00	17.15	0.041	4.07
	3/21/19		9.47	39.25					426	2.25	0.00	12.92	0.062	4.03
	3/18/20		10.37	39.25					454	0.59	0.30	13.76	0.042	4.30
	5/26/21		10.37	39.25					410	0.00	0.00	15.66	0.043	3.96
EW-1D	3/24/15		8.91	108.63					258	1.87	64.60	10.69	0.044	4.10
	3/24/16		9.80	104.00					347	0.00	0.00	20.50	0.026	4.79
	3/24/17		10.21	104.00					252	0.00	0.00	12.44	0.029	4.78
	3/20/18		9.10	104.00					331	0.00	3.30	12.27	0.031	4.24
	3/21/19		8.87	104.00					328	0.00	0.50	12.54	0.027	4.82
	3/18/20		10.02	104.20					400	0.49	1.40	14.22	0.031	4.69
	5/26/21		9.93	104.00					329	0.00	0.00	17.55	0.030	4.69
EW-4D	3/24/15		10.73	111.54					347	0.80	64.70	11.18	0.040	4.46
	3/24/16		11.50	113.00					387	5.76	0.00	16.88	0.021	4.99
	3/23/17		12.02	113.00					320	0.00	0.00	13.60	0.029	3.96
	3/23/18		11.50	113.00					300	7.15	0.00	12.82	0.035	5.17
	3/21/19		10.33	104.00					320	0.00	0.00	13.10	0.030	4.18
	3/18/20		11.79	110.09					317	0.00	1.20	14.13	0.032	4.58
	5/27/21		11.48	113.00					343	9.30	0.00	16.41	0.029	4.38
EW-4M	3/23/15		12.04	45.60					361	1.01	47.80	10.38	0.031	5.07
	3/24/16		12.77	42.20					343	0.72	9.00	18.42	0.020	5.02
	3/23/17		12.93	45.20					198	0.00	4.80	13.87	0.260	5.00
	3/23/18		12.14	45.20					277	0.00	8.60	18.41	0.022	4.91
	3/21/19		11.93	45.20					223	0.00	0.00	13.74	0.034	4.94
	3/18/20		12.94	45.20					269	0.78	10.60	14.33	0.027	5.01
	5/27/21		12.66	45.20					157	0.00	9.20	18.29	0.030	5.01
EW-4S	3/23/15		12.51	23.30					322	4.07	22.80	10.12	0.049	5.53
	3/24/16		13.30	23.25					174	0.52	40.00	19.98	0.053	6.96
	3/23/17		13.46	23.25					213	0.00	63.90	13.81	0.072	5.74
	3/23/18		12.80	23.25					207	0.00	12.80	14.65	0.090	5.72
	3/22/19		12.32	23.25					142	0.00	27.30	11.93	0.073	6.01
	3/17/20		13.51	23.25					126	58.00	47.20	14.51	0.640	6.11
	5/27/21		13.22	23.25					155	6.00	30.20	16.90	0.058	5.74

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-5M	6/24/15		10.00	51.40					340	2.57	27.30	16.78	0.299	4.05
	6/27/18		10.06	51.35					336	2.84	18.00	15.60	0.093	4.59
	8/1/19		10.68	51.35					285	3.80	2.80	18.72	0.082	4.65
	6/17/20		10.88	51.35					278	2.26	0.00	16.08	0.080	4.40
	6/4/21		10.18	51.35					309	2.45	0.00	16.98	0.089	4.61
EW-5D	4/29/16		9.36	128.05					361	7.33	0.00	14.21	0.450	4.73
	5/1/18		8.80	125.00					366	9.18	0.00	15.49	0.035	4.69
	4/16/20		9.20	130.00					306	0.00	1.80	12.89	0.037	4.39
EW-6S	6/25/15		13.81	23.60					149	2.63	2.10	20.46	0.015	4.97
	6/28/18		13.80	23.00					300	2.91	29.00	18.66	0.009	4.73
	8/1/19		14.66	15.11					**Not Enough Water to Sample**					
	6/18/20		15.05	24.40					229	6.67	45.90	18.70	0.009	4.69
	6/3/21		14.18	24.40					189	4.80	28.30	17.78	0.009	5.25
EW-6M	6/25/15		13.39	59.60					290	3.36	18.60	17.21	0.114	3.85
	6/28/18		13.31	58.00					346	3.30	4.80	19.11	0.101	4.58
	8/1/19		14.14	58.00					318	2.42	3.70	17.16	0.102	4.40
	6/18/20		14.58	58.00					287	2.43	4.90	18.78	0.084	4.31
	6/3/21		13.74	58.00					266	1.86	4.80	16.99	0.085	4.53
EW-7S	3/23/15		9.55	20.05					263	6.35	45.00	10.34	0.263	6.25
	3/24/16		12.51	22.40					241	1.47	5.00	20.15	0.093	6.17
	3/23/17		12.08	20.20					229	1.39	19.80	13.60	0.093	6.40
	3/23/18		10.93	20.20					196	0.00	12.20	16.62	0.086	6.14
	3/22/19		10.08	20.20					188	1.19	26.80	12.29	0.096	6.28
	3/17/20		12.45	20.25					229	5.16	47.40	13.97	0.082	6.23
	5/26/21		12.17	20.20					173	0.00	9.50	15.82	0.081	5.89
EW-7M	3/23/15		9.32	63.20					357	2.03	91.90	11.32	0.140	5.69
	3/24/16		13.10	63.00					264	0.00	0.00	17.02	0.105	6.25
	3/23/17		12.08	63.00					276	1.24	0.80	13.92	0.069	6.20
	3/23/18		11.80	63.00					234	0.66	0.00	12.97	0.154	5.84
	3/22/19		9.75	63.00					283	0.00	3.20	14.00	0.136	5.55
	3/17/20		12.52	63.15					313	4.10	42.40	13.58	0.800	5.85
	5/26/21		12.32	63.00					189	0.00	8.20	16.47	0.133	5.80

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-7D	3/23/15		8.08	112.98					357	0.70	62.50	12.13	0.040	4.67
	3/24/16		9.00	112.00					366	3.99	0.00	21.51	0.027	5.25
	3/24/17		9.58	112.00					335	0.00	0.00	12.49	0.300	4.72
	3/23/18		8.37	112.00					337	0.00	2.30	17.48	0.027	4.71
	3/22/19		7.41	112.00					350	0.00	0.00	12.38	0.031	4.70
	3/17/20		9.26	111.10					347	0.27	0.00	13.21	0.270	4.98
	5/26/21		8.98	112.00					358	4.21	0.00	19.21	0.032	4.39
EW-8S	6/25/15		17.60	24.03					160	5.42	15.40	16.41	0.284	5.96
	6/28/18		16.63	23.80					154	0.00	26.30	18.40	0.229	6.74
	7/31/19		18.34	23.80					136	0.00	6.00	16.97	0.243	6.53
	6/18/20		18.15	23.80					158	1.06	12.70	15.48	0.229	6.35
	6/3/21		17.29	23.80					121	0.72	49.80	14.98	0.107	6.95
EW-8M	6/25/15		17.40	75.57					280	5.58	0.00	16.51	0.103	4.14
	6/28/18		16.80	71.00					300	5.47	0.00	19.85	0.069	4.90
	7/31/19		18.57	71.00					292	6.00	0.00	16.89	0.059	4.68
	6/18/20		18.20	71.00					337	4.33	0.20	15.83	0.058	4.37
	6/3/21		17.21	71.00					293	5.16	2.80	15.64	0.065	4.55
EW-9S	4/28/16		17.22	26.35					188	4.04	31.10	14.15	0.090	6.09
	4/30/18		16.60	26.32					179	6.54	9.70	14.72	0.104	6.19
	4/16/20		16.53	26.32					240	6.71	21.30	14.68	0.064	6.08
EW-9M	4/27/16		17.95	77.15					206	4.23	4.20	14.29	0.106	4.23
	4/30/18		17.20	79.00					178	5.46	4.60	14.00	0.110	5.82
	4/16/20		17.16	79.00					215	6.15	1.40	14.62	0.114	6.40
EW-9D	4/27/16		16.45	125.90					-81	0.00	4.90	13.24	0.065	6.50
	4/30/18		16.09	130.00					-100	0.00	4.60	13.69	0.082	6.95
	4/16/20		16.33	130.00					-118	0.00	0.90	12.74	0.089	7.15
EW-10M	6/24/15		10.66	41.49					285	3.57	59.20	16.25	0.202	4.05
	6/27/18		10.71	41.30					298	3.58	7.50	15.75	0.068	4.64
	8/1/19		11.06	41.30					307	1.73	2.70	19.22	0.073	4.81
	6/17/20		11.32	41.30					320	3.33	0.00	15.68	0.066	4.53
	6/4/21		11.03	41.30					297	2.70	8.80	16.77	0.069	4.89
EW-10D	4/29/16		9.59	106.90					-60	0.00	3.90	12.89	0.090	6.15
	5/2/18		9.14	110.00					-31	0.00	2.60	14.67	0.066	6.10
	4/16/20		9.41	110.00					-88	0.00	3.20	13.00	0.069	6.05

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-11S	6/24/15		10.60	22.44					321	14.92	61.90	16.96	0.147	5.18
	6/27/18		10.44	22.46					256	0.00	0.00	17.93	0.020	5.28
	7/31/19		11.33	22.46					235	2.32	39.00	29.10	0.046	5.39
	6/17/20		11.54	22.46					225	3.99	13.70	15.53	0.048	4.13
	6/3/21		10.63	22.46					237	2.68	34.80	16.76	0.027	5.32
EW-11M	6/24/15		10.35	64.40					342	4.13	0.00	18.55	0.339	3.82
	6/27/18		10.30	63.00					204	10.27	0.00	18.60	0.088	5.47
	7/31/19		11.15	63.00					321	3.82	0.00	27.44	0.960	4.65
	6/17/20		11.39	63.00					261	1.55	0.00	15.78	0.154	3.49
	6/3/21		10.46	63.00					306	2.48	9.80	17.49	0.103	4.33
EW-12S	4/26/16		14.87	26.45					383	7.00	4.00	17.29	0.042	4.64
	5/1/18		12.10	27.00					360	8.70	0.00	14.89	0.031	4.26
	4/14/20		14.49	26.60					346	6.12	4.40	14.09	0.050	4.68
EW-12M	4/26/16		14.52	69.55					341	6.21	2.00	16.85	0.035	4.92
	5/1/18		13.79	70.00					343	8.01	0.00	14.39	0.026	4.98
	4/14/20		14.07	76.00					249	7.83	1.60	13.81	0.044	5.57
EW-13S	11/23/15		10.73	16.58					310	1.22	0.00	15.55	0.171	6.73
	10/20/16		10.73	14.40					100	0.00	3.00	20.72	0.095	6.01
	10/12/17		10.73	17.40					32	0.78	33.00	20.82	0.105	6.22
	9/29/18		9.37	17.40					25	0.00	15.00	21.18	0.058	6.01
	10/25/19		10.81	17.40					-69	0.00	38.00	18.77	0.154	6.43
	9/23/20		9.13	17.40					-53	0.00	5.80	21.00	0.109	5.94
	10/21/21		10.90	18.15					-122	0.00	79.00	19.06	0.193	6.21
EW-13M	11/23/15		10.65	51.00					387	1.34	0.00	14.62	0.126	5.76
	10/20/16		10.51	51.10					250	0.00	0.00	18.61	0.105	5.14
	10/12/17		10.64	53.00					266	1.34	1.00	17.81	0.104	5.25
	9/27/17		9.28	53.20					310	2.69	6.70	17.42	0.083	5.07
	10/25/19		10.68	53.00					267	0.00	0.00	15.97	0.090	5.55
	9/23/20		9.10	53.00					301	0.00	0.00	17.60	0.120	5.12
	10/21/21		10.84	51.00					197	0.95	5.20	19.99	0.109	5.61

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-14S	11/20/15		8.57	19.30					353	2.60	45.60	18.42	0.211	7.78
	10/20/16		9.40	20.00					5	1.70	40.00	22.77	0.285	6.85
	10/11/17		8.50	19.40					210	4.09	31.90	22.23	0.287	6.00
	9/26/18		6.87	19.40					177	2.10	43.10	24.80	0.127	6.45
	10/23/19		8.73	19.40					97	1.28	0.00	20.65	0.147	6.81
	9/23/20		6.65	19.40					197	3.67	32.50	22.31	0.297	6.29
	10/20/21		8.60	19.30					103	0.78	15.60	22.82	0.117	6.43
EW-14M	11/20/15		8.29	56.15					438	2.90	0.00	15.91	0.110	5.50
	10/20/16		8.21	56.00					235	1.18	3.00	19.11	0.104	4.90
	10/11/17		8.22	43.35					292	3.60	0.00	18.33	0.087	5.00
	9/27/18		6.70	43.35					304	1.24	0.00	19.26	0.081	4.63
	10/23/19		8.45	43.35					236	0.00	0.00	20.67	0.085	5.32
	9/23/20		6.39	43.35					275	2.94	0.00	20.58	0.124	5.20
	10/20/21		8.39	56.15					251	2.39	0.00	21.03	0.089	4.80
EW-15D	4/27/16		8.40	111.95					326	3.94	0.00	12.64	0.055	5.07
	4/30/18		8.60	110.00					330	9.60	0.00	13.12	0.060	4.92
	4/15/20		8.26	120.00					289	2.87	2.20	13.71	0.057	5.05
EW-15M	11/18/15		9.90	70.86					349	1.52	0.00	15.01	0.106	6.49
	10/19/16		9.80	72.20					245	5.13	6.90	15.81	0.109	4.54
	10/12/17		11.10	68.00					249	0.00	0.00	15.40	0.103	5.62
	9/27/18		8.15	72.70					249	3.70	0.00	16.23	0.079	5.34
	10/24/19		10.20	72.60					312	2.86	0.00	13.72	0.086	5.34
	9/22/20		7.79	72.60					274	4.01	0.00	16.43	0.113	5.22
	10/20/21		9.65	70.70					244	4.60	1.90	17.72	0.091	5.10
EW-16S	4/27/16		7.33	19.00					348	0.00	11.70	13.40	0.026	4.74
	5/1/18		7.41	19.00					334	2.14	15.20	14.85	0.036	4.64
	4/14/20		7.30	18.99					358	3.95	8.50	12.61	0.029	4.53
EW-16M	4/27/16		7.80	65.00					299	1.26	6.00	13.09	0.130	4.81
	5/1/18		7.01	65.00					312	3.70	0.00	15.20	0.139	5.20
	4/14/20		7.74	74.44					370	0.00	1.90	13.40	0.126	4.84
EW-17S	11/23/15		10.22	21.15					291	2.21	111.00	15.83	0.235	7.17

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Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
	10/19/15		10.10	21.10					74	1.20	0.00	29.12	0.098	6.76
	10/11/17		9.40	20.91					39	1.66	107.00	22.24	0.098	6.50
	9/26/18		8.30	20.70					160	1.45	42.70	21.48	0.185	6.50
	10/23/19		10.50	20.70					90	3.50	48.00	19.00	0.047	6.58
	9/22/20		7.84	20.70					-36	0.00	154.00	20.46	0.106	6.24
	10/20/21		10.25	20.50					-52	0.00	48.00	18.82	0.124	6.14
EW-17M	11/20/15		10.17	64.69					226	1.58	47.50	14.93	0.103	6.65
	10/19/16		10.02	65.00					136	1.05	47.00	17.59	0.078	5.23
	10/11/17		10.12	66.20					-56	0.49	49.60	17.40	0.088	6.33
	9/26/18		8.25	66.25					57	0.15	47.40	19.04	0.130	6.18
	10/23/19		10.34	66.20					64	4.75	47.00	18.03	0.025	7.16
	9/22/20		7.77	66.20					96	0.00	8.50	18.10	0.053	6.52
	10/20/21		10.22	65.00					65	0.00	46.20	18.10	0.047	6.14
EW-18S	11/23/15		7.46	19.21					310	2.09	5.60	18.53	0.199	7.45
	10/19/16		7.34	19.25					114	0.50	0.00	24.32	0.144	5.78
	10/11/17		7.50	19.10					100	0.62	0.00	22.45	0.314	6.50
	9/26/18		5.65	19.00					148	0.86	0.00	25.39	0.278	6.74
	10/23/19		7.56	19.00					-19	0.00	5.40	21.82	0.120	6.32
	9/23/20		5.37	19.00					79	0.00	9.50	22.75	0.164	6.07
	10/20/21		7.55	19.30					114	0.00	13.60	23.84	0.152	6.06
EW-18M	11/23/15		7.28	55.38					389	3.23	20.60	14.09	0.100	5.94
	10/19/16		7.15	55.50					332	2.91	25.30	19.75	0.097	3.82
	10/11/17		7.30	56.50					339	1.94	7.40	17.00	0.107	4.79
	9/27/18		5.50	57.20					304	1.83	49.20	18.92	0.068	5.14
	10/23/19		7.34	57.20					348	3.42	19.60	17.19	0.067	4.45
	9/23/20		5.20	57.20					344	3.33	5.70	17.24	0.095	4.77
	10/20/21		7.36	55.65					228	3.76	0.00	21.79	0.082	5.18
EW-19S	11/18/15		11.77	24.79					395	3.30	47.60	18.76	0.193	6.46
	10/20/16		11.66	21.50					181	0.80	10.00	17.33	0.101	6.11
	10/12/17		12.50	25.00					199	1.14	0.00	17.15	0.169	6.12
	9/28/18		10.43	24.75					204	0.33	9.70	17.33	0.170	5.93
	10/25/19		11.97	24.75					30	0.00	26.00	17.20	0.229	6.13
	9/23/20		10.18	24.75					191	2.24	16.30	18.44	0.099	6.13
	10/21/21		11.97	24.80					151	0.00	15.70	18.82	0.195	5.97

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-19M	11/18/15		11.74	48.54					435	7.83	0.00	15.61	0.092	5.65
	10/20/16		11.63	48.50					320	0.11	0.00	16.37	0.077	4.59
	10/12/17		12.15	36.50					364	0.87	0.00	16.01	0.101	4.58
	9/28/18		10.40	48.60					337	0.00	0.00	15.81	0.073	4.53
	10/25/19		11.85	48.60					327	2.79	0.00	16.52	0.064	4.71
	9/23/20		10.15	48.60					224	2.77	0.00	16.20	0.098	4.79
	10/21/21		11.91	48.50					321	3.86	0.00	17.43	0.071	4.51
EW-20S	4/28/16		14.42	20.80					238	0.00	18.20	14.70	0.044	5.35
	5/1/18		13.95	15.10					**Unable to sample. Well Blocked.**					
	4/15/20		14.04	24.65					284	6.61	26.90	13.59	0.031	4.67
EW-20M	11/17/15		14.06	47.58					421	1.82	0.00	14.33	0.098	5.38
	10/19/16		14.00	47.55					308	0.00	0.00	20.42	0.092	4.29
	10/13/17		14.04	45.20					222	1.39	5.60	16.33	0.098	4.96
	9/28/18		13.21	45.20					341	0.00	0.00	16.06	0.080	4.73
	10/24/19		14.05	45.20					334	0.00	0.00	15.31	0.077	5.13
	9/22/20		13.11	45.26					320	2.29	1.70	16.09	0.101	4.70
	10/21/21		14.48	47.55					466	2.89	1.80	15.33	0.057	4.83
EW-21S	4/29/16		11.28	23.10					213	3.33	14.80	14.79	0.179	6.18
	5/1/18		10.98	22.40					201	1.97	21.70	18.61	0.095	6.14
	4/15/20		11.06	22.40					128	2.63	15.10	12.34	0.180	6.20
EW-21M	11/17/15		11.62	46.33					418	2.47	0.00	16.14	0.084	5.36
	10/19/16		11.56	46.36					265	0.43	4.20	19.42	0.087	4.88
	10/13/17		11.63	46.30					348	0.00	0.00	14.79	0.112	4.65
	9/28/18		10.92	46.33					336	0.00	0.00	17.19	0.068	4.76
	10/25/19		11.60	46.33					322	1.20	0.00	15.64	0.063	4.82
	9/22/20		10.81	46.33					318	2.39	3.10	16.97	0.090	4.80
	10/21/21		11.96	46.30					508	1.42	6.40	17.93	0.650	4.58
EW-22S	11/17/15		16.25	28.00					415	6.94	0.00	20.12	0.022	5.60
	10/19/16		16.15	27.95					271	9.13	0.00	18.38	0.029	4.51
	10/13/17		16.36	28.20					308	9.91	3.80	19.70	0.019	4.69
	9/28/18		15.10	28.20					400	8.13	0.00	17.72	0.040	4.48
	10/24/19		16.26	28.20					332	7.51	0.00	18.43	0.014	4.54
	9/22/20		15.05	28.20					334	7.98	2.80	18.55	0.041	4.70
	10/21/21		16.60	28.00					526	10.40	0.00	19.31	0.012	4.49

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
EW-22M	11/17/15		15.86	55.00					247	2.45	0.00	16.08	0.155	4.47
	10/19/16		15.79	55.05					304	1.90	0.00	18.51	0.082	4.38
	10/13/17		15.88	55.00					419	0.28	0.00	15.42	0.092	4.12
	9/28/18		14.75	56.00					372	1.75	0.00	16.01	0.086	4.45
	10/24/19		15.90	56.00					384	2.01	0.00	17.47	0.059	4.26
	9/22/20		14.70	56.00					310	2.62	2.90	17.36	0.078	4.57
	10/21/21		16.10	55.10					556	2.39	3.50	17.22	0.540	4.29
EW-23S	11/17/15		5.63	16.90					121	0.72	1.50	15.79	0.078	5.26
	10/20/16		5.59	13.00					71	0.00	16.30	19.30	0.056	5.70
	10/13/17		5.65	13.00					196	0.00	0.00	17.65	0.058	5.66
	9/28/18		4.65	16.69					160	0.00	25.20	19.69	0.050	5.75
	10/24/19		5.55	16.69					187	7.21	14.70	20.58	0.038	5.74
	9/22/20		4.70	16.69					36	0.00	18.10	21.05	0.051	5.58
	10/21/21		5.86	16.85					251	0.00	5.50	18.57	0.038	5.79
EW-23M	11/17/15		5.66	37.82					248	0.00	0.00	14.92	0.167	5.14
	10/20/16		5.59	37.85					283	0.00	0.90	18.50	0.086	4.29
	10/13/17		5.64	37.83					374	0.23	0.30	16.61	0.068	4.16
	9/28/18		4.60	37.83					452	0.00	0.00	18.39	0.090	4.09
	10/24/19		5.62	37.83					329	0.00	0.00	17.18	0.054	4.23
	9/22/20		4.66	37.83					310	0.00	0.00	18.85	0.076	3.96
	10/21/21		5.80	37.95					468	0.00	1.00	16.13	0.045	4.29
MW-28S	6/24/15		8.97	15.40					213	0.62	14.30	16.60	0.244	5.15
	6/28/18		8.91	16.40					194	0.00	45.60	19.16	0.239	6.50
	8/1/19		9.65	16.40					144	0.00	38.80	23.45	0.123	5.93
	6/18/20		10.08	16.40					142	0.84	38.20	16.68	0.087	5.39
	6/4/21		9.46	16.40					100	0.00	48.20	19.59	0.112	6.21
MW-28M	6/24/15		9.15	58.50					269	2.80	25.00	16.77	0.337	4.81
	6/28/18		8.99	58.00					215	5.45	12.30	18.50	0.077	6.15
	8/1/19		9.78	58.00					230	0.00	30.70	18.41	0.115	5.15
	6/18/20		10.30	58.00					52	0.64	48.30	14.91	0.106	5.33
	6/4/21		9.71	58.00					230	3.16	20.10	19.81	0.105	5.48
MW-29S	6/24/15		4.15	12.50					199	5.97	68.40	18.99	0.142	5.42
	6/27/18		4.26	12.60					250	5.70	8.30	20.61	0.067	5.69
	8/1/19		4.59	12.60					216	5.24	7.30	21.96	0.093	5.92
	6/17/20		4.72	12.60					215	1.65	0.00	18.02	0.075	5.86
	6/4/21		4.21	12.60					224	2.85	9.10	17.25	0.083	5.95

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-29M	4/29/16		4.76	36.90					371	0.00	2.90	14.36	0.038	4.59
	5/2/18		4.38	36.79					396	0.00	1.40	14.35	0.024	4.39
	4/16/20		4.40	36.79					380	1.48	1.50	14.15	0.027	4.63
MW-30S	6/24/15		10.61	18.20					151	1.60	3.70	16.78	0.134	5.21
	6/27/18		10.62	18.10					131	4.81	0.00	15.49	0.016	5.41
	8/1/19		11.31	18.10					150	0.96	5.30	18.12	0.030	5.42
	6/17/20		11.24	18.10					249	0.00	7.30	15.44	0.052	5.39
	6/7/21		10.83	18.10					57	0.00	20.30	16.99	0.024	5.67
MW-31S	11/23/15		5.32	12.86					116	0.00	48.30	14.58	0.216	5.53
	10/19/16		5.29	12.85					87	0.00	50.80	20.20	0.102	5.53
	10/11/17		5.20	12.90					25	0.00	8.10	21.00	0.050	4.81
	9/26/18		4.45	12.90					75	0.00	27.70	23.12	0.077	5.65
	10/23/19		5.00	12.90					14	0.00	92.70	20.88	0.085	5.67
	9/23/20		3.43	12.80					58	0.00	29.40	22.57	0.138	5.58
	10/20/21		5.49	12.30					179	0.00	35.30	20.11	0.041	5.12
MW-31M	11/23/15		5.29	32.00					30	3.35	0.00	13.92	0.154	6.22
	10/19/16		5.25	32.00					57	0.00	11.10	20.80	0.052	6.02
	10/11/17		5.35	32.10					29	0.00	0.00	17.25	0.059	6.01
	9/26/18		4.51	32.01					52	0.00	11.30	18.88	0.039	6.00
	10/23/19		5.06	32.01					14	1.33	48.70	19.85	0.046	6.37
	9/23/20		4.61	32.01					-10	0.89	177.00	16.84	0.064	6.28
	10/20/21		5.46	32.00					178	0.00	30.20	17.19	0.037	6.03
MW-32S	11/18/15		7.54	16.40					184	0.72	0.00	18.84	0.433	7.30
	10/19/16		7.52	16.35					-12	0.00	5.80	22.43	0.324	6.17
	10/12/17		7.40	16.30					11	0.33	5.70	21.55	0.300	6.19
	9/26/18		6.70	15.50					-31	2.99	5.70	21.67	0.417	6.09
	10/25/19		7.52	16.30					-78	0.00	3.40	18.49	0.351	6.29
	9/24/20		6.84	16.30					7	0.00	6.00	20.04	0.032	5.85
	10/20/21		7.61	16.35					67	0.00	0.00	24.52	0.325	6.10
MW-32M	4/26/16		7.35	38.45					309	0.00	37.80	17.90	0.440	4.30
	5/1/18		7.07	38.51					395	3.39	23.80	14.29	0.034	4.23
	4/15/20		7.11	38.51					380	0.25	8.10	13.71	0.033	4.46

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-33S	6/25/15		7.82	17.74					197	5.50	0.00	20.26	0.155	5.29
	6/28/18		7.98	17.70					243	4.58	5.30	16.41	0.062	5.60
	7/31/19		8.44	17.70					199	4.66	4.00	17.15	0.088	6.08
	6/18/20		8.66	17.70					209	0.00	8.20	15.58	0.105	5.76
	6/4/21		7.95	17.70					207	0.43	49.40	17.28	0.094	6.00
MW-33M	6/25/15		7.26	46.91					273	3.79	9.40	20.90	0.025	4.84
	6/28/18		7.97	46.00					315	4.52	0.00	17.44	0.082	5.09
	7/31/19		8.30	46.00					255	2.81	0.00	17.15	0.091	5.03
	6/18/20		8.94	46.00					313	1.68	2.40	15.75	0.088	4.62
	6/4/21		8.41	46.00					278	3.06	3.70	16.28	0.082	5.33
MW-34S	6/24/15		9.52	20.51					140	0.47	16.80	20.15	0.670	6.02
	6/27/18		9.60	20.45					219	2.39	48.70	17.03	0.174	6.30
	8/1/19		10.26	20.45					166	0.00	19.10	20.76	0.135	6.17
	6/17/20		10.49	20.45					180	0.00	16.40	16.83	0.174	5.16
	6/7/21		9.80	20.45					210	0.00	29.30	20.71	0.134	6.30
MW-34M	4/28/16		10.02	63.30					310	0.00	0.00	13.42	0.102	4.66
	4/30/18		9.37	65.00					331	0.70	0.00	15.26	0.092	4.74
	4/15/20		9.62	64.00					368	1.94	0.00	15.35	0.088	4.97
MW-35S	6/24/15		9.80	19.20					223	6.73	8.00	18.72	0.131	5.45
	6/27/18		9.85	19.20					167	6.86	19.90	16.18	0.037	6.66
	8/1/19		10.55	19.20					190	2.78	7.00	21.19	0.025	6.07
	6/17/20		10.84	19.20					209	7.12	5.10	15.72	0.044	4.87
	6/7/21		9.84	19.20					324	2.61	0.00	16.01	0.088	4.23

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^{O}C)**	**Cond. (ms/cm)**	**pH**
MW-35M	4/28/16		9.92	72.25					297	0.00	3.90	13.37	0.099	4.73
	4/30/18		9.27	75.00					332	1.40	0.50	14.14	0.087	4.68
	4/15/20		9.41	75.00					310	2.16	0.90	14.53	0.108	4.74
MW-37M	4/27/16		12.46	68.20					282	2.85	1.60	13.51	0.076	5.07
	4/30/18		11.70	68.00					230	8.35	0.00	14.10	0.076	6.12
	4/16/20		11.46	68.20					269	4.55	0.60	11.44	0.113	5.05
MW-38S	11/18/15		8.26	14.36					272	1.03	0.00	18.21	0.191	7.43
	10/20/16		8.19	14.30					134	1.01	29.30	24.73	0.153	6.27
	10/12/17		7.63	14.27					136	1.64	9.30	19.55	0.196	6.38
	9/27/18		7.25	14.27					163	0.00	1.30	20.89	0.167	6.34
	10/24/19		8.18	14.27					118	0.00	14.60	18.13	0.140	6.57
	9/24/20		7.04	14.27					170	2.18	6.10	22.34	0.215	6.20
	10/21/21		7.83	14.30					123	0.49	10.10	16.62	0.145	6.36
MW-38M	11/18/15		8.38	58.40					320	0.60	15.60	17.54	0.038	7.22
	10/20/16		8.19	55.00					36	0.00	4.70	24.70	0.049	6.31
	10/12/17		7.71	55.00					-23	0.32	13.40	17.87	0.047	6.53
	9/27/18		7.36	60.00					-66	0.00	3.80	16.61	0.062	6.03
	10/24/19		8.30	60.00					61	0.00	1.10	13.49	0.059	5.91
	9/24/20		7.09	60.00					290	0.00	7.60	18.36	0.102	5.01
	10/21/21		7.62	58.35					183	2.24	5.90	18.98	0.056	5.86
MW-39S	11/5/14		12.08	19.00					315	0.76	26.50	20.00	0.161	6.00
	12/10/15		11.69	18.70					300	1.07	20.80	19.43	0.183	7.84
	11/17/16		11.72	18.85					108	0.00	16.80	22.06	0.056	6.58
	10/25/17		11.86	18.95					137	7.10	12.00	20.60	0.118	6.21
	10/22/18		10.50	18.95					314	3.05	0.00	17.91	0.264	6.82
	11/20/19		11.67	18.95					220	0.00	6.50	17.89	0.209	6.60
	10/21/20		10.65	18.95					81	0.77	9.00	20.56	0.176	6.61
MW-39M	11/5/14		12.09	58.20					340	2.40	9.30	17.58	0.155	5.41
	12/10/15		12.04	58.00					358	0.62	7.30	16.75	0.109	5.99
	11/17/16		12.15	58.30					287	0.00	0.00	19.19	0.102	5.43
	10/25/17		12.26	58.20					230	0.00	0.00	17.75	0.105	5.36
	10/22/18		10.90	58.20					358	0.00	0.00	16.04	0.077	5.42
	11/20/19		12.04	58.20					388	0.00	0.80	15.83	0.085	5.10
	10/21/20		11.04	58.20					232	1.42	0.00	17.33	0.078	5.64

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-40S	11/5/14		6.71	15.55					261	4.94	51.70	20.00	0.283	6.36
	12/9/15		6.35	15.55					152	2.24	43.90	17.15	0.235	8.05
	11/17/16		6.55	15.60					78	0.09	37.20	19.14	0.198	6.61
	10/25/17		6.57	15.40					110	0.64	10.40	21.34	0.239	6.58
	10/22/18		5.34	15.70					250	0.84	6.20	18.13	0.191	6.47
	11/20/19		6.48	15.70					259	3.32	9.50	17.98	0.248	6.59
	10/21/20		5.49	15.70					117	1.44	0.00	20.79	0.173	6.63
MW-40M	4/29/16		6.28	38.70					356	4.90	0.44	14.51	0.033	4.34
	5/2/18		5.90	38.70					389	0.00	0.00	14.80	0.027	4.11
	4/16/20		5.93	38.70					380	0.00	1.20	14.09	0.032	4.20
MW-41S	4/27/16		5.62	14.75					212	2.81	12.50	14.60	0.109	6.32
	5/1/18		5.29	14.74					185	5.70	2.20	14.68	0.303	6.32
	4/15/20		5.28	14.74					162	4.47	11.30	14.12	0.153	6.51
MW-41M	11/5/14		6.04	32.50					71	0.82	71.10	17.03	0.110	5.72
	12/9/15		5.84	32.50					-53	0.21	64.50	16.24	0.029	7.98
	11/16/16		6.00	32.60					99	0.00	69.10	17.99	0.127	4.06
	10/26/17		5.97	32.50					52	0.00	47.20	19.37	0.095	5.97
	10/18/18		5.51	32.50					27	0.00	88.10	19.19	0.090	6.32
	11/21/19		6.00	32.50					116	0.00	19.00	18.13	0.093	5.66
	10/20/20		5.11	32.50					70	0.00	22.40	20.37	0.076	5.95
MW-42S	4/26/16		13.33	22.10					220	1.57	38.10	19.68	0.065	5.92
	5/1/18		13.00	22.11					243	3.60	3.50	14.74	0.068	5.59
	4/14/20		13.08	22.11					290	3.05	6.20	14.44	0.049	5.60
MW-42M	4/26/16		13.17	41.20					297	0.00	24.80	17.42	0.093	4.76
	5/1/18		12.80	41.30					351	1.12	5.40	16.37	0.068	4.83
	4/14/20		12.99	41.30					366	2.41	6.60	16.01	0.078	4.72
MW-43S	4/29/16		9.86	17.70					227	1.05	6.90	14.41	0.099	5.69
	5/1/18		9.00	18.10					216	8.08	10.00	17.73	0.120	5.97
	4/14/20		9.48	17.10					186	1.99	14.70	14.41	0.135	6.08
MW-43M	4/29/16		9.80	40.90					271	0.00	45.40	14.31	0.105	4.95
	5/1/18		9.65	40.00					313	2.00	22.90	16.19	0.098	4.86
	4/14/20		9.32	41.00					297	1.67	10.70	15.07	0.111	5.04

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-45S	11/5/14		9.72	17.35					401	5.35	35.60	21.10	0.140	5.76
	12/9/15		9.56	17.40					113	4.87	33.30	17.65	0.307	5.94
	11/16/16		9.80	17.40					243	0.00	22.10	19.77	0.060	5.56
	10/25/17		9.72	17.40					226	4.40	4.70	23.97	0.570	5.50
	10/18/18		7.98	17.40					362	5.15	0.10	20.19	0.130	6.19
	11/20/19		9.74	17.40					315	4.23	9.60	19.29	0.066	5.64
	10/20/20		8.24	17.40					185	4.08	14.00	22.36	0.066	5.92
MW-45M	11/5/14		9.69	46.95					274	13.20	34.00	16.96	0.125	4.44
	12/9/15		9.10	47.00					168	2.70	35.00	14.92	0.019	4.42
	11/16/16		9.73	47.00					328	0.00	2.00	17.22	0.093	4.56
	10/25/17		9.64	47.00					323	0.99	1.70	17.63	0.110	4.62
	10/18/18		7.87	39.30					405	2.12	0.00	16.65	0.088	4.85
	11/20/19		9.65	39.30					411	0.00	3.60	16.46	0.096	4.58
	10/20/20		8.19	46.95					325	2.85	4.70	19.37	0.090	4.76
MW-46S	4/27/16		7.27	15.40					-18	0.00	13.20	15.46	0.073	6.10
	5/2/18		6.76	18.35					69	0.00	0.30	13.91	0.203	5.84
	4/15/20		7.05	8.75					31	0.75	2.00	13.69	0.030	5.93
MW-46M	4/27/16		7.26	49.20					338	0.00	3.90	14.45	0.089	4.63
	5/2/18		6.75	49.00					431	0.00	0.00	15.86	0.072	4.15
	4/15/20		7.04	47.00					422	2.07	0.00	14.88	0.071	4.30
MW-47S	4/29/16		12.13	17.50					298	3.02	0.00	14.03	0.017	5.03
	4/30/18		12.10	18.00					342	7.96	0.00	15.12	0.024	4.73
	4/16/20		11.62	17.50					219	3.87	10.30	14.71	0.024	4.79
MW-47M	11/5/14		12.68	42.15					354	2.74	82.60	17.08	0.098	4.65
	12/10/15		12.46	42.00					344	1.24	32.60	16.25	0.064	5.88
	11/17/16		12.63	42.20					345	0.00	25.90	15.89	0.063	4.84
	10/25/17		12.62	42.25					336	0.75	21.40	18.41	0.073	4.46
	10/19/18		11.12	42.25					272	0.75	28.70	17.55	0.093	5.26
	11/20/19		12.57	42.25					404	0.00	9.90	15.82	0.076	4.57
	10/21/20		11.36	42.25					299	2.70	12.40	17.13	0.079	4.94

Table 2
Summary of Groundwater Sampling Field Data
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-48M	11/5/14		11.23	66.65					409	4.06	118.00	16.84	0.097	4.58
	12/10/15		11.20	66.50					297	3.60	55.00	16.07	0.124	4.43
	11/17/16		11.18	60.00					340	3.23	5.30	15.92	0.066	4.76
	10/25/17		11.80	65.00					291	4.56	0.00	16.70	0.069	4.91
	10/22/18		8.98	66.50					404	3.12	0.00	16.20	0.056	5.05
	11/20/19		11.29	65.00					391	4.33	9.70	14.76	0.072	4.62
	10/20/20		8.81	66.50					311	4.11	68.30	19.10	0.060	5.00
MW-49M	11/5/14		16.20	73.35					423	4.49	58.70	16.42	0.097	4.39
	12/10/15		16.17	73.00					300	5.16	26.30	14.69	0.111	4.21
	11/16/16		16.14	73.35					368	0.00	0.00	16.53	0.070	4.56
	10/25/17		15.14	73.40					299	3.35	0.00	15.07	0.840	4.65
	10/18/18		14.46	73.40					446	4.51	0.00	14.56	0.065	4.81
	11/20/19		16.28	73.40					386	3.79	4.80	13.59	0.057	4.66
	10/20/20		13.74	73.40					294	4.65	1.60	16.28	0.048	4.61
MW-50M	4/28/16		14.87	72.35					270	0.10	0.00	13.38	0.081	4.85
	4/30/18		11.35	75.00					282	7.84	0.00	15.54	0.081	5.56
	4/16/20		13.62	75.00					299	3.64	1.70	13.13	0.078	4.83
MW-51D	3/23/15		7.49	91.32					344	6.27	10.20	10.22	0.063	4.89
	3/24/16		8.10	90.00					373	0.00	0.00	13.92	0.037	4.39
	3/24/17		8.80	85.00					243	0.00	0.60	13.44	0.040	4.32
	3/20/18		7.76	91.20					270	0.00	14.40	12.49	0.044	3.95
	3/20/19		7.17	91.20					262	0.00	31.80	13.54	0.052	4.16
	3/18/20		8.57	91.20					337	0.00	2.30	12.95	0.052	4.33
	5/25/21		8.43	91.20					418	0.00	0.00	15.97	0.040	3.88
MW-51M	3/23/15		9.53	46.75					438	1.27	88.40	9.77	0.116	3.75
	3/24/16		9.81	46.80					381	0.27	4.40	13.44	0.075	4.62
	3/24/17		10.00	46.80					391	0.00	0.00	14.30	0.099	4.31
	3/20/18		9.65	46.80					382	0.00	0.00	17.47	0.089	4.27
	3/20/19		9.55	46.80					379	0.00	0.00	14.32	0.080	4.70
	3/18/20		9.90	46.80					430	1.27	3.30	12.39	0.104	4.69
	5/25/21		9.98	46.80					380	2.21	0.00	15.23	0.080	4.29

Table 2
Summary of Groundwater Sampling Field Data
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-51S	3/23/15		9.52	31.70					332	3.02	69.50	10.72	0.062	4.53
	3/24/16		9.81	31.70					376	9.46	2.00	13.38	0.035	4.59
	3/24/17		10.00	31.70					389	0.00	0.00	13.63	0.071	4.44
	3/20/18		9.65	31.70					368	0.00	0.00	16.98	0.072	4.41
	3/20/19		9.48	31.70					392	3.23	0.40	14.09	0.024	4.56
	3/18/20		9.91	31.70					413	2.64	3.60	12.00	0.056	4.89
	5/25/21		9.95	31.70					306	1.83	6.10	14.88	0.052	4.91
MW-52S	11/5/14		3.05	25.30					154	3.83	50.90	16.37	0.161	5.79
	12/9/15		2.91	25.00					235	2.71	38.60	14.17	0.120	7.63
	11/17/16		3.07	24.90					106	0.00	18.70	16.07	0.078	6.50
	10/26/17		3.01	25.20					180	0.96	39.00	15.47	0.052	5.37
	10/19/18		2.34	23.50					146	0.00	19.80	17.11	0.062	5.99
	11/21/19		3.01	23.50					289	2.39	5.70	14.83	0.061	5.80
	10/19/20		2.35	25.20					104	1.14	104.00	19.41	0.047	5.39
MW-52M	11/5/14		3.71	44.10					174	2.81	57.40	16.19	0.070	5.41
	12/9/15		3.60	44.00					252	0.78	44.40	14.65	0.063	6.06
	11/17/16		3.71	44.00					248	0.00	22.30	16.95	0.062	5.26
	10/26/17		3.64	43.70					264	0.00	9.20	15.57	0.059	4.85
	10/19/18		2.89	43.70					345	0.00	4.20	17.90	0.051	5.06
	11/21/19		3.67	43.70					402	0.00	6.80	15.38	0.056	4.64
	10/19/20		3.00	43.70					290	1.17	28.10	17.34	0.062	4.15
MW-53S	11/5/14		3.96	27.10					266	1.45	0.00	18.57	0.088	5.57
	12/9/15		3.64	27.10					292	2.88	8.00	14.90	0.078	6.47
	11/17/16		3.95	27.15					277	0.00	35.80	16.64	0.043	4.91
	10/25/17		3.89	27.10					251	0.00	0.00	16.47	0.044	5.27
	10/19/18		3.18	27.10					255	0.00	11.50	15.61	0.029	5.47
	11/21/19		3.87	27.10					336	0.00	9.10	13.33	0.058	4.99
	10/19/20		3.32	27.10					224	0.00	19.70	17.18	0.030	4.54
MW-53M	11/5/14		3.31	46.50					324	0.31	41.50	16.53	0.045	4.35
	12/9/15		2.96	46.50					139	0.48	6.40	14.66	0.045	6.61
	11/17/16		3.28	46.35					35	0.00	30.30	16.72	0.062	5.99
	10/25/17		3.22	46.40					217	0	13.5	15.77	0.032	4.69
	10/19/18		2.50	46.40					296	0	0	15.09	0.031	4.61
	11/21/19		3.23	46.40					134	0	49.4	13.06	0.046	5.63
	10/19/20		2.54	46.40					298	0	74.3	15.75	0.032	3.49

Table 2
Summary of Groundwater Sampling Field Data
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-54S	3/24/15		12.04	31.86					132	2.56	129.00	10.22	0.111	5.63
	3/23/16		12.75	31.46					266	0.00	20.00	22.02	0.115	4.82
	3/23/17		13.06	31.95					207	2.82	124.00	14.49	0.095	5.33
	3/23/18		12.02	31.95					273	0.00	39.00	14.65	0.108	4.77
	3/22/19		11.63	31.95					210	0.00	46.30	12.87	0.074	5.37
	3/18/20		12.90	31.98					317	2.80	47.70	13.90	121.000	5.10
	5/25/21		12.92	31.95					261	1.89	171.00	16.25	0.156	5.02
MW-54M	3/23/15		11.80	46.72					324	4.24	51.00	11.27	0.136	5.05
	3/23/16		13.40	46.75					307	1.70	24.50	17.32	0.138	5.11
	3/23/17		12.79	46.75					295	0.84	4.50	14.12	0.102	5.41
	3/23/18		11.78	46.75					261	0.00	42.20	18.69	0.109	5.50
	3/22/19		11.38	46.75					311	3.34	0.00	11.49	0.171	5.17
	5/25/21		12.63	46.75					272	3.49	22.50	16.40	0.125	5.19
MW-54D	3/23/15		10.79	84.20					445	2.73	19.60	10.33	0.141	3.75
	3/23/16		11.65	83.65					426	1.57	0.00	22.75	0.113	4.02
	3/23/17		12.24	83.65					434	0.00	0.00	12.63	0.145	3.42
	3/23/18		10.95	83.65					468	0.00	2.10	17.48	0.147	3.77
	3/22/19		10.45	83.65					501	1.95	0.00	13.12	0.178	3.30
	5/25/21		11.89	83.65					446	2.72	0.00	15.73	0.133	3.64
MW-55S	11/5/14		10.32	24.90					357	0.88	9.90	18.11	0.025	5.49
	12/10/15		10.21	25.00					228	0.53	0.00	18.50	0.036	5.16
	11/17/16		10.47	24.95					-3	0.00	0.00	19.29	0.085	6.79
	10/25/17		10.24	24.90					146	4.74	7.60	22.27	0.440	6.76
	10/19/18		9.81	24.90					-79	3.58	8.70	16.01	0.517	6.66
	11/22/19		10.40	24.90					-41	0.00	0.00	17.88	0.435	6.33
	10/20/20		9.09	24.90					-90	0.39	5.10	19.28	0.335	6.55
MW-55M	11/5/14		9.93	39.70					394	1.05	16.80	15.53	0.048	4.10
	12/10/15		9.82	40.00					303	1.24	40.60	17.08	0.064	3.79
	11/17/16		10.07	39.80					340	0.00	0.00	17.88	0.038	4.50
	10/25/17		9.84	38.00					354	0.00	4.20	19.13	0.047	4.38
	10/19/18		8.53	35.00					205	0.00	0.00	18.02	0.039	5.46
	11/22/19		10.02	39.60					387	0.00	0.00	16.47	0.034	4.22
	10/20/20		8.68	39.60					317	0.53	8.70	17.64	0.037	4.36

Table 2
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-56D	3/23/15		0.44	77.87					328	5.91	12.30	11.21	0.049	5.42
	3/23/16		1.28	77.95					191	0.00	47.90	16.68	0.038	5.55
	3/23/17		1.84	77.95					89	0.00	31.60	10.39	0.037	5.71
	3/20/18		0.72	77.95					163	0.00	48.80	16.33	0.055	5.19
	3/20/19		0.17	77.95					165	0.00	5.20	13.70	0.048	5.04
	5/24/21		1.51	77.95					174	0.00	31.80	15.98	0.039	5.06
MW-56M	3/23/15		1.83	39.64					336	2.12	8.60	12.71	0.035	4.30
	3/23/16		2.03	40.50					392	0.00	10.50	16.48	0.033	4.29
	3/23/17		2.19	40.50					408	0.00	0.40	12.33	0.034	3.79
	3/20/18		1.89	40.50					435	0.00	6.90	12.35	0.039	3.93
	3/20/19		1.79	40.50					446	0.00	0.00	14.15	0.035	4.08
	5/24/21		2.16	40.50					493	0.00	0.00	16.59	0.039	3.76
MW-56S	3/23/15		2.31	24.62					365	1.08	84.40	12.74	0.048	4.88
	3/23/16		2.44	27.75					346	0.00	0.00	17.44	0.031	5.83
	3/23/17		2.61	27.75					266	0.00	0.00	12.19	0.030	4.94
	3/20/18		2.27	29.75					329	0.00	20.80	10.98	0.033	4.73
	3/20/19		2.22	27.75					299	0.00	2.20	13.68	0.026	4.81
	5/24/21		2.54	27.75					373	1.38	4.50	15.84	0.094	4.41
MW-57S	3/23/15		2.01	26.59					378	1.48	74.20	11.61	0.051	4.29
	3/23/16		2.19	26.20					343	0.00	0.00	15.77	0.045	4.73
	3/23/17		2.40	26.60					339	0.00	0.00	12.66	0.077	4.04
	3/20/18		2.07	26.60					379	0.00	0.00	16.66	0.057	4.18
	3/20/19		1.94	26.60					354	0.00	0.00	13.41	0.036	4.39
	5/24/21		2.47	26.60					334	0.00	0.00	15.15	0.051	4.05
MW-57M	3/23/15		2.08	36.86					391	0.20	26.60	11.67	0.067	4.10
	3/23/16		2.26	30.00					463	0.00	0.00	15.28	0.052	4.29
	3/23/17		2.47	36.80					385	0.00	0.00	11.50	0.053	4.28
	3/20/18		2.15	36.80					466	0.00	7.30	11.57	0.058	3.79
	3/20/19		2.06	36.80					415	0.00	0.00	13.92	0.061	4.11
	5/24/21		2.41	36.80					317	0.00	8.10	16.96	0.043	4.12
MW-58S	12/3/14		3.28	38.20					303	7.68	703.00	14.60	0.104	8.23
	5/18/15		3.39	38.20					129	5.54	223.00	15.99	0.240	7.99
	6/8/17		3.14	38.10					401	2.30	0.00	16.17	0.068	4.78
	6/5/18		2.93	38.20					346	4.31	0.00	21.50	0.040	4.63
	7/11/19		3.27	38.20					299	4.11	31.60	21.26	0.077	4.78

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-58M	12/3/14		3.13	52.50					326	2.12	58.00	13.46	0.035	4.90
	5/18/15		3.12	52.57					291	4.88	127.00	17.74	0.066	3.77
	6/8/17		2.95	52.60					399	0.00	0.00	16.73	0.029	4.30
	6/5/18		2.73	52.57					263	0.00	0.00	15.55	0.018	4.12
	7/11/19		3.08	52.57					183	0.00	0.00	20.01	0.031	4.38
	5/22/20		3.24	52.57					193	0.00	0.00	15.06	0.024	4.10
MW-59S	12/5/14		3.94	35.30					194	1.48	788.00	11.36	0.039	4.97
	5/18/15		3.86	35.30					357	0.07	203.00	16.66	0.113	3.80
	6/8/17		3.61	35.40					299	0.00	1.90	17.31	0.037	4.42
	6/4/18		3.34	35.30					417	0.00	0.00	16.70	0.032	3.89
	7/11/19		3.92	35.30					308	0.00	0.00	22.02	0.042	4.25
	5/19/20		4.02	35.30					453	0.00	0.00	15.32	0.038	3.18
MW-59M	12/5/14		4.15	48.00					317	1.04	30.50	12.76	0.058	3.39
	5/18/15		3.45	48.10					289	6.35	150.00	15.88	0.109	4.40
	6/8/17		3.14	48.10					327	0.00	25.40	18.69	0.037	4.35
	6/4/18		2.80	48.10					408	0.00	0.00	15.36	0.035	3.78
	7/11/19		3.46	48.10					346	0.00	0.00	19.41	0.049	4.07
	5/19/20		3.89	48.10					416	0.00	0.00	16.39	0.037	3.30
MW-60S	12/4/14		4.35	18.00					431	7.44	30.00	139.97	0.055	3.81
	5/18/15		2.50	24.50					315	6.26	129.00	15.00	0.141	3.80
	6/7/17		4.20	23.25					420	4.56	0.00	14.80	0.033	4.64
	6/4/18		3.80	23.50					475	7.46	0.00	12.98	0.040	4.29
	7/10/19		4.46	24.50					404	6.55	7.30	16.47	0.049	4.22
	5/19/20		4.59	24.50					304	7.01	2.10	13.07	0.024	3.96
MW-60M	12/4/14		43.00	53.10					164	2.87	800+	12.22	0.032	4.78
	5/18/15		4.25	53.20					441	2.31	490.00	15.96	0.046	3.56
	6/7/17		3.91	53.10					339	0.00	0.00	14.61	0.029	4.46
	6/4/18		3.97	53.10					424	0.00	0.00	14.85	0.028	4.30
	7/10/19		4.18	53.20					387	0.00	6.20	15.28	0.037	3.47
	5/19/20		4.31	53.20					305	0.00	9.70	13.87	0.026	3.83
MW-61S	12/4/14		1.90	32.00					270	2.36	808.00	14.21	0.101	4.76
	5/18/15		2.12	31.95					369	3.29	661.00	17.43	0.091	4.05
	6/7/17		1.75	32.00					343	0.42	17.70	14.42	0.069	5.21
	6/4/18		2.34	32.00					403	2.93	0.00	13.71	0.070	4.75
	7/10/19		1.88	31.95					322	1.46	104.00	17.40	0.076	4.71
	5/19/20		2.55	31.95					356	0.00	45.70	13.22	0.089	4.00

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-61M	12/4/14		2.00	55.80					140	2.49	280.00	11.96	0.061	7.52
	5/18/15		2.18	56.11					230	4.49	200.00	16.75	0.152	4.96
	6/7/17		1.87	55.85					295	0.00	4.70	14.61	0.044	5.43
	6/1/18		2.35	55.00					363	0.00	0.00	14.26	0.038	4.86
	7/10/19		2.02	56.11					237	0.97	36.00	18.15	0.060	5.44
	5/19/20		2.86	56.11					345	0.00	0.00	14.61	0.035	3.74
MW-62S	12/8/14		3.25	23.20					364	0.05	73.60	9.03	0.045	4.25
	5/18/15		3.38	23.22					289	3.55	182.00	20.44	0.120	4.19
	6/8/17		3.10	20.00					344	0.00	0.00	15.12	0.046	4.24
	6/5/18		3.02	22.00					340	0.00	0.00	13.84	0.032	4.18
	7/12/19		3.03	23.22					297	0.00	0.00	19.06	0.041	4.05
	5/21/20		3.53	23.22					358	0.00	0.00	15.30	0.034	4.05
MW-62M	12/8/14		2.73	35.00					301	3.16	390.00	11.79	0.055	4.24
	5/18/15		2.68	46.21					447	4.19	1000+	17.29	0.052	3.91
	6/8/17		2.40	55.00					264	0.00	0.00	15.78	0.050	4.73
	6/5/18		2.25	46.00					298	0.00	0.00	14.80	0.030	4.68
	7/12/19		2.43	46.21					243	0.00	21.80	16.80	0.043	4.57
	5/21/20		2.89	46.21					243	0.00	1.20	16.45	0.030	4.57
MW-63S	12/9/14		3.70	23.15					351	5.79	26.50	10.43	0.097	4.62
	5/18/15		4.13	23.15					521	6.43	163.00	15.08	0.144	3.29
	6/8/17		3.90	23.15					315	3.31	0.00	15.55	0.086	4.56
	6/1/18		3.65	23.15					435	3.74	0.00	14.84	0.089	4.47
	7/12/19		3.80	23.15					390	3.86	0.00	15.54	0.082	4.29
	5/22/20		4.35	23.15					373	5.67	0.00	13.89	0.068	4.65
MW-63M	12/9/14		2.81	45.00					427	3.23	128.00	11.58	0.049	402.00
	5/18/15		2.87	57.92					494	5.18	173.00	14.82	0.050	3.73
	6/8/17		2.65	57.70					364	0.52	0.00	15.12	0.033	4.62
	6/1/18		2.26	57.92					406	1.88	0.00	15.02	0.029	4.42
	7/12/19		2.69	57.92					347	2.76	0.00	14.86	0.036	4.28
	5/22/20		3.29	57.92					348	2.19	2.20	14.59	0.031	4.70
MW-64S	12/5/14		3.90	23.10					178	0.20	38.10	13.44	0.138	6.19
	5/18/15		4.01	23.08					-	-	-	-	-	-
	6/6/17		3.53	23.15					171	0.00	0.00	15.59	0.088	6.06
	6/1/18		4.05	23.00					259	0.00	0.00	15.76	0.093	5.76
	7/11/19		4.18	23.08					217	1.18	0.00	17.07	0.123	5.58
	5/21/20		4.43	23.08					198	0.00	0.00	14.73	0.079	5.72

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-64M	12/5/14		3.05	61.10					415	3.78	126.00	13.47	0.117	3.83
	5/18/15		2.74	61.20					-	-	-	-	-	-
	6/6/17		2.42	61.20					356	1.92	0.00	15.38	0.089	4.55
	6/1/18		2.11	61.20					347	6.37	0.00	17.12	0.069	4.89
	7/11/19		2.82	61.20					389	2.97	7.80	16.77	0.076	4.07
	5/21/20		3.08	57.10					304	0.00	8.00	14.50	0.072	4.93
MW-65S	12/8/14		4.72	23.10					164	4.99	138.00	12.00	0.136	5.89
	5/18/15		5.11	22.90					503	6.19	151.00	16.49	0.132	3.87
	6/6/17		4.62	23.15					128	1.65	74.80	16.60	0.155	5.71
	6/1/18		4.20	22.90					259	4.10	41.20	15.19	0.116	5.10
	7/9/19		5.27	22.90					230	2.97	61.40	18.33	0.088	5.09
	5/21/20		5.27	22.90					181	2.49	0.00	14.53	0.111	6.20
MW-65M	12/9/14		4.05	63.10					451	3.94	115.00	13.07	0.119	4.33
	5/18/15		4.36	63.14					531	4.62	149.00	14.87	0.108	3.20
	6/6/17		4.03	63.10					299	1.18	0.00	15.25	0.089	4.79
	6/1/18		3.61	63.14					377	4.30	0.00	15.91	0.064	4.60
	7/9/19		4.49	63.14					315	2.73	0.00	18.49	0.073	4.79
	5/21/20		4.66	63.14					349	1.90	0.00	13.63	0.071	4.73
MW-66S	12/3/14		6.17	23.00					326	7.19	724.00	13.82	0.090	4.92
	5/18/15		5.90	23.04					442	7.04	742.00	15.48	0.077	3.54
	6/6/17		5.65	23.65					360	7.62	28.00	15.30	0.063	4.62
	6/5/18		5.10	23.04					440	6.20	0.00	16.53	0.056	4.09
	7/9/19		6.05	20.00					298	5.06	7.10	17.16	0.065	4.69
	5/20/20		6.62	20.00					366	3.04	15.70	13.50	0.056	3.88
MW-67S	12/4/14		8.85	33.00					366	5.96	230.00	13.42	0.048	4.62
	5/18/15		8.58	32.90					-31	0.26	153.00	12.23	0.172	6.05
	6/6/17		8.22	32.10					47	0.26	29.50	15.63	0.050	5.69
	6/5/18		7.72	32.90					445	3.09	0.00	14.69	0.033	3.83
	7/9/19		8.83	32.90					-2	-	6.80	17.75	0.069	5.86
	5/20/20		3.76	32.90					310	0.00	17.20	13.10	0.037	3.79
MW-68S	12/3/14		11.54	28.30					216	0.00	117.00	13.81	0.098	6.09
	5/18/15		10.59	28.27					214	3.06	159.00	14.39	0.205	5.42
	6/6/17		11.60	28.25					178	0.00	0.00	14.48	0.042	5.35
	6/5/18		10.05	29.10					328	0.00	0.00	15.80	0.024	5.15
	7/9/19		10.73	28.27					386	4.71	7.70	14.93	0.028	4.20
	5/20/20		11.22	28.27					360	0.00	5.90	12.77	0.020	4.09

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-69S	12/3/14		3.60	30.70					243	6.67	800+	11.15	0.066	5.21
	5/18/15		3.80	30.68					302	6.45	238.00	14.47	0.234	4.50
	6/7/17		3.41	30.70					347	5.59	37.60	16.49	0.080	4.86
	7/10/19		3.71	30.70					338	6.28	0.00	15.90	0.084	4.55
	5/20/20		3.98	36.95					378	3.69	0.00	13.52	0.098	3.94
MW-69M	12/3/14		3.53	50.70					436	3.53	420.00	13.04	0.130	3.81
	5/18/15		3.70	50.80					454	3.11	425.00	16.28	0.101	3.39
	6/7/17		3.35	50.65					394	0.82	44.40	16.21	0.062	4.43
	7/10/19		3.68	50.55					396	1.41	3.20	15.47	0.067	3.91
	5/20/20		4.10	50.80					430	0.00	0.00	14.08	0.058	3.54
MW-70S	12/4/14		2.80	29.40					431	6.70	194.00	13.28	0.149	3.97
	5/18/15		2.78	29.60					252	6.16	800+	15.48	0.296	3.86
	6/7/17		2.46	29.60					395	3.38	25.30	16.37	0.079	4.74
	6/4/18		2.08	29.60					422	6.43	0.00	13.84	0.065	4.38
	7/10/19		2.76	29.60					322	5.90	32.90	19.25	0.120	4.61
	5/19/20		2.90	29.60					337	5.22	27.10	15.28	0.084	4.31
MW-70M	12/4/14		2.10	56.40					291	1.29	65.20	12.28	0.027	4.73
	5/18/15		1.90	56.50					236	2.23	212.00	13.57	0.075	4.62
	6/7/17		1.59	56.60					343	0.00	41.90	16.57	0.016	4.78
	6/4/18		1.20	56.50					392	0.77	0.00	14.34	0.018	4.50
	7/10/19		2.91	56.50					357	0.63	0.00	15.09	0.020	4.32
	5/19/20		2.14	56.50					307	0.00	0.00	13.72	0.018	4.31
MW-71S	12/3/14		3.40	21.30					311	6.04	297.00	11.47	0.037	4.68
	5/18/15		3.61	22.21					462	6.15	265.00	14.50	0.100	3.60
	6/7/17		3.21	22.35					380	6.24	40.70	15.21	0.026	4.39
	7/10/19		3.43	22.21					379	6.35	1.80	16.96	0.082	4.06
	5/20/20		3.52	22.21					373	5.04	8.90	13.71	0.043	4.28
MW-71M	12/3/14		3.45	56.95					321	4.66	922.00	12.55	0.053	4.11
	5/18/15		3.57	57.19					317	0.63	800+	14.24	0.095	3.76
	6/7/17		3.21	56.95					378	0.00	43.70	14.75	0.039	4.19
	7/10/19		3.41	57.19					346	0.00	3.60	21.24	0.029	4.15
	5/20/20		3.55	57.19					356	0.00	33.70	13.43	0.048	4.14

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-72S	12/8/14		2.63	27.20					290	6.60	1000+	13.19	0.146	4.30
	5/18/15		2.90	27.10					542	7.06	300.00	15.19	0.108	2.96
	6/6/17		2.48	27.30					373	370.00	79.00	14.73	0.121	4.48
	6/1/18		2.12	27.10					409	6.40	0.00	14.46	0.077	4.45
	7/11/19		2.96	27.10					350	6.42	22.80	16.12	0.064	4.20
	5/20/20		2.96	27.10					362	4.69	9.30	12.90	0.083	4.43
MW-72M	12/8/14		2.43	62.25					433	3.36	33.70	11.99	0.089	4.52
	5/18/15		2.68	62.50					484	7.20	333.00	14.80	0.083	3.83
	-		2.25	62.20					327	0.00	0.00	14.81	0.054	4.93
	6/1/18		2.14	62.20					403	0.92	0.00	14.97	0.055	4.72
	7/11/19		2.74	62.50					349	1.90	0.00	15.11	0.052	4.37
	5/20/20		2.76	62.50					359	0.66	0.00	13.14	0.054	4.41
MW-73S	12/5/14		3.50	27.60					193	5.02	53.40	12.61	0.078	5.64
	5/18/15		3.59	27.60					-	-	-	-	-	-
	6/8/17		3.29	27.65					317	1.50	0.00	15.39	0.160	5.00
	6/1/18		3.06	27.60					352	0.74	0.00	17.07	0.069	4.80
	7/11/19		3.63	27.60					350	2.59	0.00	18.22	0.112	4.60
	5/22/20		3.83	27.60					280	5.30	0.00	16.44	0.090	5.13
MW-73M	12/5/14		3.52	52.35					370	3.55	3.51	13.20	0.061	4.71
	5/18/15		3.60	52.29					-	-	-	-	-	-
	6/8/17		3.35	52.50					147	0.00	47.80	15.33	0.090	5.51
	6/1/18		3.08	52.29					125	0.00	41.70	15.96	0.083	5.32
	7/11/19		3.68	52.29					27	0.00	9.00	17.44	0.283	5.59
	5/22/20		3.87	52.29					62	0.00	2.10	14.52	0.087	5.97
MW-74S	12/9/14		2.24	32.70					221	6.35	682.00	11.75	0.030	4.92
	5/18/15		2.70	32.43					-	-	-	-	-	-
	6/8/17		2.34	32.40					257	0.00	0.00	14.61	0.032	4.78
	6/5/18		2.18	32.43					244	0.00	0.00	16.13	0.022	4.71
	7/12/19		2.40	32.43					206	0.00	0.00	16.12	0.023	4.61
	5/22/20		2.89	32.43					265	0.00	7.60	14.69	0.022	4.47

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Vineland Chemical
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		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
MW-74M	12/9/14		1.83	56.60					375	3.13	1000+	12.38	0.043	3.78
	5/18/15		2.09	57.10					-	-	-	-	-	-
	6/8/17		1.84	56.75					376	0.00	26.00	14.51	0.025	4.34
	6/5/18		1.49	57.10					402	0.00	0.00	14.81	0.017	4.02
	7/12/19		1.83	57.10					367	0.00	0.00	14.53	0.026	4.09
	5/22/20		2.32	57.10					373	0.00	10.30	14.49	0.023	4.13
MW-75S	12/4/14		3.21	30.30					129	1.76	350.00	12.24	0.051	5.74
	5/18/15		3.23	30.30					326	1.69	230.00	14.69	0.072	5.04
	6/8/17		3.60	28.75					22	0.00	49.50	15.43	0.052	6.15
	6/5/18		4.25	27.00					32	0.00	0.00	15.27	0.044	6.19
	7/12/19		2.90	30.30					-24	4.55	49.00	19.98	0.059	6.12
	5/21/20		3.41	30.30					-12	0.00	0.00	15.38	0.042	6.41
MW-75M	12/4/14		3.45	41.60					227	4.41	641.00	11.41	0.037	4.83
	5/18/15		3.38	41.59					311	3.23	708.00	14.71	0.052	3.24
	6/8/17		3.87	42.00					311	0.00	0.00	15.19	0.040	4.35
	6/5/18		3.54	40.00					379	0.00	0.00	18.50	0.032	4.18
	7/12/19		3.10	41.59					209	0.00	0.00	18.92	0.041	4.28
	5/21/20		3.58	41.59					274	0.00	0.00	14.96	0.034	4.16
MW-75D	12/4/14		2.34	71.20					308	1.09	>800	12.70	0.034	4.34
	5/18/15		2.12	71.80					414	2.52	757.00	14.54	0.048	2.83
	6/8/17		1.90	72.00					313	1.93	0.00	14.95	0.034	4.51
	6/5/18		4.12	70.00					438	0.00	0.00	15.25	0.028	4.18
	7/12/19		1.93	71.80					331	0.00	0.00	15.20	0.029	3.95
	5/21/20		2.44	71.80					313	0.00	72.40	15.16	0.030	4.12

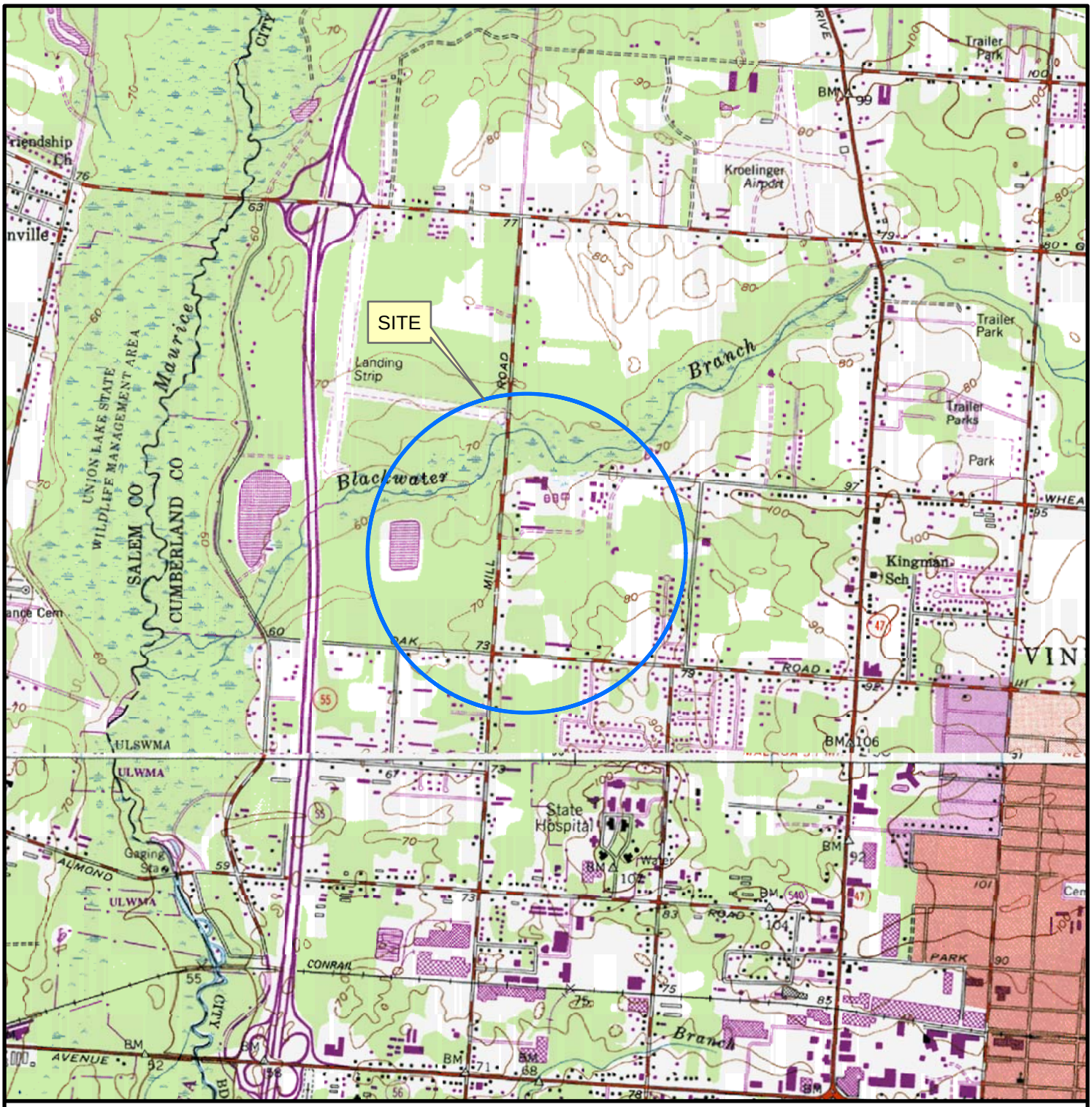
Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

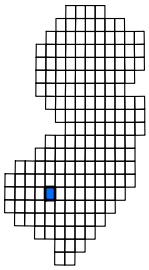
		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-24S	11/5/14		12.35	15.50					234	2.29	38.60	20.35	0.121	6.20
	12/10/15		11.62	15.50					315	1.84	51.40	18.87	0.097	7.29
	11/16/16		12.45	15.80					217	0.00	35.30	19.15	0.124	4.36
	10/25/17		12.30	15.80					198	3.40	13.30	20.50	0.150	6.17
	10/19/18		11.25	15.80					217	3.96	0.00	18.76	0.140	6.41
	11/22/19		12.38	15.80					285	2.84	0.00	17.16	0.112	6.03
	10/20/20		11.36	15.80					185	4.60	5.10	19.10	0.153	6.38
WW-24M	4/26/16		11.27	54.00					271	2.41	88.10	12.78	0.100	4.90
	5/1/18		10.92	55.00					333	7.13	99.10	15.70	0.076	4.87
	4/15/20		11.05	55.00					258	6.50	70.70	13.67	0.085	4.75
WW-25S	11/5/14		4.68	16.80					190	0.62	11.50	19.68	0.100	5.91
	12/9/15		4.55	16.80					75	0.00	73.00	15.25	0.208	6.04
	11/17/16		7.79	16.85					137	0.00	0.00	19.06	0.098	6.01
	10/26/17		4.65	15.50					155	0.00	0.00	17.07	0.098	5.65
	10/19/18		3.92	16.83					193	0.00	0.00	17.94	0.105	5.89
	11/21/19		4.60	16.83					187	1.59	0.00	16.45	0.048	5.72
	10/19/20		4.00	16.83					230	1.68	0.00	20.12	0.091	7.00
WW-25M	11/5/14		4.48	42.20					118	0.00	12.30	16.16	0.041	5.26
	12/9/15		4.58	42.00					174	0.00	71.70	13.82	0.051	4.40
	11/17/17		4.70	42.50					134	0.00	14.30	16.08	0.036	5.20
	10/26/17		4.65	42.40					183	0.00	7.70	16.08	0.035	4.90
	10/19/18		3.91	42.40					7	0.00	0.00	17.67	0.053	6.06
	11/21/19		3.59	42.40					271	0.00	0.00	15.25	0.033	5.80
	10/19/20		3.93	42.40					182	5.42	0.00	19.20	0.045	6.08
WW-26S	11/5/14		7.73	13.60					58	1.21	72.90	18.78	0.161	6.64
	12/10/15		7.65	13.50					110	3.05	73.00	14.43	0.262	6.46
	11/16/16		7.79	13.70					50	0.00	51.50	21.87	0.127	6.71
	10/25/17		7.67	13.65					-31	0.00	12.20	20.79	0.180	6.49
	10/19/18		6.25	13.86					36	0.00	15.20	20.43	0.100	6.68
	11/21/19		7.80	13.65					66	2.35	0.00	16.74	0.133	6.95
	10/19/20		6.96	13.65					121	3.37	0.00	20.24	0.122	6.40

Table 2
Summary of Groundwater Sampling Field Data
Vineland Chemical
1405 North Mill Road
Vineland, NJ

		Groundwater Monitoring Data							Groundwater Parameters					
Well #	**Date**	**Casing Elev. (ft)**	**DTW (ft)**	**DTB (ft)**	**DTP (ft)**	**LPH Thickness (ft)**	**Water Elev. (ft)**	**LPH Recov. (gal)**	**ORP**	**O_2(ppm)**	**Turb (NTU)**	**Temp.(^oC)**	**Cond. (ms/cm)**	**pH**
WW-26M	11/5/14		12.98	40.00					274	3.82	28.70	17.22	0.156	5.50
	12/10/15		7.65	40.50					225	3.92	36.20	13.65	0.283	5.14
	11/16/16		7.82	40.60					269	0.00	24.00	19.03	0.157	5.49
	10/25/17		7.68	40.50					245	3.32	0.00	16.93	0.180	5.24
	10/19/18		6.85	40.30					256	4.43	0.00	18.52	0.160	5.60
	11/21/19		7.72	40.50					251	7.20	0.00	16.73	0.104	5.86
	10/19/20		6.97	40.50					236	5.36	0.00	20.05	0.156	5.36
WW-27S	11/5/14		13.08	20.00					357	6.37	32.40	17.42	0.043	4.98
	12/10/15		12.90	20.00					400	4.34	4.20	15.95	0.020	5.63
	11/16/16		13.13	19.95					278	0.57	7.40	18.15	0.038	5.16
	10/25/17		12.94	19.90					229	5.57	2.70	20.61	0.051	4.82
	10/19/18		12.00	18.50					386	6.75	21.90	18.47	0.101	6.22
	11/22/19		13.10	19.90					363	4.49	0.00	17.27	0.234	4.97
	10/20/20		12.11	19.90					271	4.42	12.10	19.88	0.209	5.60
WW-27M	11/5/14		11.76	43.00					327	8.92	19.90	16.50	0.111	5.24
	12/10/15		13.02	44.50					369	0.98	7.70	15.29	0.070	6.16
	11/16/16		13.22	44.65					291	0.00	3.80	18.29	0.077	4.90
	10/25/17		13.03	44.57					295	0.50	2.10	19.82	0.110	4.68
	10/19/18		12.10	44.57					341	0.00	0.00	17.80	0.063	4.84
	11/22/19		13.18	44.57					464	0.00	0.00	16.76	0.072	4.40
	10/20/20		12.17	44.57					246	0.00	4.30	18.54	0.080	5.41

ATTACHMENTS





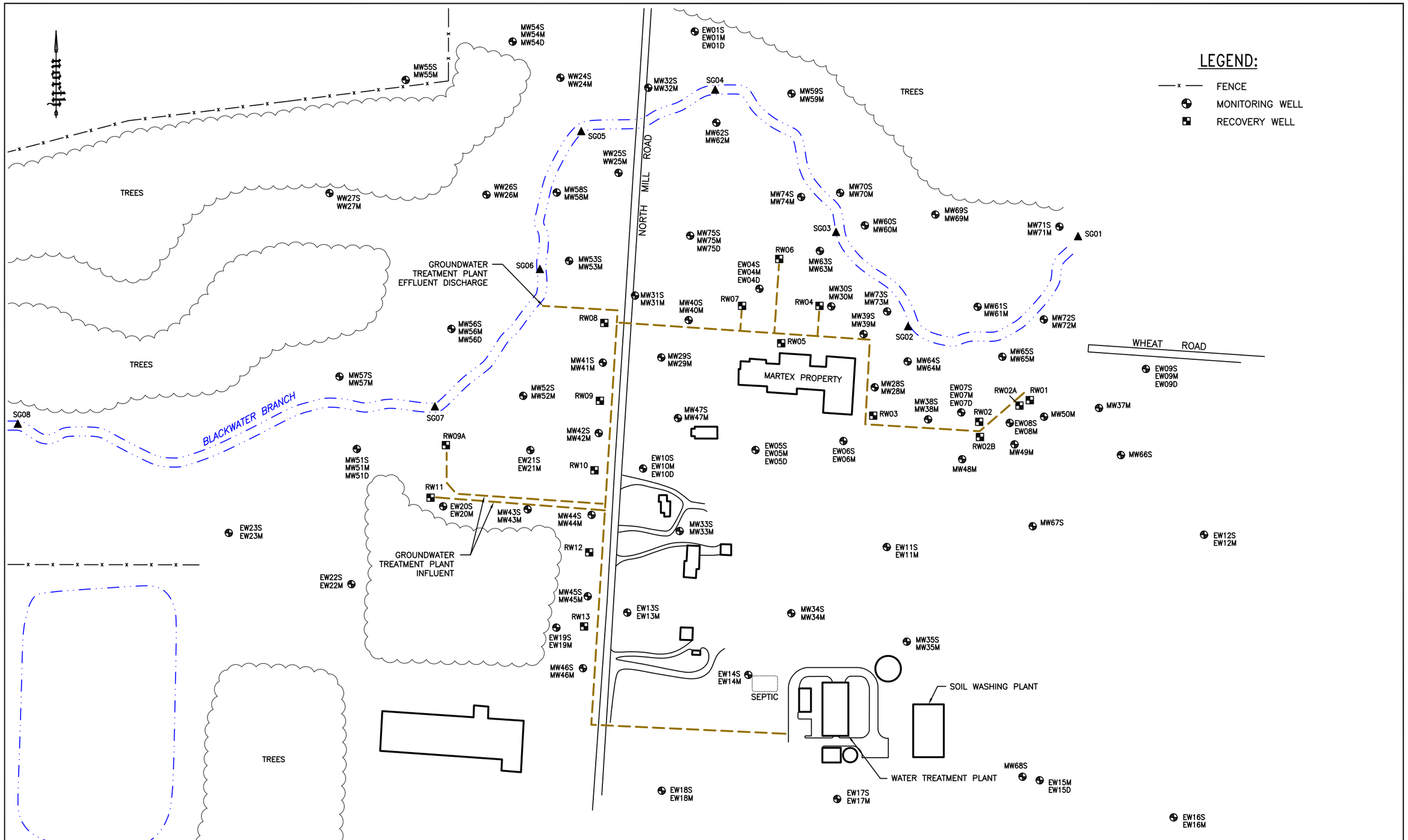
QUADRANGLE LOCATION:
NEWFIELD, NEW JERSEY

SOURCE: USGS 7.5 MINUTE SERIES
REVISED/INSPECTED: 1994
CONTOUR INTERVAL: 10 FEET

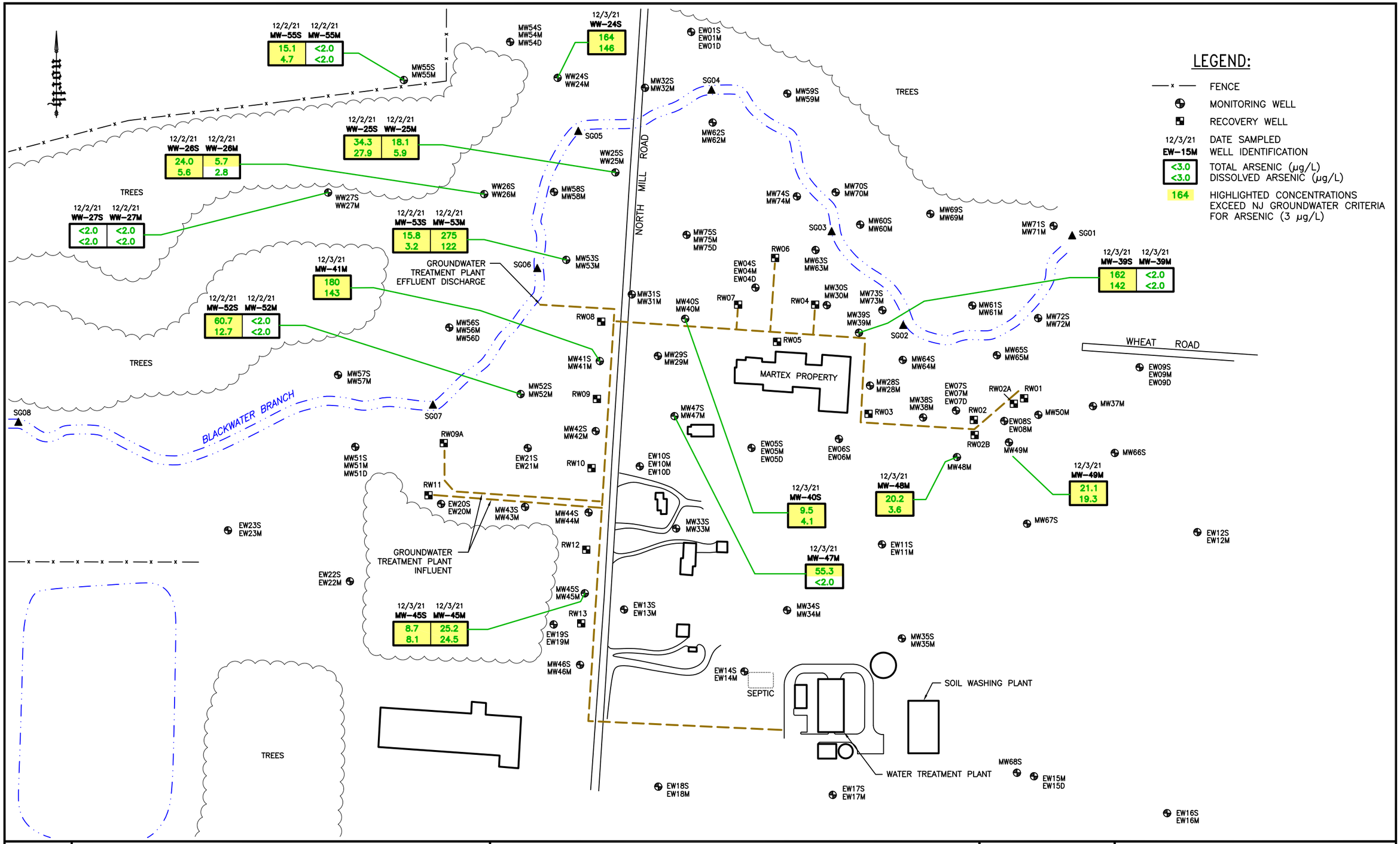
0 1,000 2,000 4,000 6,000 8,000 Feet

N W E S

ATTACHMENT	U.S.G.S. TOPOGRAPHIC MAP	DRAWN BY: B.S.	EnviroTrac ENVIRONMENTAL SERVICES
A	NJDEP - VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	DATE: 11/21/2014	400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017



ATTACHMENT B	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	SITE PLAN	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
		DRAWN BY: B.S. / REVISION DATE: 11/21/2014		

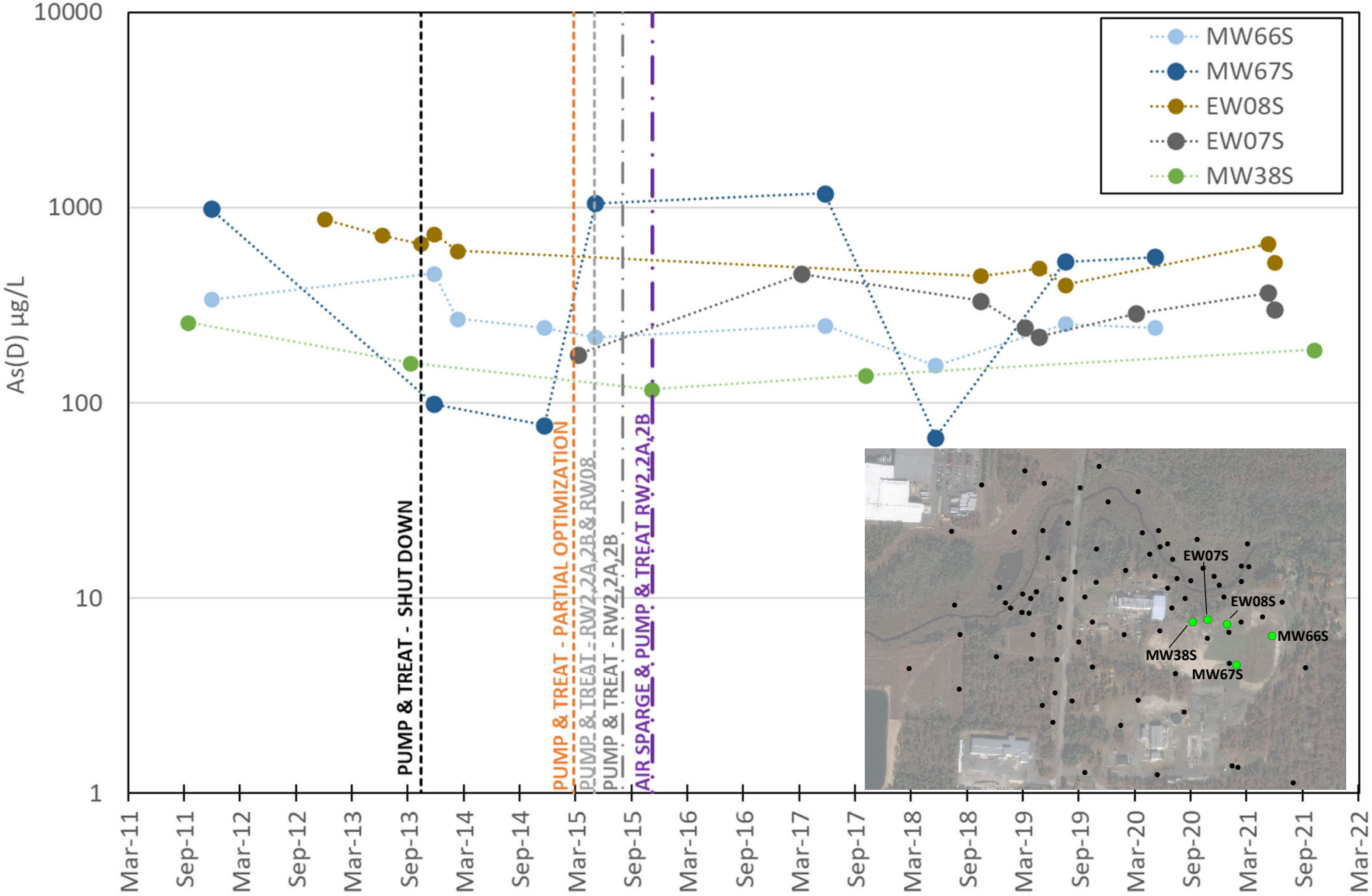


ATTACHMENT	NJDEP – VINELAND CHEMICAL 1405 NORTH MILL ROAD VINELAND, NEW JERSEY	GROUNDWATER CONTAMINANT MAP DECEMBER 2021	0 250 SCALE IN FEET	EnviroTrac ENVIRONMENTAL SERVICES 400E CORPORATE COURT, So. PLAINFIELD NJ 07080 PHONE: (908)757-1900 FAX: (908)757-0017
D		DRAWN BY: B.S. / REVISION DATE: 1/4/2022		

Appendix E

Dissolved Arsenic in Groundwater
Timeseries Plots
Shallow and Mid-Depth Wells
2013 - 2021

	Shallow Monitoring Wells and Piezometers	Slide 1
		May 2022

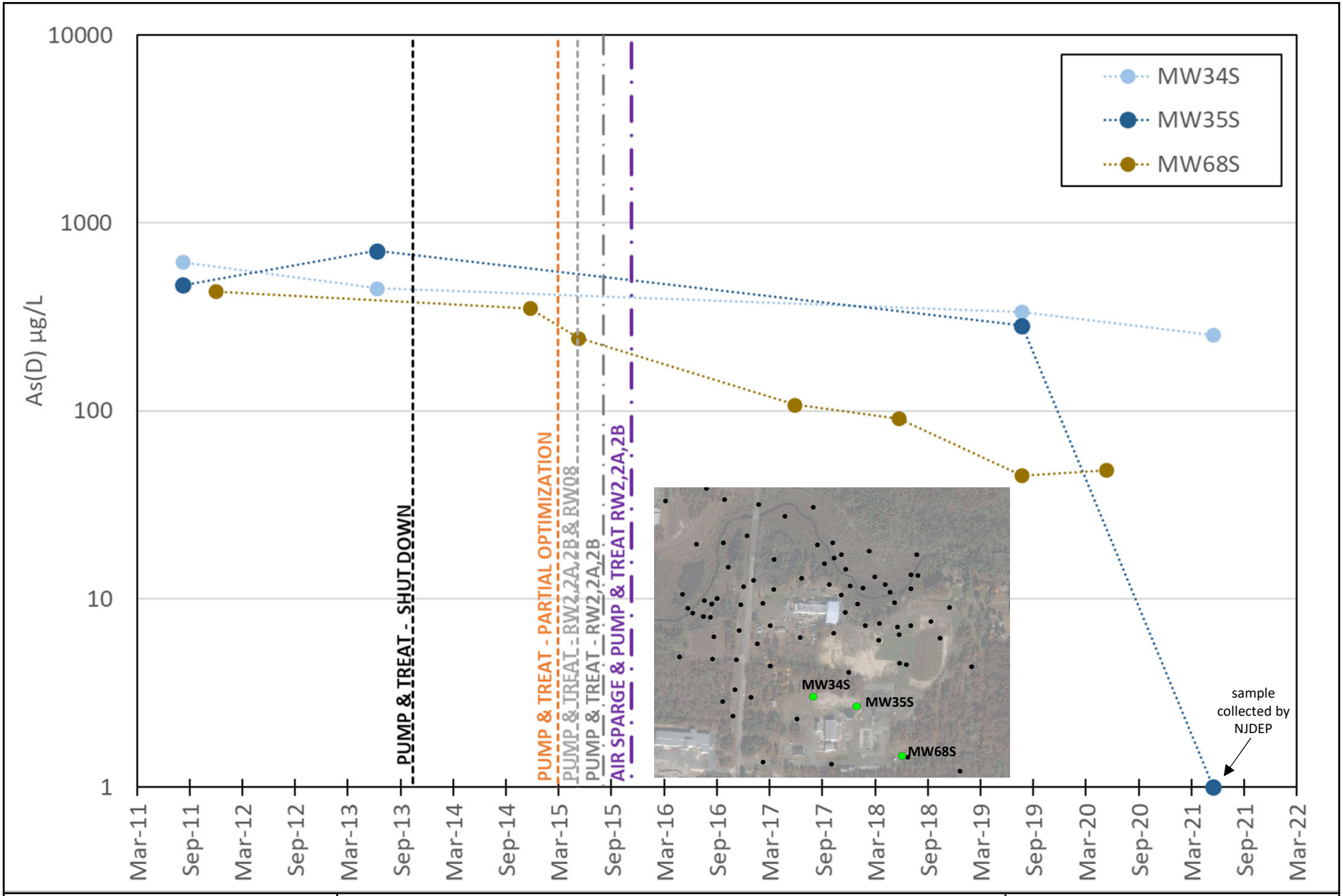


Dissolved Arsenic Trends

Shallow Wells within Former Primary Source Area (Area V)

Slide 2

June 2022

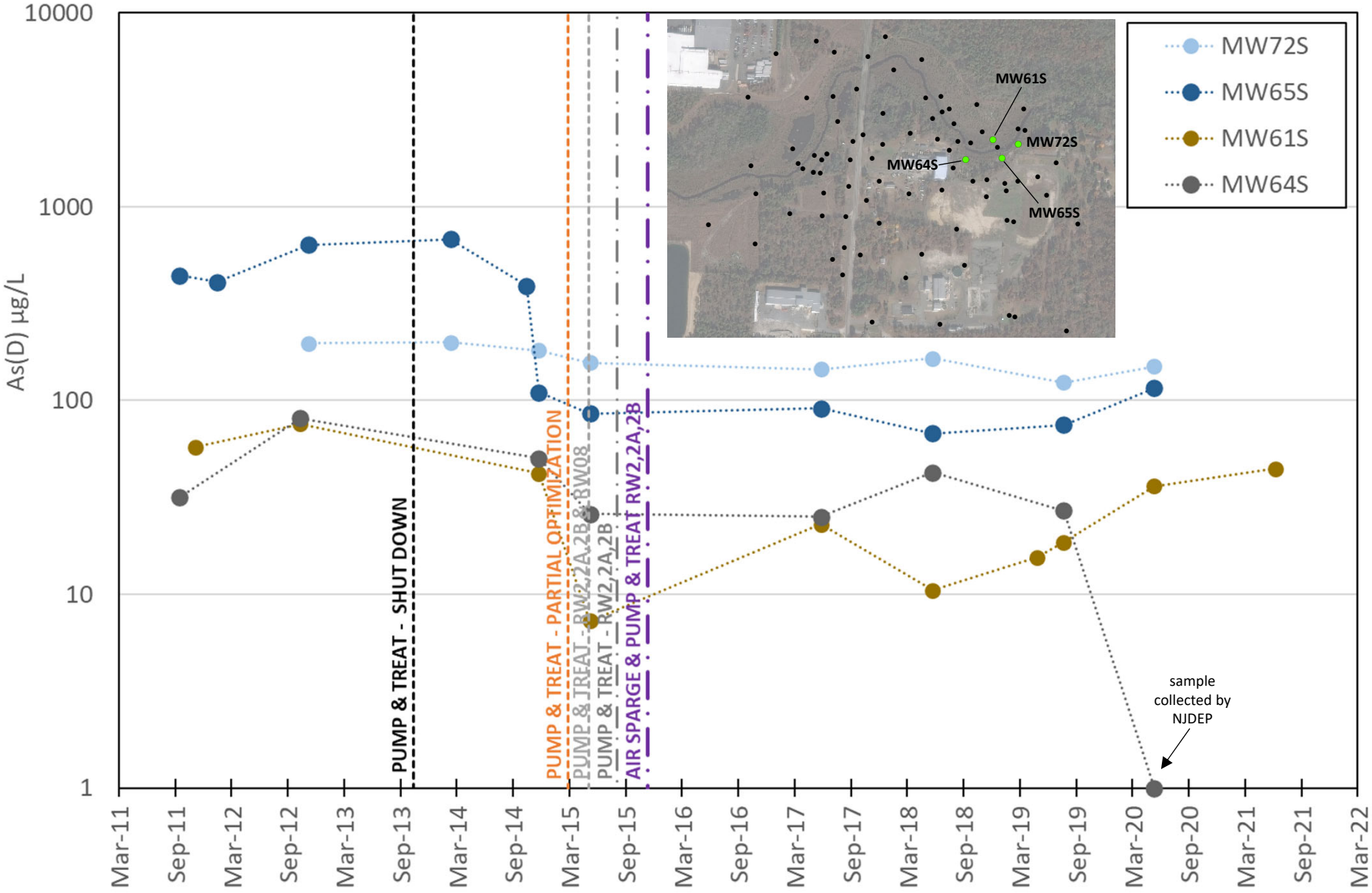


Dissolved Arsenic Trends

Shallow Wells within Former Primary Source Area (Chicken Coop)

Slide 3

June 2022

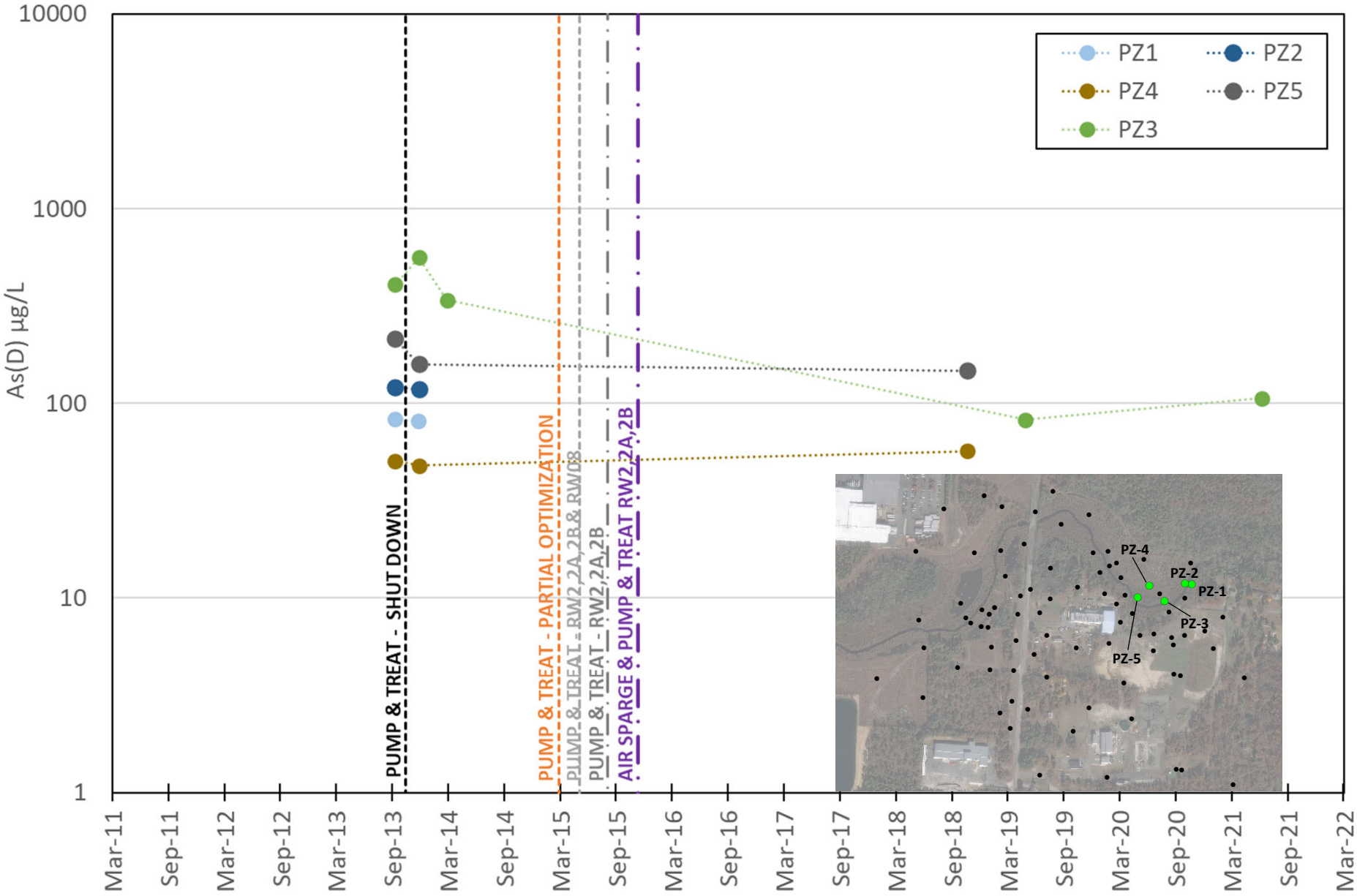


Dissolved Arsenic Trends

Shallow Wells along the Blackwater Branch
East of Mill Road

Slide 4

June 2022

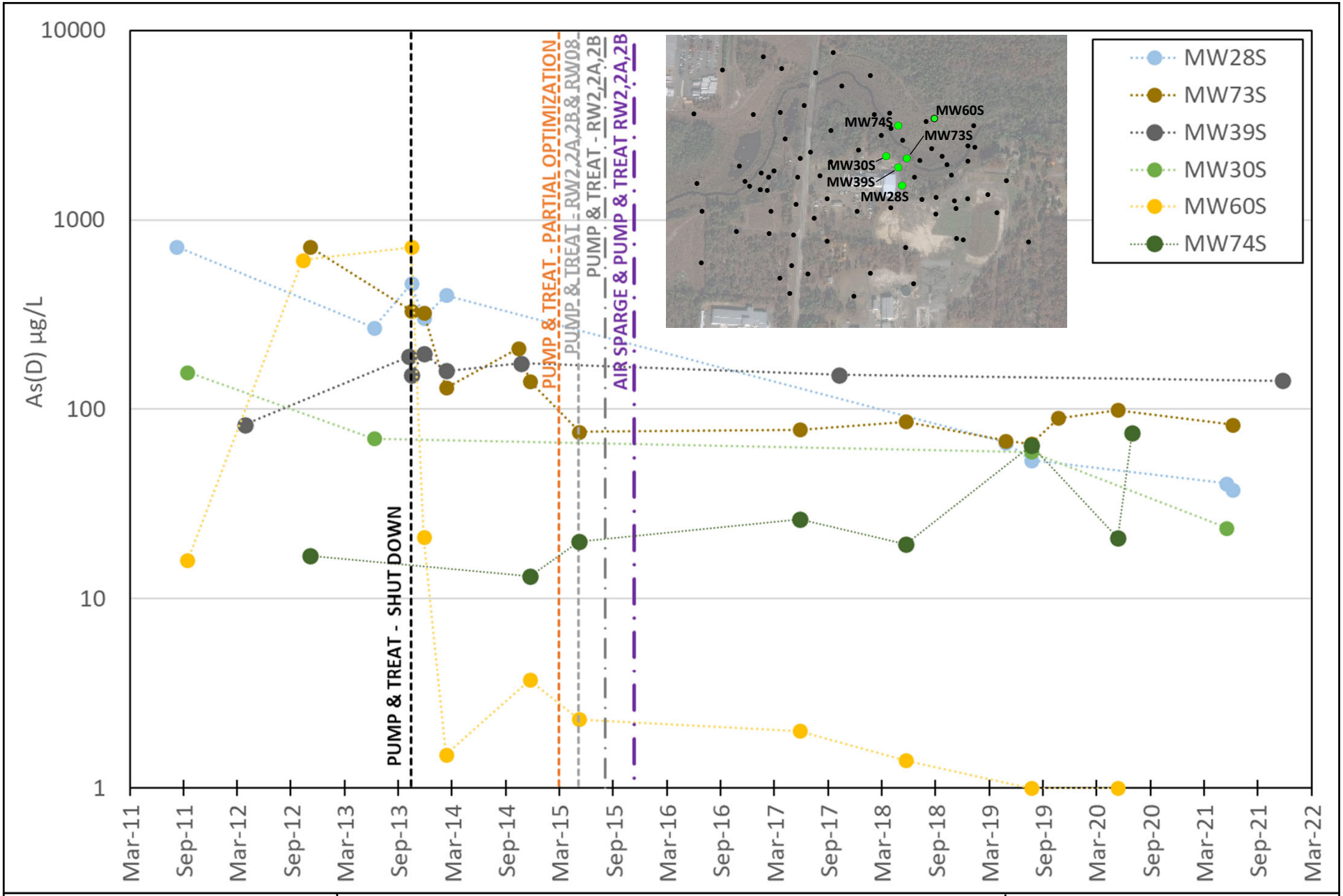


Dissolved Arsenic Trends

Shallow Piezometers along the Blackwater Branch
East of Mill Road, Screened in Upper Gravel Layer

Slide 5

June 2022

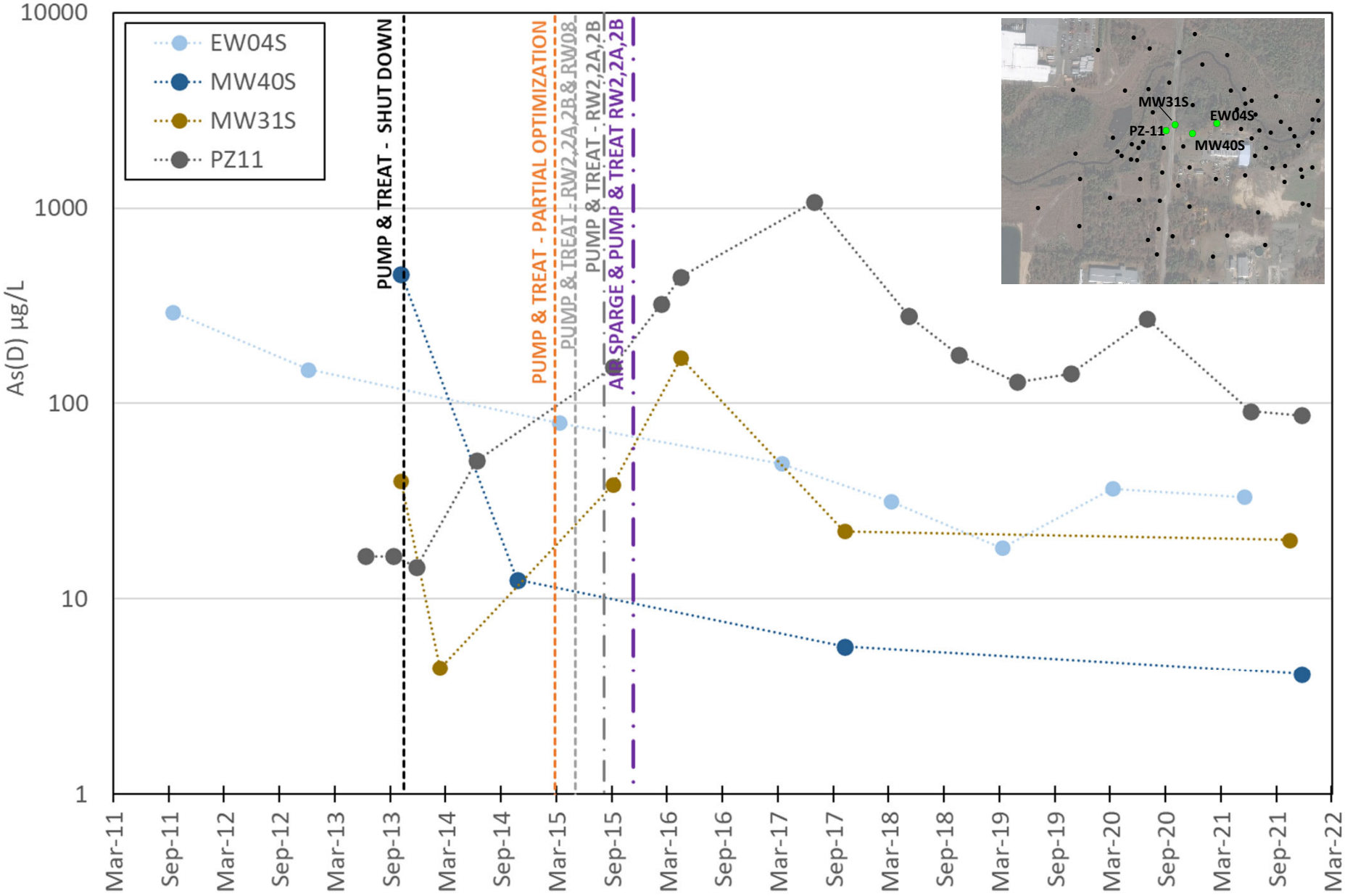


Dissolved Arsenic Trends

Shallow Wells along the Blackwater Branch
East of Mill Road

Slide 6

June 2022

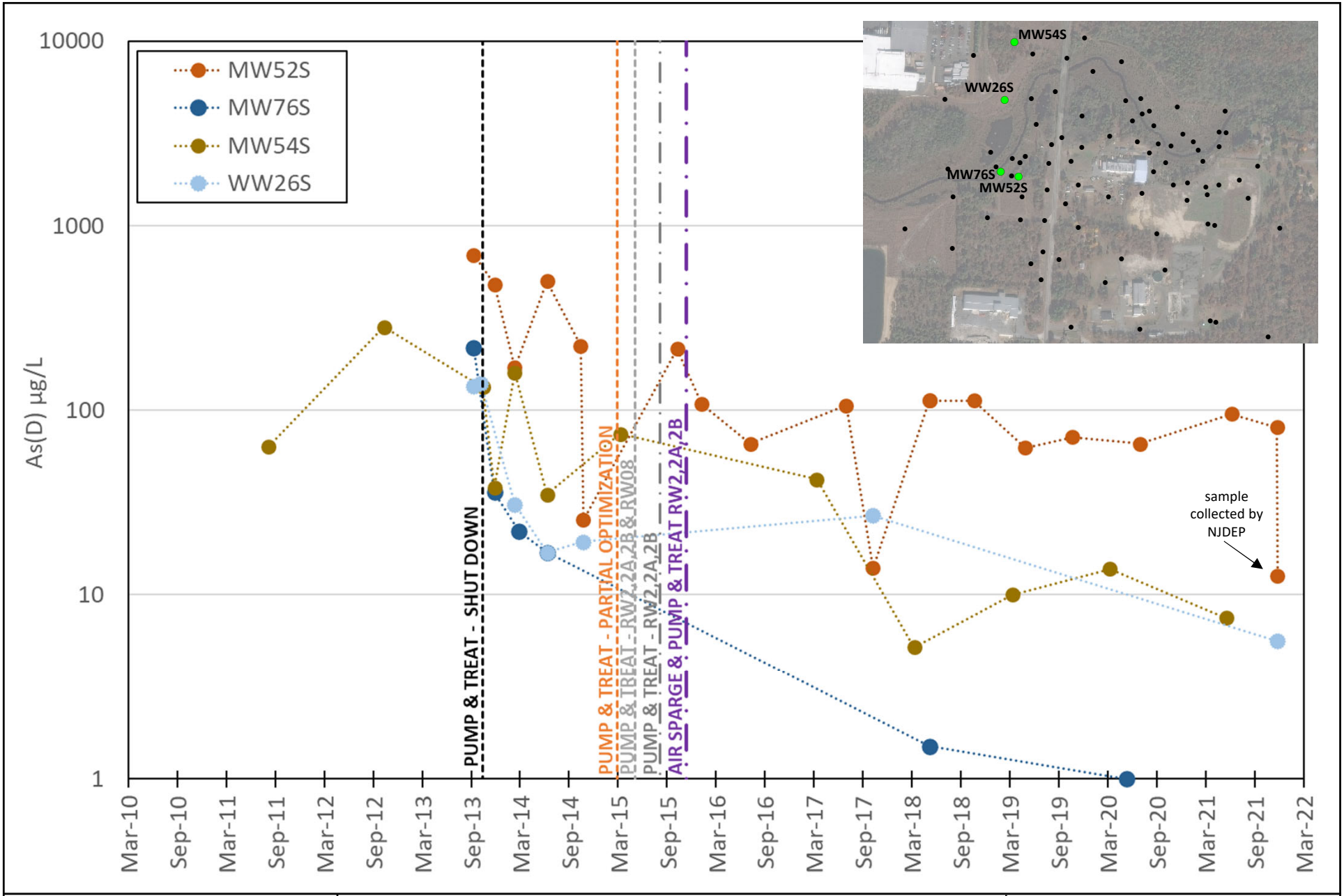


Dissolved Arsenic Trends

Shallow Wells Within and Down-Gradient of Iron Rich, Arsenic Impacted Cemented Sands

Slide 7

June 2022

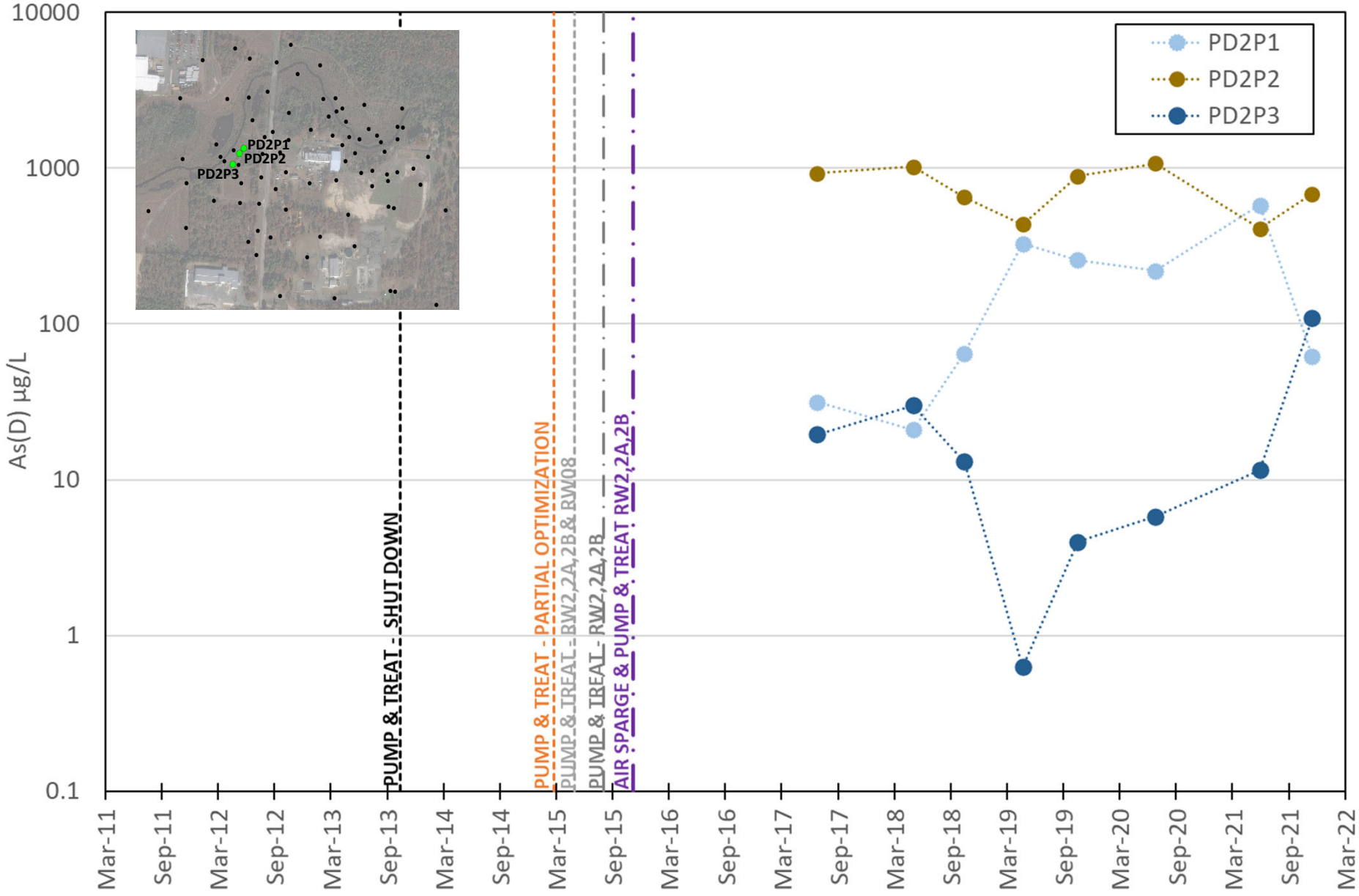


Dissolved Arsenic Trends

Shallow Wells Along Down-Gradient Edge of As Plume

Slide 8

June 2022



Dissolved Arsenic Trends

Pond 2 Piezometers

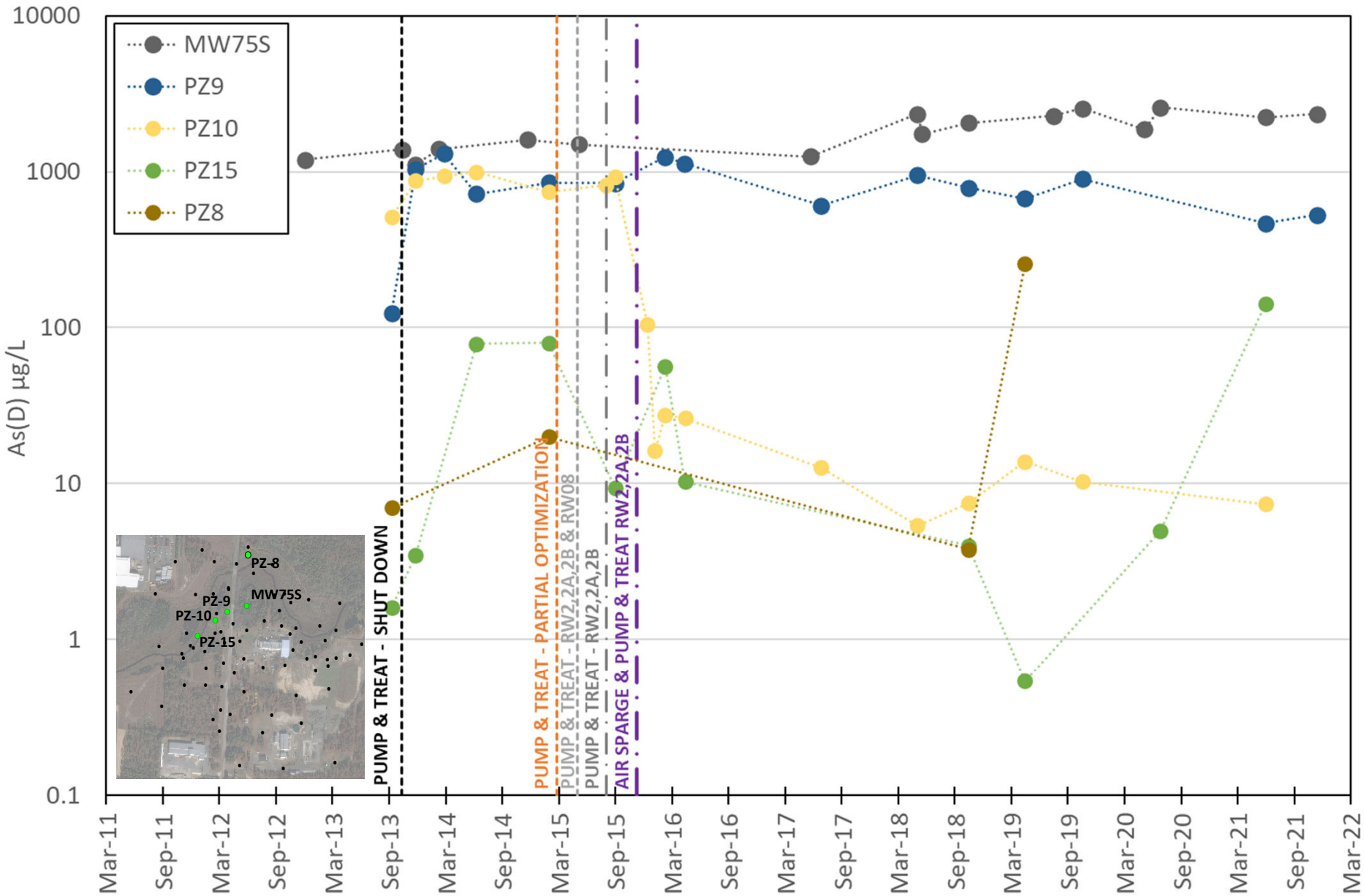
Slide 9

June 2022

Mid-Depth Monitoring Wells and Piezometers

Slide 10

June 2022

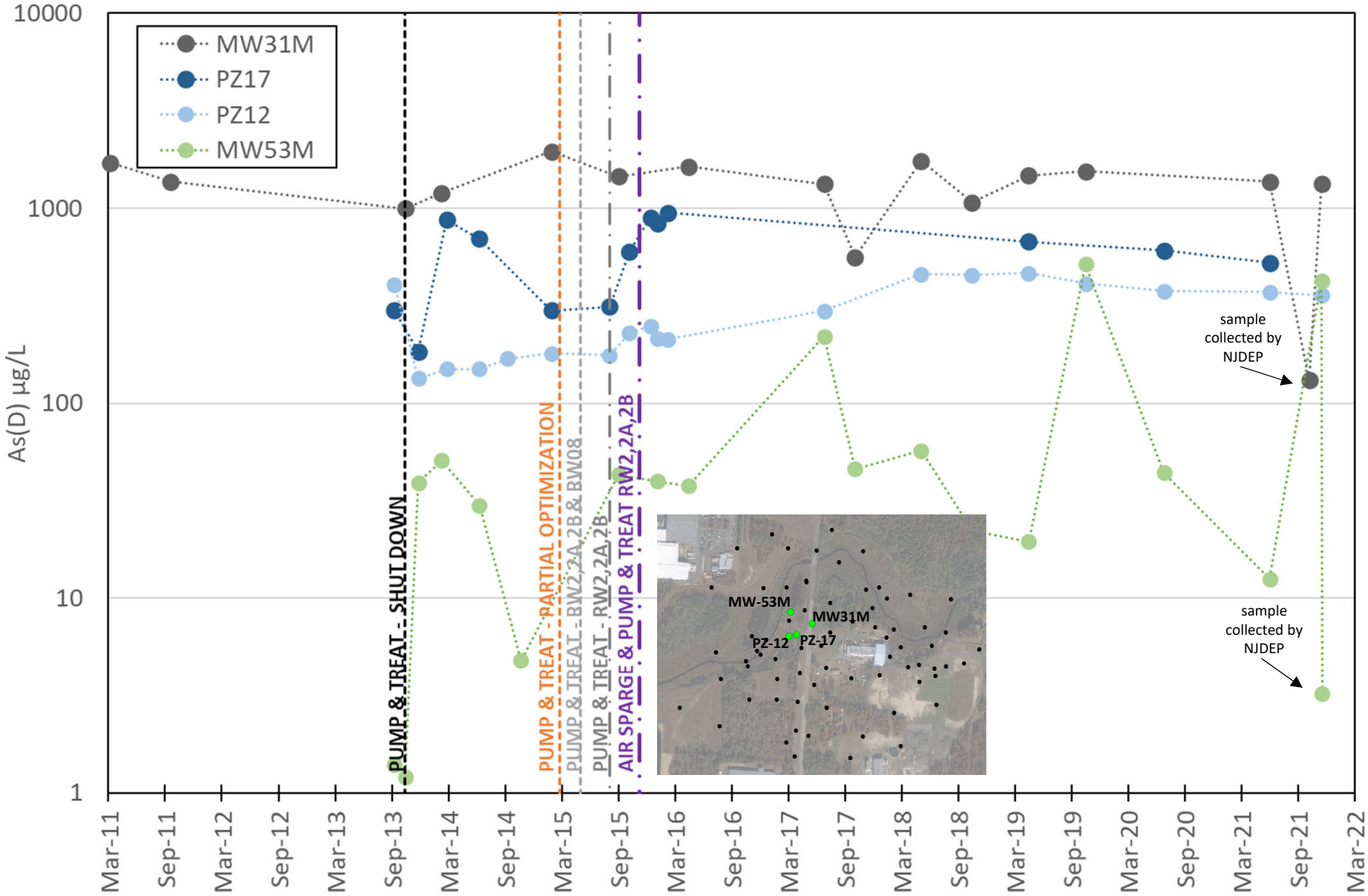


Dissolved Arsenic Trends

Mid-Depth Wells Up-Gradient and Down-Gradient of Air Sparge Line

Slide 11

June 2022

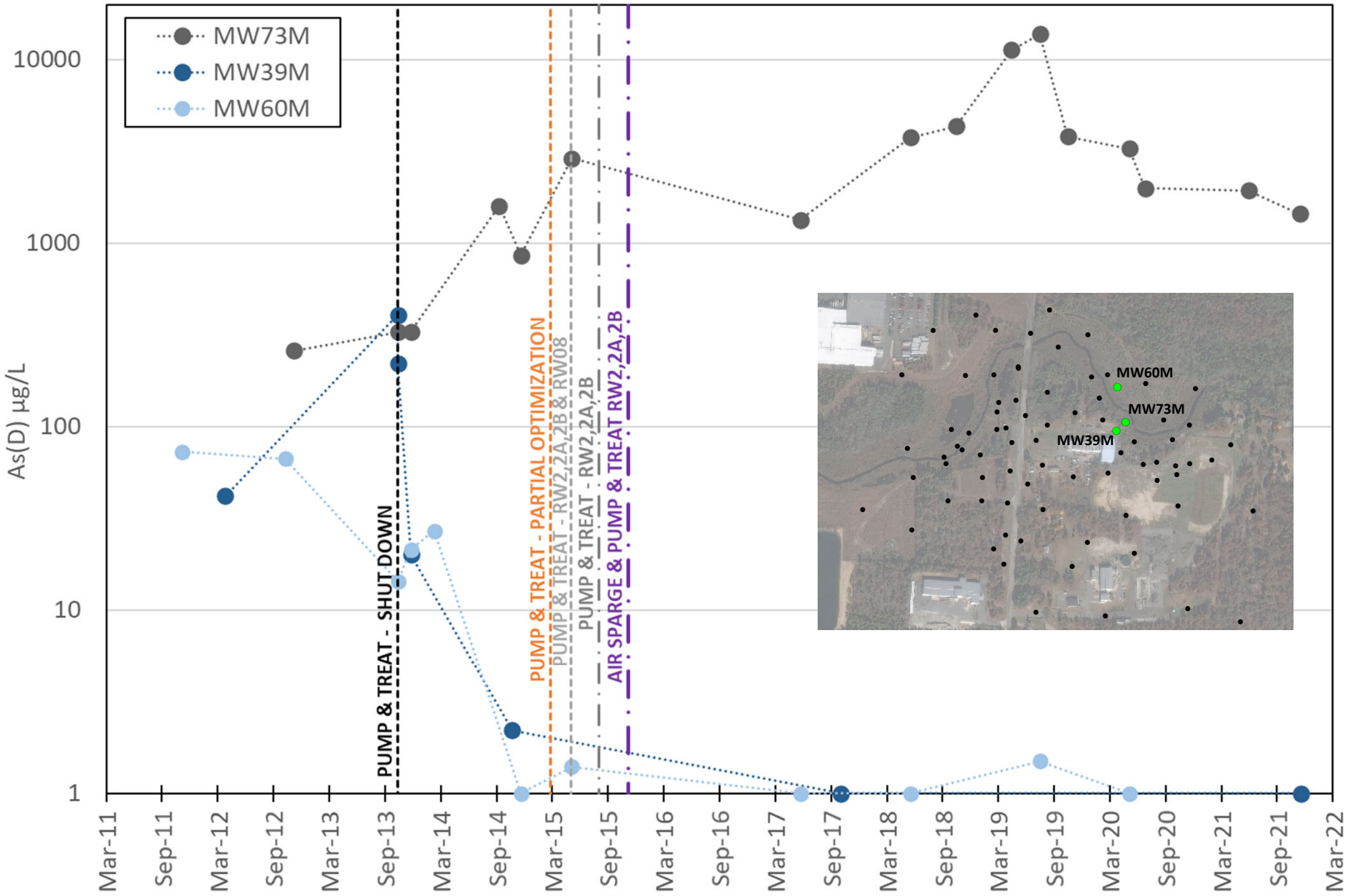


Dissolved Arsenic Trends

Mid-Depth Wells Up-Gradient and Side-Gradient of Air Sparge Zone of Influence

Slide 12

June 2022

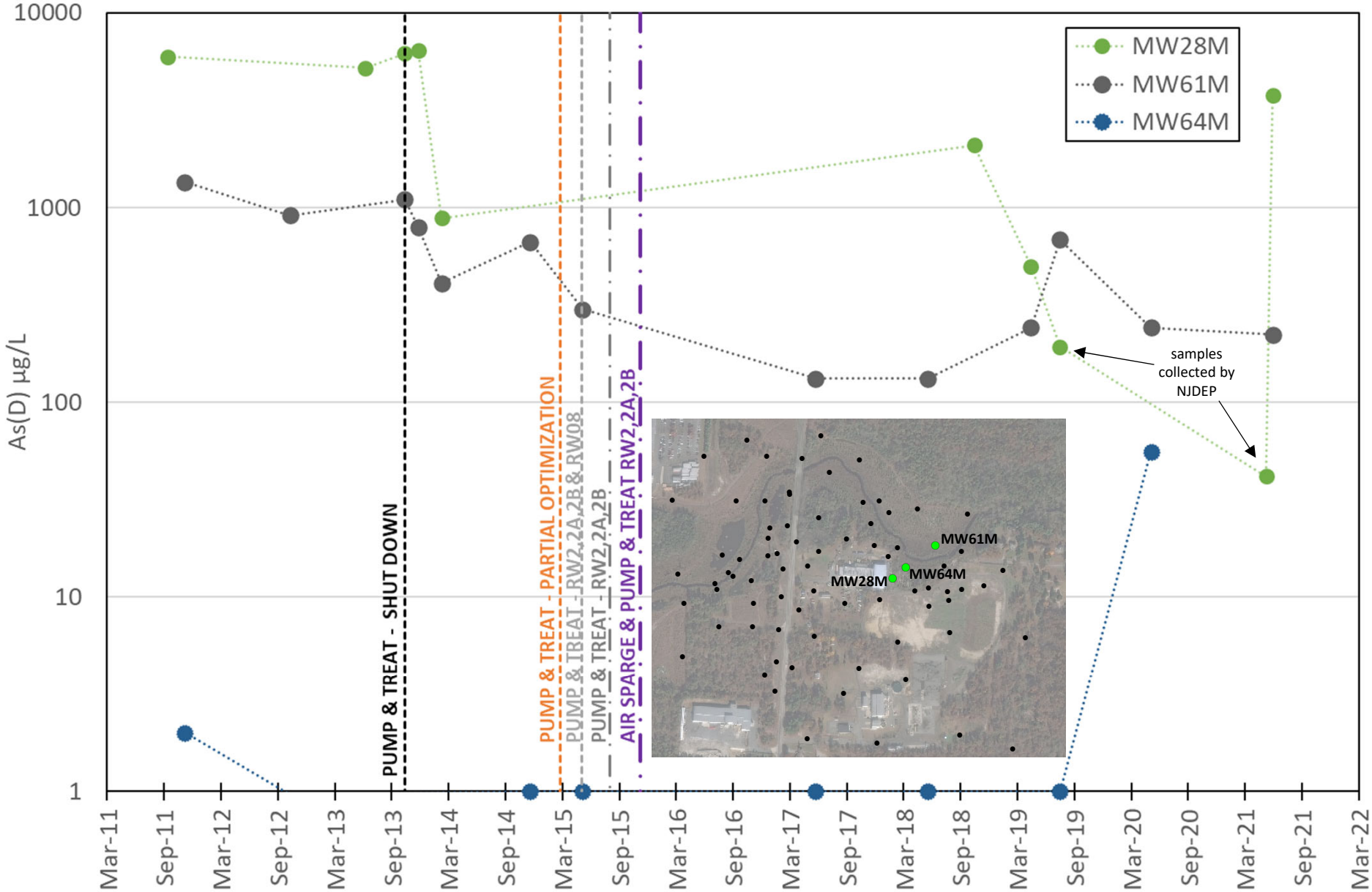


Dissolved Arsenic Trends

Mid-Depth Wells Near Hydraulic Mounds and Arsenic "Hot Zone"

Slide 13

June 2022

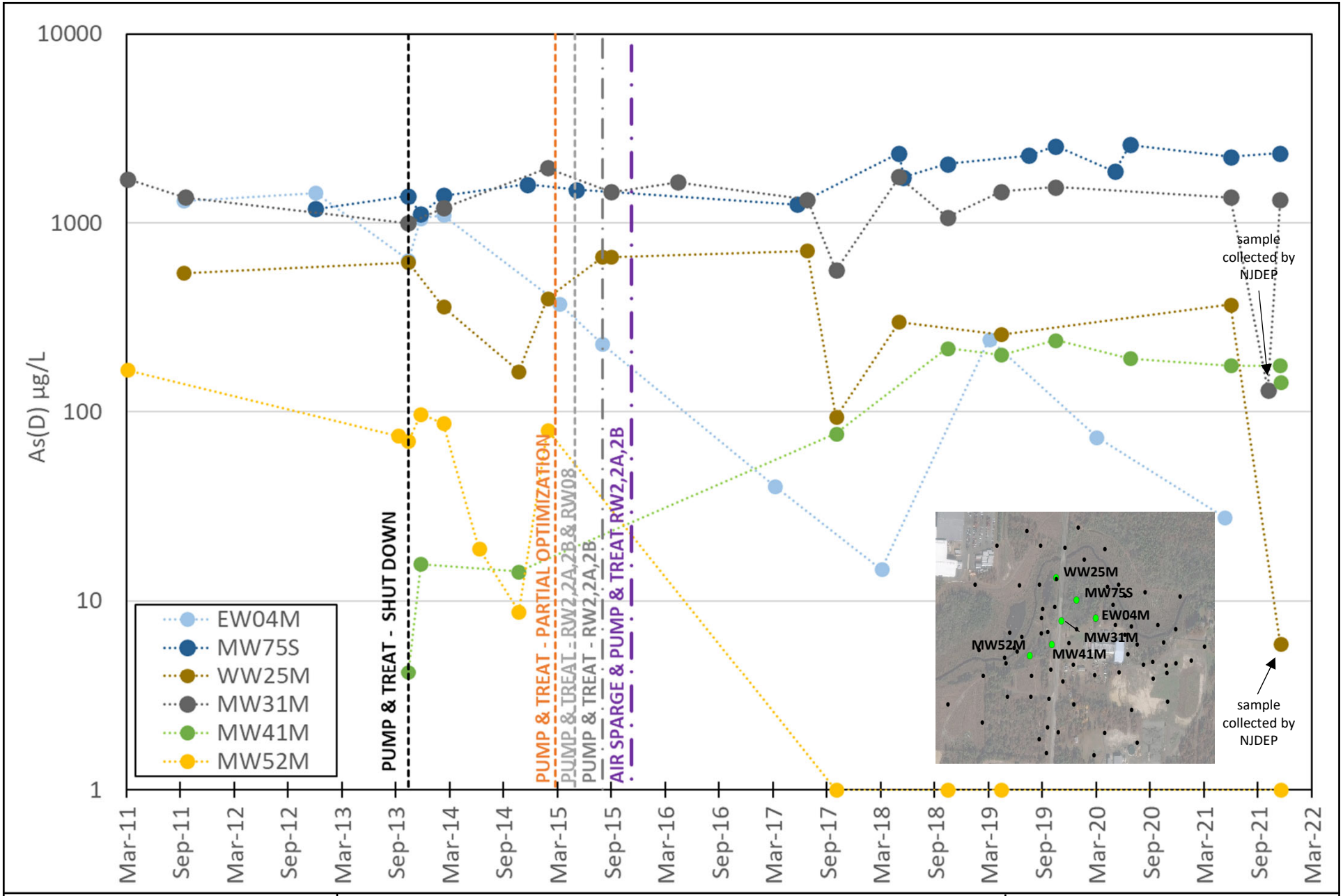


Dissolved Arsenic Trends

Mid-Depth Wells Near Hydraulic Mounds

Slide 14

June 2022

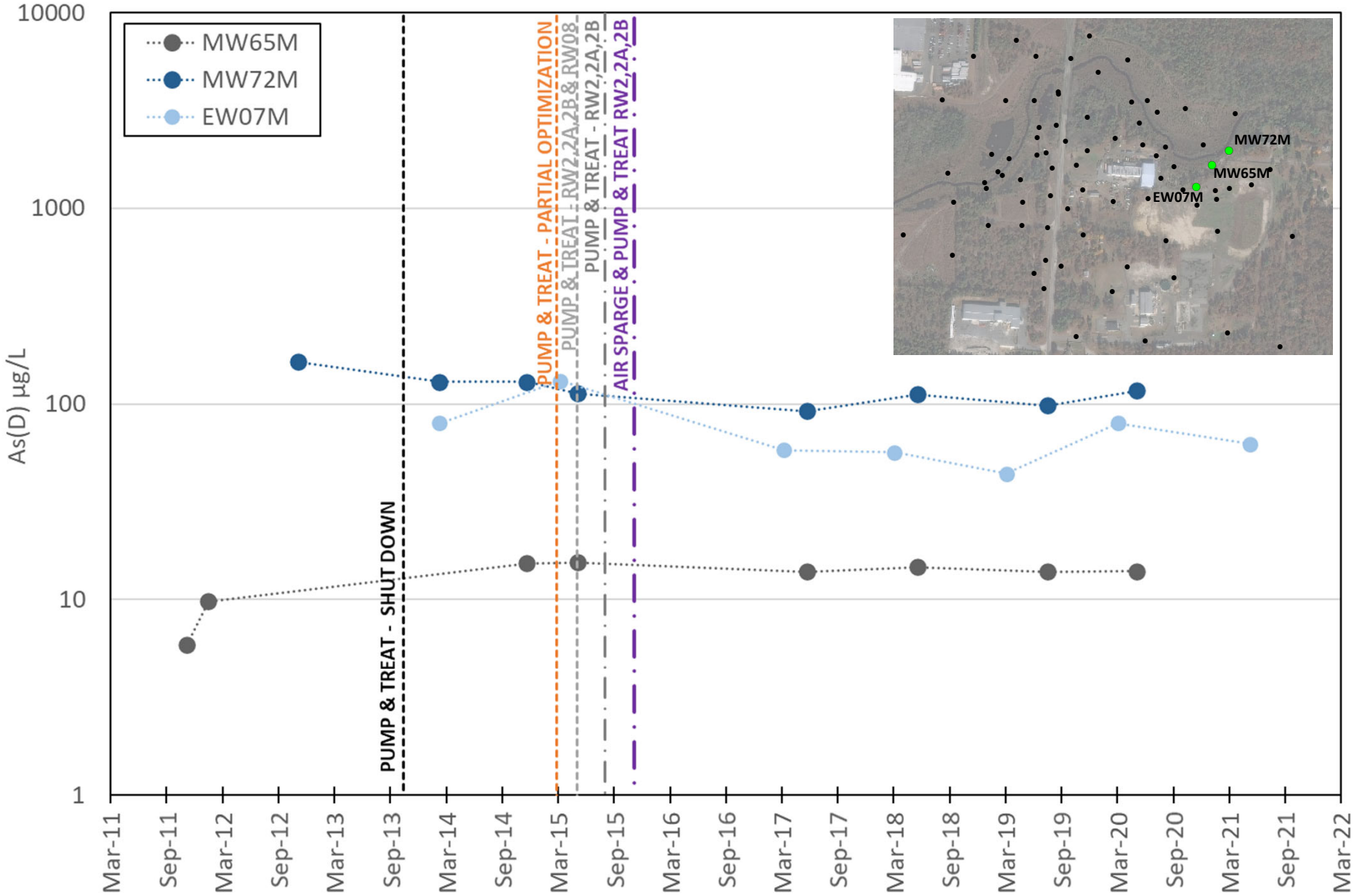


Dissolved Arsenic Trends

Mid-Depth Wells Within and Down-Gradient of Iron Rich, Arsenic Impacted Cemented Sands

Slide 15

June 2022



Dissolved Arsenic Trends

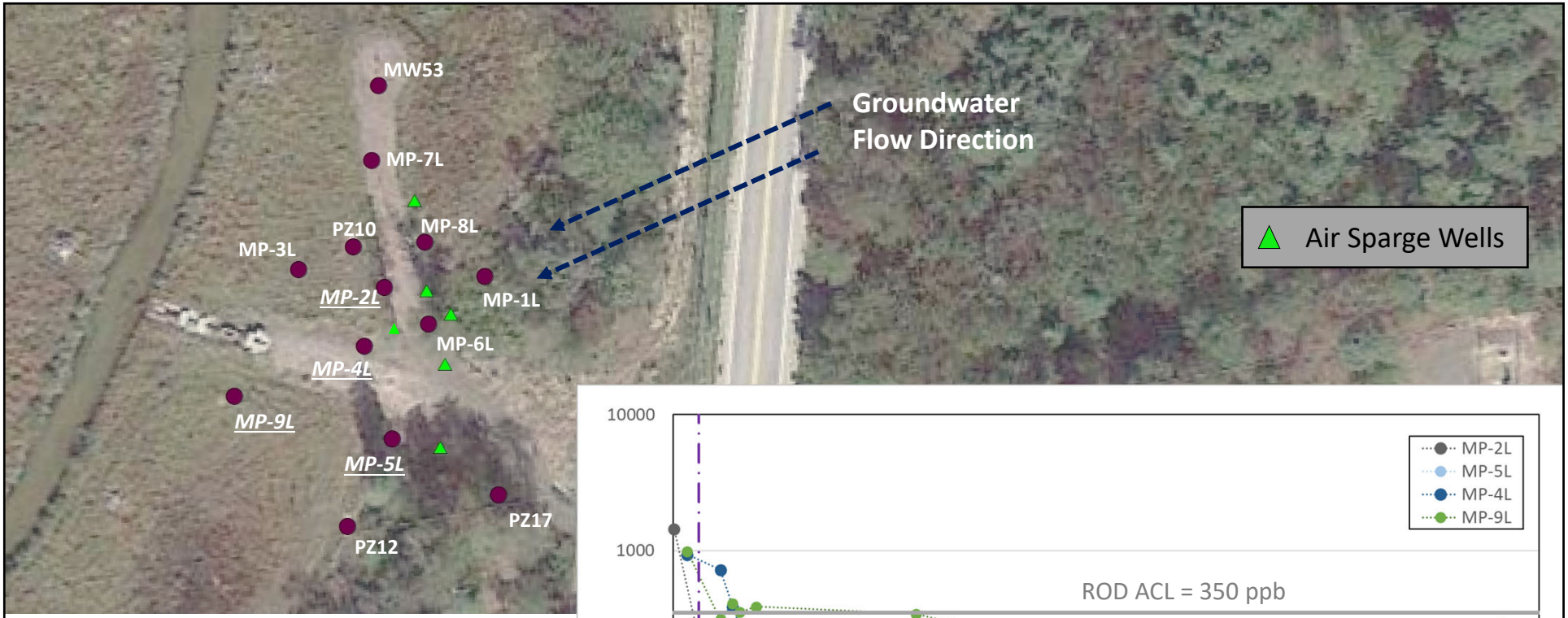
Mid-Depth Wells Near RW02, RW02A, and RW02B
and Arsenic "Hot Spot"

Slide 16

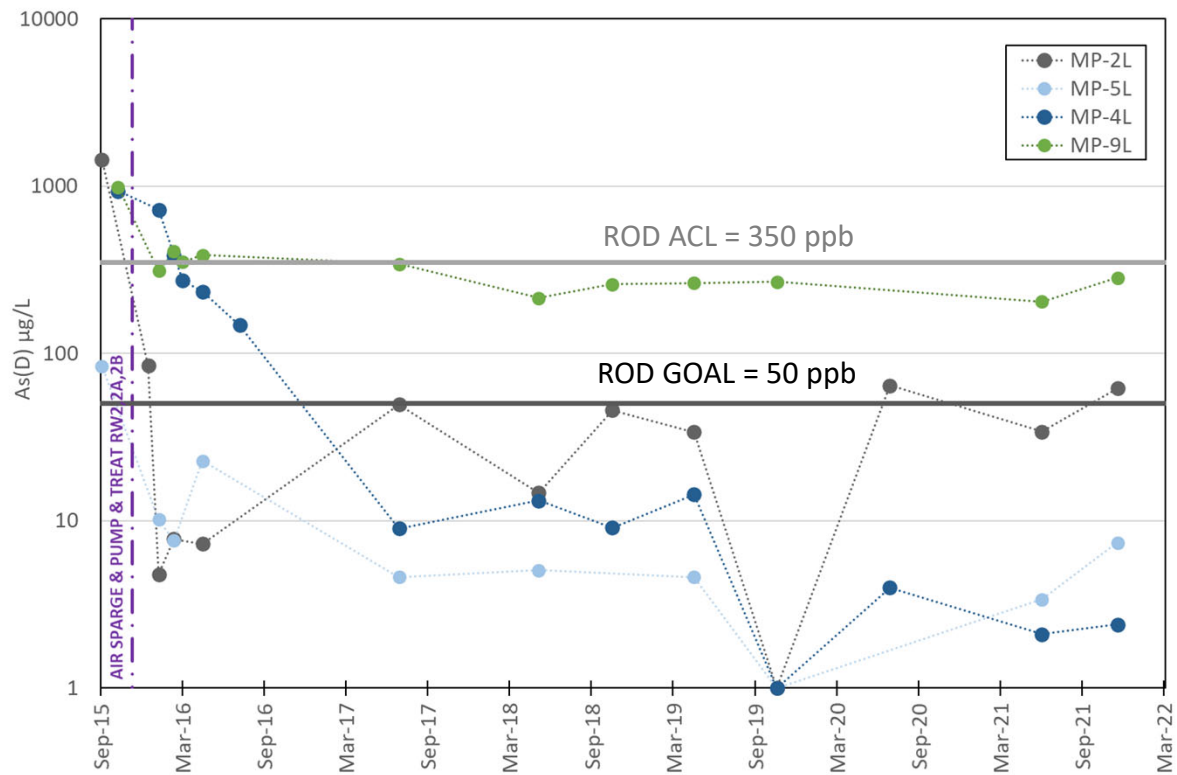
June 2022

Air Sparge

Mid Depth Wells



- RW2, 2A, and 2B operating during air sparge pilot
- Pilot system started Nov 2015 with 4 wells
- 2 AS wells added in Spring and Summer 2016
- Six Air Sparge Wells at total rate of ~ 65 scfm (Summer 2016 through 2017)
- Six Air Sparge Wells at total rate of 30 scfm in 2018
- Down-gradient distance from air sparge line:
  - MP-2L -> 20ft
  - MP-5L -> 20ft
  - MP-4L -> 40ft
  - MP-9L -> 90ft

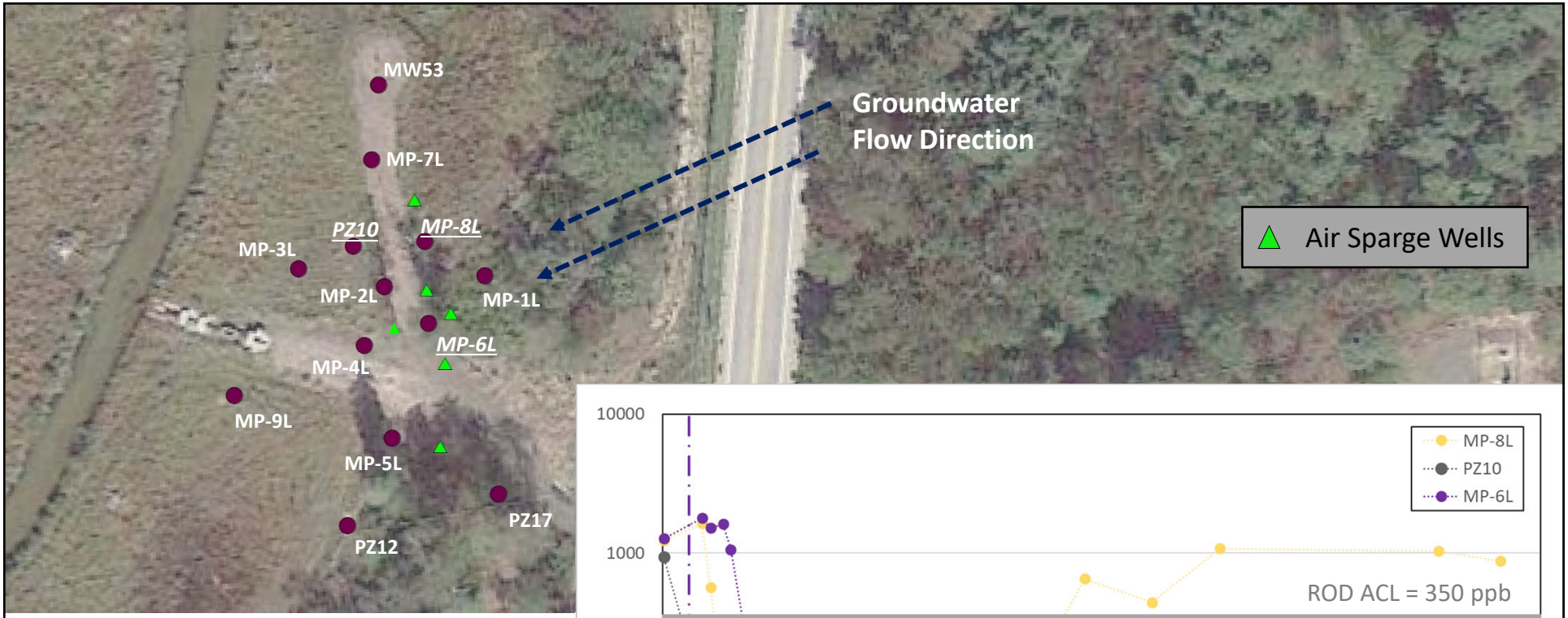


Air Sparge Pilot: As(D) Trends

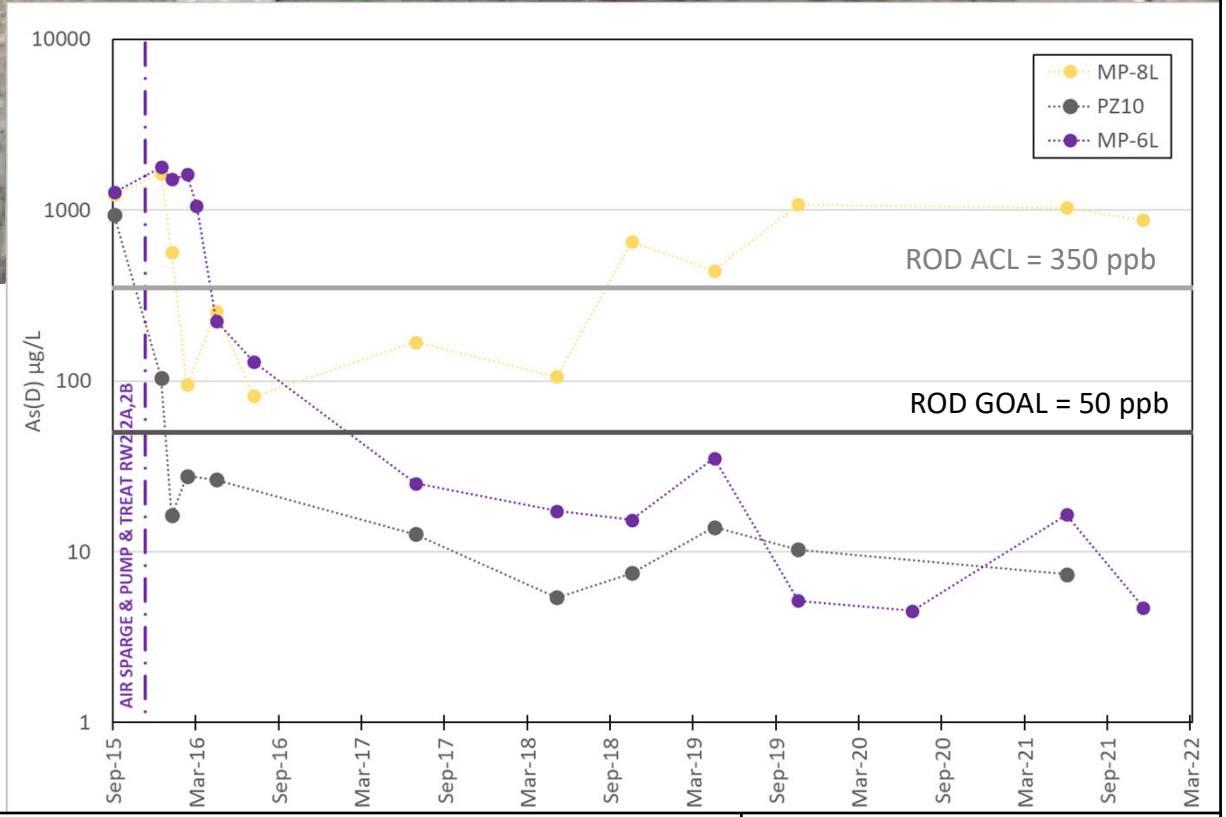
Mid-Depth Wells within Zone of Influence

Slide 18

June 2022



- RW2, 2A, and 2B operating during air sparge pilot
- Pilot system started Nov 2015 with 4 wells
- 2 AS wells added in Spring and Summer 2016
- Six Air Sparge Wells at total rate of ~ 65 scfm (Summer 2016 through 2017)
- Six Air Sparge Wells at total rate of 30 scfm in 2018
- Monitoring well locations:
  - MP-6L -> 10-20 ft from neighboring AS wells
  - MP-8L -> 20 ft from neighboring AS wells
  - PZ10 -> 20ft down-gradient of MP-8
- MP-8 D.O. < 1 mg/L in Oct 2018

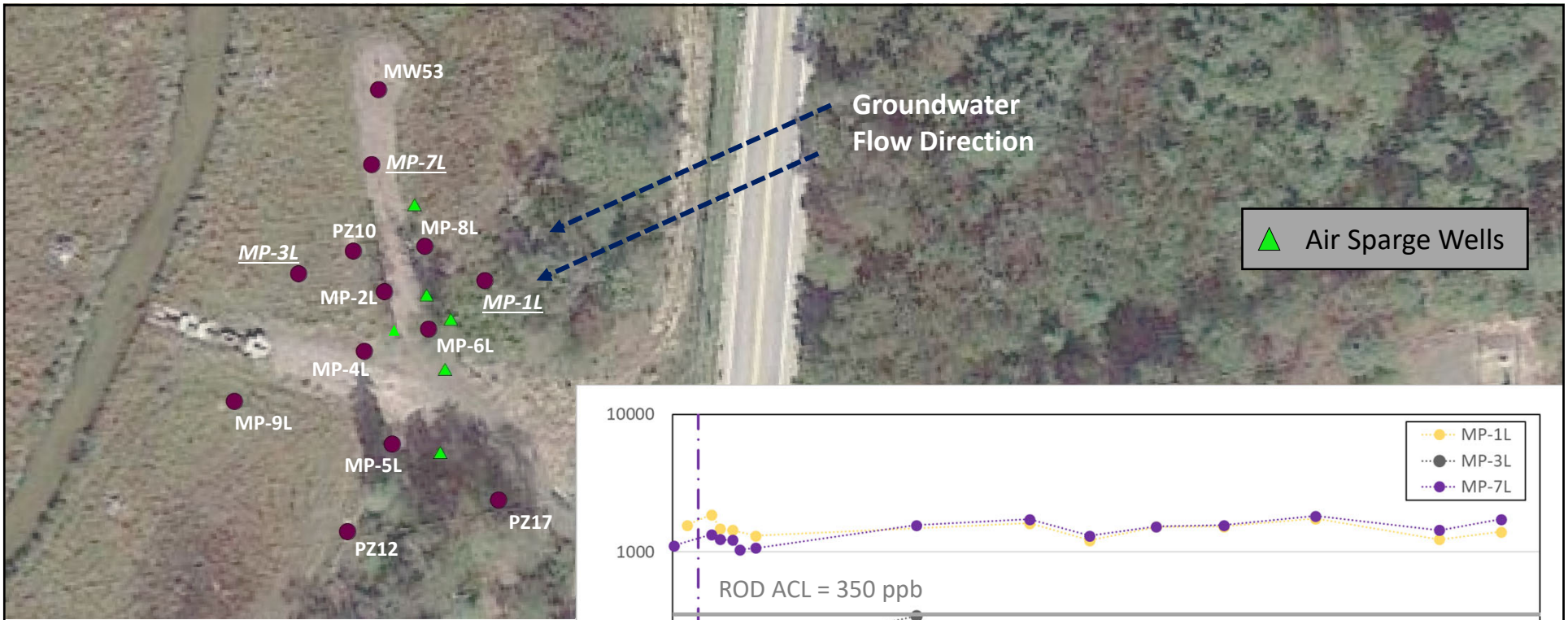


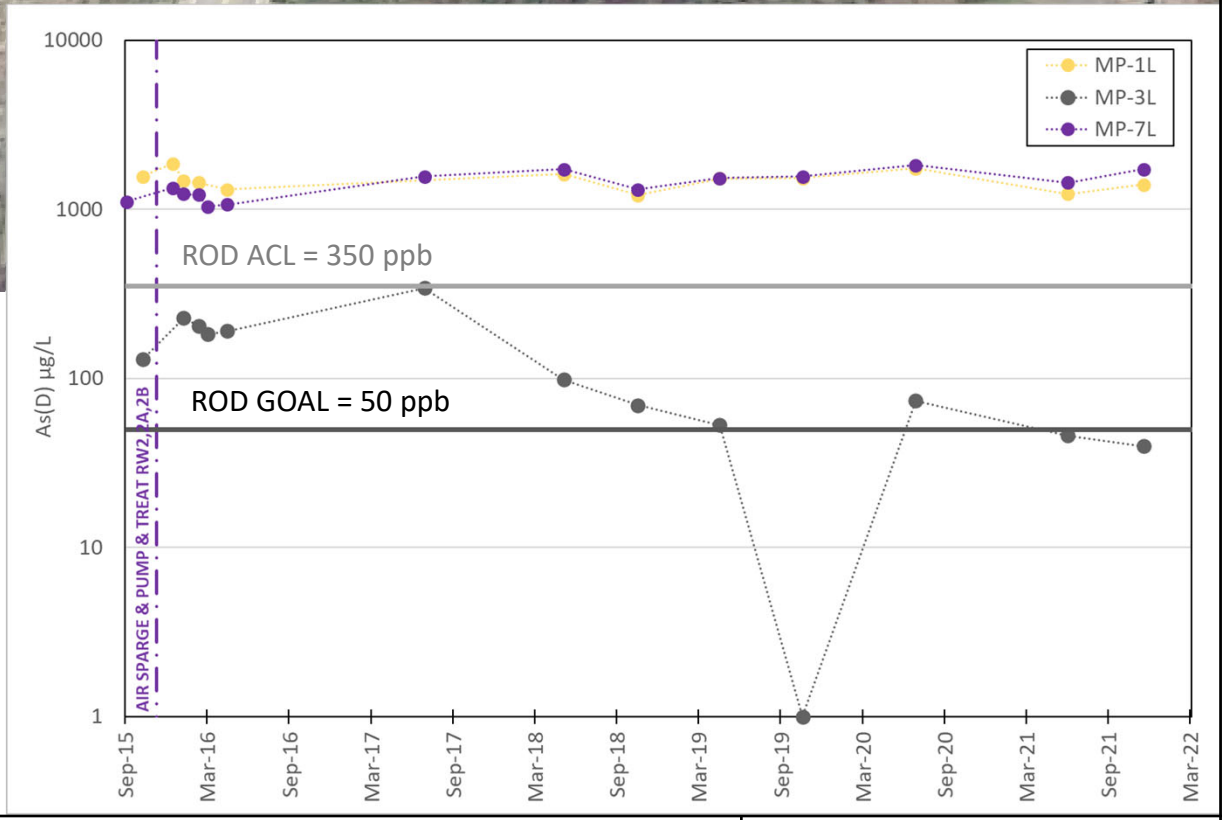
Air Sparge Pilot: As(D) Trends

Mid-Depth Wells within Zone of Influence

Slide 19

June 2022





- RW2, 2A, and 2B operating during air sparge pilot
- Pilot system started Nov 2015 with 4 wells
- 2 AS wells added in Spring and Summer 2016
- Six Air Sparge Wells at total rate of ~ 65 scfm (Summer 2016 through 2017)
- Six Air Sparge Wells at total rate of 30 scfm in 2018
- Monitoring well locations
  - MP-1L -> Up-gradient of AS line
  - MP-7L -> 25 ft N-NW of AS line
  - MP-3L -> 55 ft down-gradient of AS line
    - Partial influence from AS system

Air Sparge Pilot: As(D) Trends

Mid-Depth Wells with Partial or No Influence from Air Sparge System

June 2022

Appendix F

Dissolved Arsenic in Porewater
Timeseries Plots
Wellpoint Data from Transects along
Segments A, B, and C of the Blackwater Branch
2013 - 2021

Trend Plots Groups WP as Follows

Segment A: WP00 through WP1025

Segment B: WP1825 through WP2275

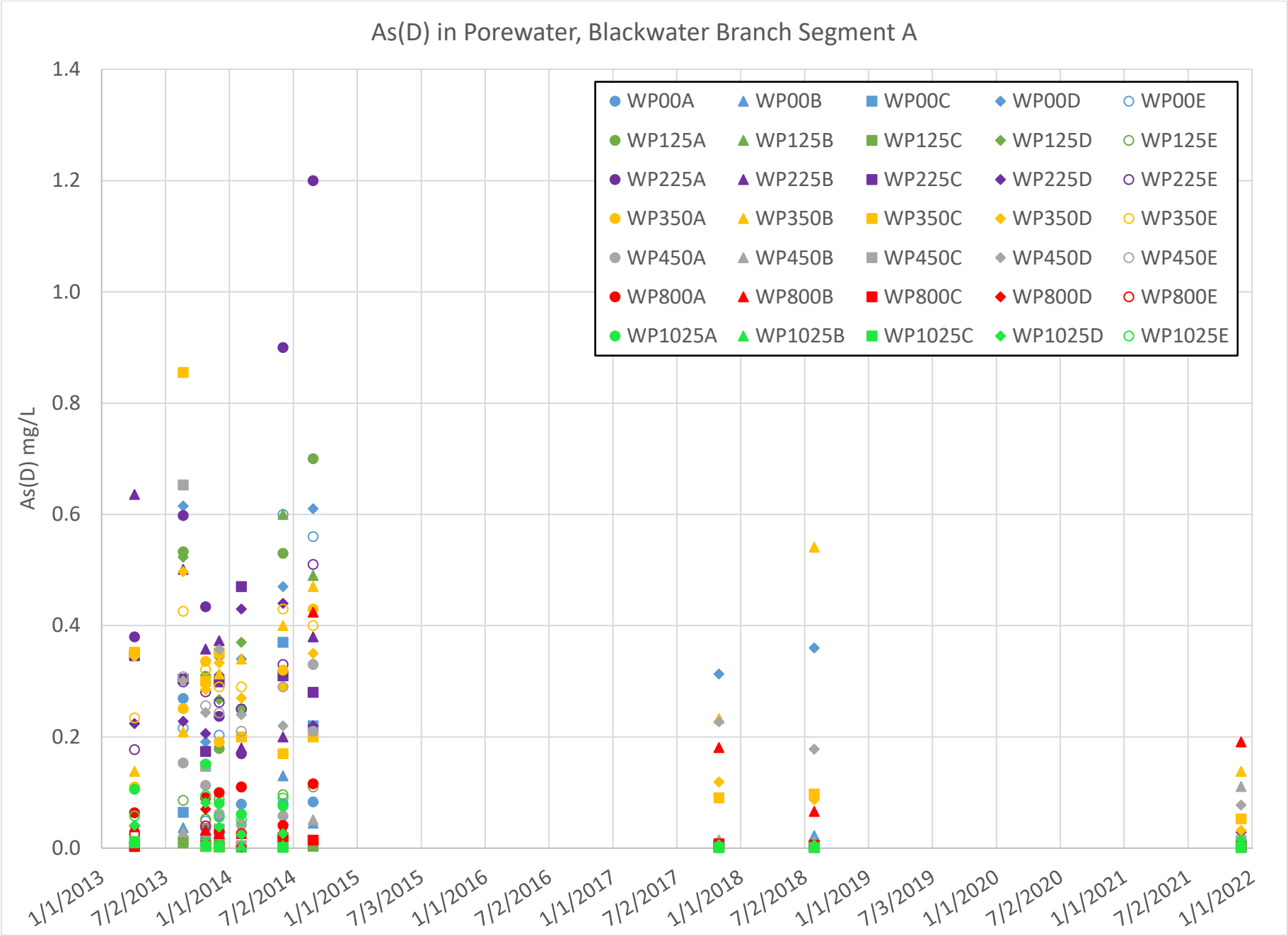
Segment C: WP2400 through WP2950

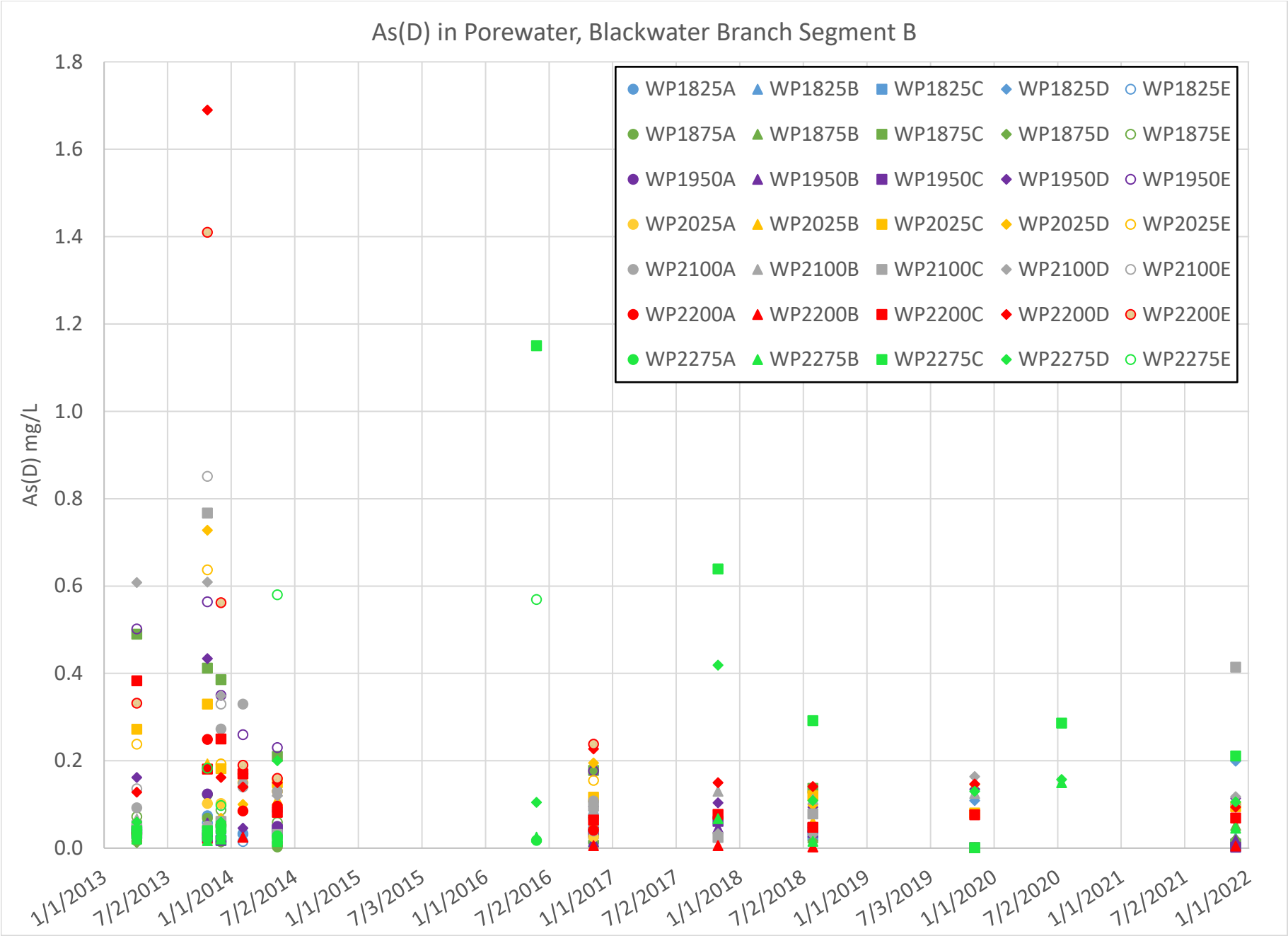
Note:

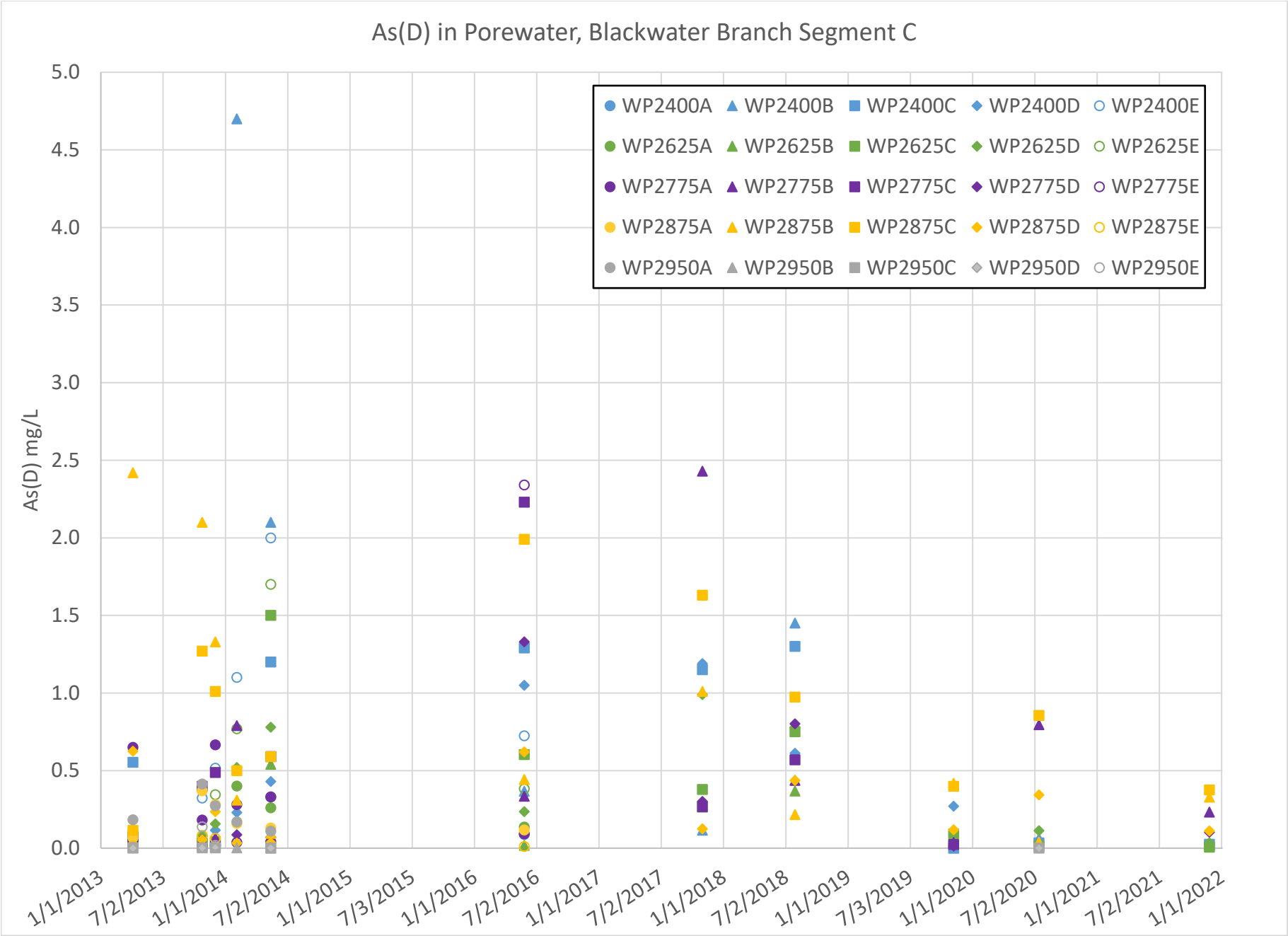
There are up to 5 WP in each transect. The WP are labeled A through E, with A and B on the south bank of the BWB, C within the BWB stream, and D and E on the north bank of the BWB.

Well point Transects Locations

Appendix E


As(D) in Porewater, Blackwater Branch Segment A
As(D) mg/L
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1/1/2013
7/2/2013
1/1/2014
7/2/2014
1/1/2015
7/3/2015
1/1/2016
7/2/2016
1/1/2017
7/2/2017
1/1/2018
7/2/2018
1/1/2019
7/3/2019
1/1/2020
7/2/2020
1/1/2021
7/2/2021
1/1/2022
WP00A
WP00B
WP00C
WP00D
WP00E
WP125A
WP125B
WP125C
WP125D
WP125E
WP225A
WP225B
WP225C
WP225D
WP225E
WP350A
WP350B
WP350C
WP350D
WP350E
WP450A
WP450B
WP450C
WP450D
WP450E
WP800A
WP800B
WP800C
WP800D
WP800E
WP1025A
WP1025B
WP1025C
WP1025D
WP1025E


As(D) in Porewater, Blackwater Branch Segment B
As(D) mg/L
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
1/1/2013
7/2/2013
1/1/2014
7/2/2014
1/1/2015
7/3/2015
1/1/2016
7/2/2016
1/1/2017
7/2/2017
1/1/2018
7/2/2018
1/1/2019
7/3/2019
1/1/2020
7/2/2020
1/1/2021
7/2/2021
1/1/2022
WP1825A
WP1825B
WP1825C
WP1825D
WP1825E
WP1875A
WP1875B
WP1875C
WP1875D
WP1875E
WP1950A
WP1950B
WP1950C
WP1950D
WP1950E
WP2025A
WP2025B
WP2025C
WP2025D
WP2025E
WP2100A
WP2100B
WP2100C
WP2100D
WP2100E
WP2200A
WP2200B
WP2200C
WP2200D
WP2200E
WP2275A
WP2275B
WP2275C
WP2275D
WP2275E


As(D) in Porewater, Blackwater Branch Segment C
As(D) mg/L
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
1/1/2013
7/2/2013
1/1/2014
7/2/2014
1/1/2015
7/3/2015
1/1/2016
7/2/2016
1/1/2017
7/2/2017
1/1/2018
7/2/2018
1/1/2019
7/3/2019
1/1/2020
7/2/2020
1/1/2021
7/2/2021
1/1/2022
WP2400A
WP2400B
WP2400C
WP2400D
WP2400E
WP2625A
WP2625B
WP2625C
WP2625D
WP2625E
WP2775A
WP2775B
WP2775C
WP2775D
WP2775E
WP2875A
WP2875B
WP2875C
WP2875D
WP2875E
WP2950A
WP2950B
WP2950C
WP2950D
WP2950E